

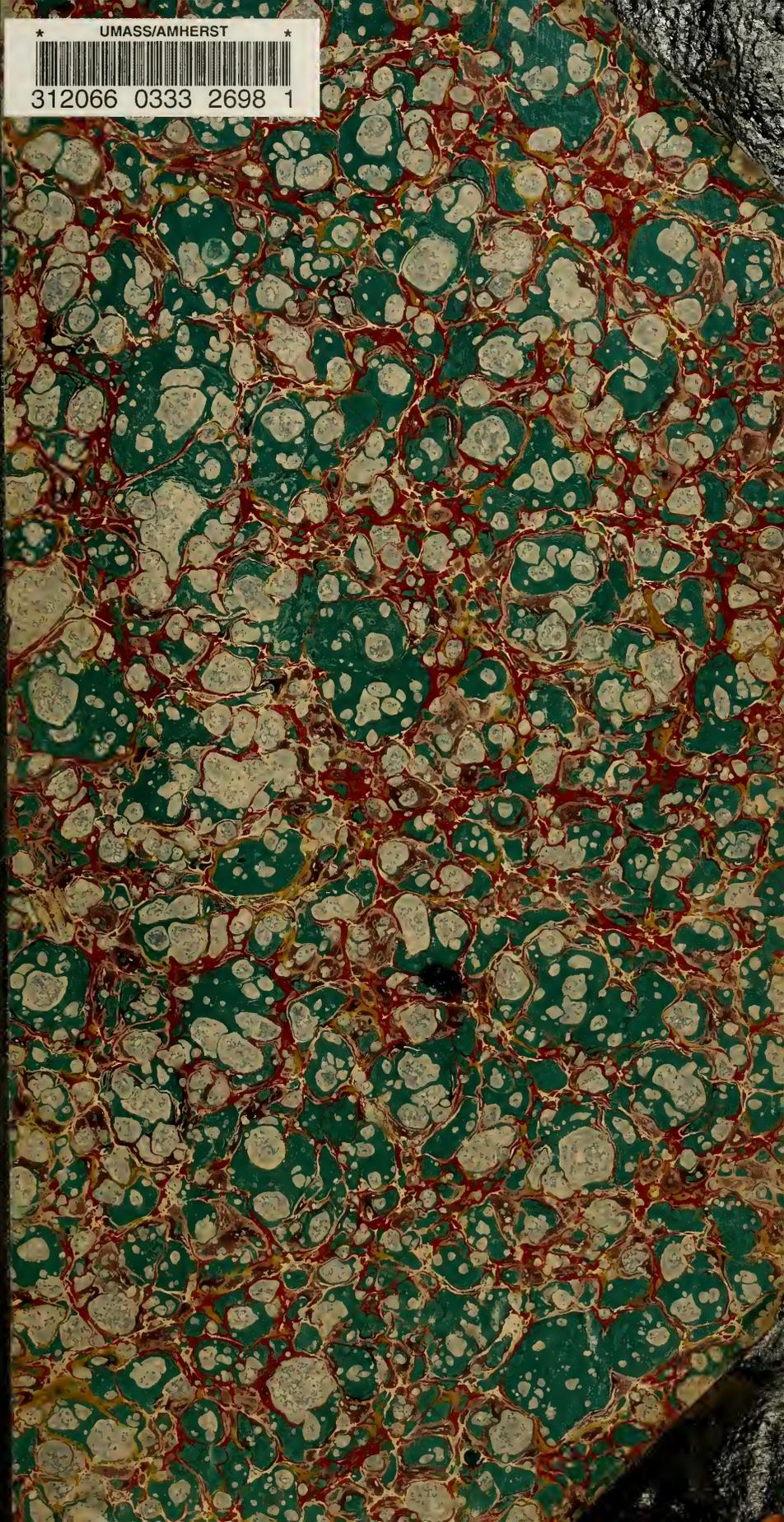
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J. E. Ford Jr

VOL. X. NO. 2.

FEBRUARY, 1882.

PEACE ON EARTH
GOOD-WILL TOWARD MEN



CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

PUBLISHED MONTHLY
AT
MEDINA, OHIO
BY
A. I. ROOT

TERMS, ONE DOLLAR PER YEAR.

W. P. HARRINGTON, DUBLIN, O. S.

ENTERED AT THE POST-OFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

ADVERTISEMENTS.

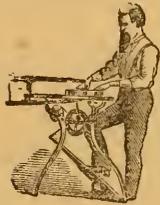
We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion. 12 lines, Nonpareil space make 1 inch. Discounts will be made as follows:

- On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 7 insertions, 15 per cent; 12 insertions, 20 per cent.
- On 50 lines (½ column) and upward 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, 25 per cent.
- On 100 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, 33¼ per cent.
- On 200 lines (whole page) 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions, 40 per cent.

A. I. ROOT.



BARNES'

Patent Foot and Steam Power Machinery. Complete outfits for Actual work-shop business. Lathes for Wood or Metal. Circular Saws, Scroll Saws, Formers, Mortisers, Tenoners, etc., etc. Machines on trial if desired. Descriptive Catalogue and Price List Free.

W. F. & JOHN BARNES, Rockford, Wis. Co., Illinois. No. 2009 Main St. Itfd

RUBBER STAMPS

DATING, ADDRESSING, BUSINESS, LETTER HEADS, ETC.



No. 1.



No. 3.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50c less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save yourself and all who do business with you "a world of trouble." I know, you see.

We have those suitable for Druggists, Grocers, Hardware Dealers, Dentists, &c., &c. Send for Circular.



No. 2.

HIVES & SECTIONS!



We are now in better shape than ever to furnish Bee-Hives and Sections, having remodeled our machinery, and got every thing in tiptop shape for the coming season. We make a specialty of our

"BOSS" ONE-PIECE SECTION.

Patented June 28th, 1881. We have not sold any rights to manufacture, therefore we are the sole manufacturers of the United States. Send for Price List. JAS. FORNCROOK & CO. Watertown, Jeff. Co., Wis., Jan. 1, 1882.

NOTICE—Some persons having infringed upon our Patent "One-Piece Section," we hereby give notice that we shall prosecute all manufacturers. We shall not molest bee-keepers for using those purchased before December 1, 1881, but hereby caution them against buying any except those bearing our stamp. It has been reported by some that it is our intention only to prosecute bee-keepers for using those One-Piece Sections heretofore purchased; this is wholly untrue and false.

JAMES FORNCROOK & CO.

Watertown, Wis., Dec. 15, 1881.

A BEE-KEEPER WANTED.

Must be experienced and reliable. No person using intoxicating liquors, tobacco, or cigars, need apply. A married man preferred. Must be industrious. Address DR. ISAAC EDWARDS, 121fd Omaha, Nebraska.

Comb Foundation Machines

\$15.00 TO \$100.00.

SAMPLES OF FOUNDATION WITH OUR ONE POUND SECTION BOX BY MAIL FOR FIVE CENTS.

For illustrations see our Illustrated Catalogue of Apian Implements and Supplies, mailed on application. A. I. ROOT, Medina, Ohio.

THE A B C OF BEE CULTURE.

Bound in paper, mailed for \$1.00. At wholesale, same price as GLEANINGS, (but will be sent to any postoffice singly), with which it may be clubbed. One copy, \$1.00; 2 copies, \$1.90; three copies, \$2.75; five copies, \$4.00; ten copies, \$7.50.

The same, neatly bound in cloth, with the covers neatly embellished in embossing and gold, one copy, \$1.25; 2 copies, \$2.40; three copies, \$3.50; five copies, \$5.25; ten copies, \$10.00. If ordered by freight or express, the postage may be deducted, which will be 12c on the book in paper, and 15c each, on the book in cloth.

Cook's Manual in paper or cloth at the same price as above.

A. I. ROOT, Medina, O.

CLUBBING LIST.

We will send GLEANINGS—		
With The American Bee Journal (\$2 00).....	\$2 75	
" The Bee-Keeper's Magazine (1 00).....	1 75	
" The Bee-Keeper's Exchange...(1 00).....	1 90	
" All three of the above Journals.....	4 50	

With American Agriculturist (\$1 50).....	2 25
" Prairie Farmer (2 00).....	2 75
" Rural New Yorker (3 00).....	3 00
" Scientific American (3 20).....	3 50
" Fruit Recorder and Cottage Gardener (1 00).....	1 75
" U. S. Official Postal Guide (1 50).....	2 25
" Sunday School Times, weekly, (2 00).....	2 25

[Above rates include all postage.]

Twenty-Five Cent Counter.

3	Gen's Scissors, solid steel	1 80	17 00
6	Shears, 8-in., Solid Steel Blade	1 80	17 00

A great acquisition over those we have been selling. I have visited the factory, examined the steel, and I see it riveted and welded to the handles. They are made to cut, and will cut.
 Camp or lawn stool, folding; strong 2 25 21 00
 Sled, printed in fancy colors 2 00 18 00
 Size 5x9x18; strong and serviceable.

Thirty-Five Cent Counter.

	Cups and Saucers	3 30	30 00
	Nice white ware, set of 6		
8	Table-steels, old style, and reliable	3 10	30 00
	Shears, Solid Steel Blades	3 00	27 00
	Nickel-plated		
2	Silk handkerchief, size	3 00	29 00
	Of the new dotted pattern; pretty and good.		

FIFTY-CENT COUNTER.

	Cups and Saucers	4 00	35 00
	With handles, set of 6		
	Tureens, soup, white granite, in.	4 50	42 50
	Shears, 9 in., solid steel blades		
	Nickel-plated		

Seventy-Five Cent Counter.

Flour can, 10 gallons 6 00 55 00
 Holds exactly one sack of flour. It is also excellent for candied honey, as it has a stout sloping cover, and pair of strong handles to lift it by. It will hold about 110 lbs.

ONE-DOLLAR COUNTER

45 Clock, black, enameled iron 19 25 90 00
 Called "Wee-wag." Almost as pretty as black marble, and a good timer.

BARBED FENCE-WIRE OF STEEL.

We can now furnish Bessemer-steel barbed fence-wire, painted, the best in the market, at 10 cents per lb.; and as it weighs only 1 lb. to the rod, it makes a cheap fence. One strand fastened on top of a board or rail fence, makes it stock proof. Galvanized wire, 11 c. Staples (steel) for same, 7 c. per lb. Pliers and wire shears, for cutting No. 9 wire, \$1.25.

A. I. ROOT, Medina, Ohio.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CLEVELAND.—Honey.—Our honey market is not quite so active now, but prices remain unchanged. We are selling best white comb in 1-lb. sections at 22; 2 lb. at 20 @ 21; dark, 17 @ 18; ext., 11 c. in large, and 12 c. in small packages. Wax, 22 to 25.
 Cleveland, Dec. 21, 1881. A. C. KENDEL.

CINCINNATI.—Honey.—The market for extracted honey is as good as ever, and the supply keeps up well with the demand. Quotations are about the same as last — 8 @ 11 cts. per lb. on arrival. Choice comb honey brings 18 cts. on arrival, and sells in the jobbing way as high as 22. Wax, 18 @ 22 on arrival.
 Cincinnati, Dec. 21, 1881. C. F. MUTH.

DETROIT.—Honey.—But little honey is changing hands, dealers being mostly supplied. Good honey, in attractive shape, maintains its price at 20 @ 22 c. Wax.—But little in the market, and is worth from 20 @ 25 c.
 Detroit, Dec. 26, 1881. A. B. WEED.

CHICAGO.—Honey.—The market prices of honey and wax remain unchanged.
 Chicago, Dec. 21, 1881. A. H. NEWMAN.

One barrel of white-clover honey, weighing 235 lbs., for which I will take 10c. per lb.; honey is candied solid. No charge for barrel. Delivered on cars at Gettysburg, Pa.
 Bigler, Adams Co., Pa., Dec. 16, 1881. A. I. WEIDNER.

I will sell 4490 lbs. of choice sage honey, candied, in 80-lb. tins, in lots of 6 cans or more, delivered in any of the principal cities of the U. S., at 12 c. per lb.
 San Buenaventura, Cal., Dec. 17, 1881. R. WILKIN.

KIND WORDS FROM OUR CUSTOMERS.

The silver spoons came to hand in due time, and all who see them admire them.
 Fewark, Del., Nov. 23, 1881. GEO. W. SIMMONS.

Send me two more of the small dictionaries. Everybody who sees them wants one.
 M. W. HARRINGTON.
 York Center, Iowa Co., Ia., Dec. 5, 1881.

The 16-inch Gem planer I ordered of you is received, and is a very fine machine — first-class workmanship, and it works splendidly.
 J. D. GOODRICH.
 East Hardwick, Vt., Dec. 5, 1881.

The watch came last week all right; it is a marvel of beauty and cheapness, and a good timekeeper. Your kindness and fair dealing are highly appreciated.
 D. S. TYLER.
 Clio, Mich., Dec. 5, 1881.

I was much pleased with the spring balance and comb-holder; and the little book on the microscope is just splendid, and is worth three times its cost to any person who has a scientific taste.
 A. TIGGES.
 Marathon City, Wis., Nov. 11, 1881.

Inclosed find 13 cents, for which please send Part II. of Our Homes. I have Part I. almost by heart, and now I want all the Home Papers up to the time I commenced taking GLEANINGS.
 BURTON L. SAGE.
 New Haven, Conn., Aug. 27, 1881.

Please accept thanks for favors during the past season; for promptness in filling orders, mode of shipping, etc. My best wishes to you and all connected with the factory (Blue Eyes not forgotten). I hope to more than double my orders next season.
 Ashley, Pa., Aug. 8, 1881. JOEL HEYDT.

My copies of GLEANINGS are nearly worn out, as they have been lent to bee keepers so much.
 FRED TIMMERMAN.

Fayette, Fayette Co., Ia., Oct. 31, 1881.
 [I will always replace those worn out in such service, free, friend T.]

The package came to hand, and I found it all nice. My bees have done finely this year. The queens that I received of you last year are fine. I am proud of you as of any man living. I said that I had found the right man in the right place.
 JOHN BAYS.
 Boxford, DeKalb Co., Mo., Oct. 24, 1881.

The 15-cent dictionary come to hand all right, and I declare it is quite a prize for the money. I showed it to my teacher, and asked him what he thought it ought to be worth. He replied that he thought such a book would cost forty or fifty cents.

ISABELLA WIER.
 South River, Anne Arundel Co., Md., Nov. 18, 1881.

I send P. O. order for \$5.00 for five years' subscription and the premium stem-winder. I hope your subscription list will be large. You have saved the bee-keepers ten thousand dollars at least by your timely exposure of * * * * *
 THOMAS BYRNE.

Baton Rouge, La., Nov. 24, 1881.

Inclosed find \$4.18. Please send me GLEANINGS for 1882, and one of the improved Waterbury watches. The one I got of you last February keeps as correct time as any watch I ever owned; in fact, gives me more pleasure than any watch I ever carried, for it needs no medicine to keep it going.
 J. S. TADLOCK.

Kingsbury, Guad. Co., Texas, Nov. 21, 1881.

That watch you sent me for the small sum of ten dollars has puzzled the watch-dealers here. They have been trying to compete with your prices, but all have failed, and one of my friends told them that he would let me send to a bee-man out in Ohio and get one. Therefore please send by first mail, one ten-dollar American watch.
 WM. DEWORTH,
 Bordentown, N. J., Dec. 5, 1881.

The reason I haven't sent these small amounts more promptly, is, it is so expensive, and I had concluded to wait till I made an order, as I do every year; but I know this is wrong; and besides, friend Byrne predicts a failure, and we must not allow that. Keep up the Home Papers by all means, and tell our friend away up in Maine, if he don't want them to take his knife and cut them out. C. H. DEANE.
Mortonsville, Ky., Dec. 5, 1881.

Magnifying-glass and postal of Oct. 21st received. Thanks for the beautiful little instrument. It is fine for so small a price. My 75c colony is doing finely. They have taken in 30 lbs. of honey since Wednesday. I am informed that if any want to buy cheap black bees in box hives, they can get them about or near Reynolds, White County, Indiana, at two dollars a stand, as many as one wants. My bees are all packed for winter but one, and it has a good shed. GEO. L. HOLLENBACH.
Noblesville, Hamilton Co., Ind., Oct. 24, 1881.

I received all the goods promptly, and in good order, but I don't see how in the world you can furnish articles for so small a price. Your pruning-shears—why, I could not get a pair like that for less than \$1.75 in the city of New York! Your glass-cutters are simply immense for that price. I had a few glasses to put in the greenhouse, which had to be cut to fit; and I tell you, they just worked splendid. You may expect another order shortly. Meanwhile accept thanks for promptness. FR. HOLTKE.
Carlstadt, N. J., Nov. 15, 1881.

THE 5-CENT SUNDAY-SCHOOL BOOKS.

I have the Sunday-school books, entitled "The Giant-killer," "The Roby Family," "On the Way," "Ethel Linton," "Sheer Off," and "Silver Keys," and I would say to those who have not read them, be sure to get them when you are making your selections. If any one only knew the wholesome and interesting matter contained in these books, he would not, I think, hesitate to hand over the insignificant price and read them. J. P. MOORE.
Morgan, Pendleton Co., Ky., Nov. 28, 1881.

A HINT FOR OUR YOUNG LADY READERS.

I only echo the words of hundreds of others when I say that my apilary, without GLEANINGS, would be like a hen with her head cut off. It would merely flutter about for awhile and then die. And now a little about tobacco: I used to smoke a great deal; but a young lady took me in hand, and said that I must not smoke; result, no more smoke. Just give some of your lady friends the hint, and you will see what power they have over the young men. A. C. MILLER.
Barrington, Bristol Co., R. I., Dec. 6, 1881.

I thought I would drop GLEANINGS this time (I have taken it 3 years); but when the last number came I felt I must continue the subscription another year. I have no bees, mine having gone where the sun "shineth over," last winter, and I have not replenished my hives; but I think I will next spring. I can report only two stocks in this township that I know of, and it's almost impossible to find buyers for the honey yet on hand. But send me GLEANINGS; if I have no bees it does me so much good to read of others who do have them; and then the Home Papers are a source of great pleasure and profit to me, if others do denounce them. T. J. COOK.
Newpoint, Decatur Co., Ind., Dec. 7, 1881.

The box of goods shipped to my address the 17th is received, every thing in good condition. Almost every article was better than we expected—a wonder for the money—50 to 75 per cent cheaper than the same could have been bought here. Why do you advertise the carpenter's level an "imitation rosewood," when it is good cherry, same as all levels, just as good as rosewood; while to say "imitation," conveys the impression that it is soft wood, only painted, which would be a poor article even if it imitated gold. I shall want another box of goods after awhile. S. C. PERRY.
Portland, Ionia Co., Mich., Nov. 25, 1881.

[Why, you see, friend P., it was imitation rosewood at first, but the manufacturers improved them, and we had not got round to note it. Many thanks for your kind words.]

HOW TO GET SUBSCRIBERS.

I was so delighted with GLEANINGS. I had some copies in my pocket. When I saw a bee-keeper I offered him one to read, with an invitation to take a copy. In every instance they have done so. Wilkinson did not know that he wanted it at the time I offered him the copy. I passed his residence yesterday, and asked him how he liked it. He came out to the road and said it was just what he wanted. He would not do without it; said his wife wanted him to take the A B C, but GLEANINGS was just what he wanted. He never had any honey except what he took out of hives, L. movable frames. They are all in a hurry; want to begin with Nov. No. Send them along. FRED TIMMERMAN.
Fayette, Iowa, Nov. 1, 1881.

Smoker No. 2, which you sent me in place of the one Uncle Sam put his foot on, came all right, and, as the girls say about a new hat, it is "just nobby." I think you are very kind to send another smoker; but I do not feel just right to have you stand all the loss. I don't know which to do in return for your kindness—pay off the debt against your factory, or try to get you some new subscribers for your magazine. I think I will try the latter plan. How would it do to leave a space at the bottom of your labels for comb honey, to fill with pen or pencil the kind of honey the case contained, also space for name and address of producer? P. W. RICHTMYER.
Gilboa, Schoharie Co., N. Y., Nov. 22, 1881.

[I think I would use a separate label for the purpose you mention, friend R.—Your very kind words pay for all the damage, but we should be very glad of the subscribers.]

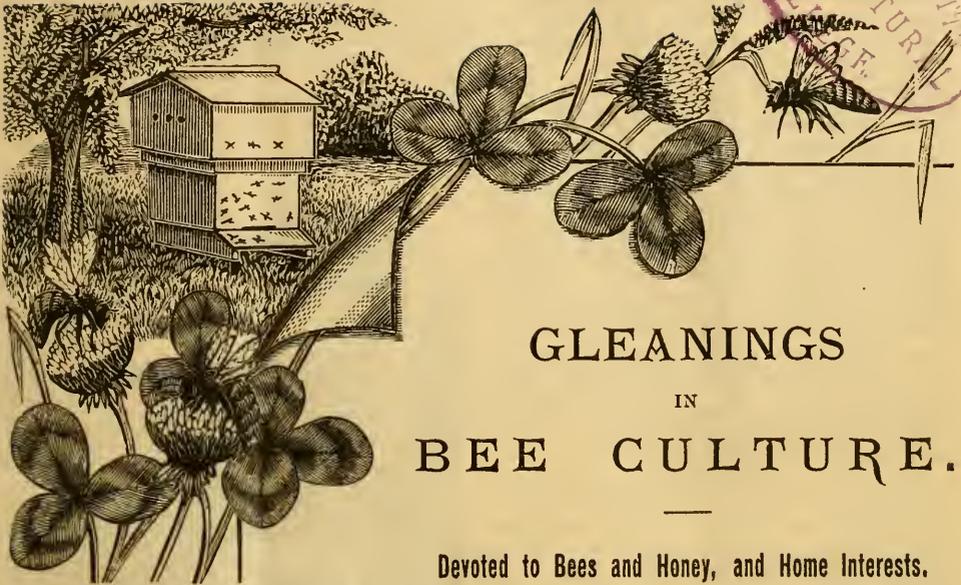
What will be your lowest terms for GLEANINGS for five years and one Waterbury watch, latest improved nickel case? We like GLEANINGS so well, and also the editor, that we want to secure it for the above time. It is a pleasure to deal with you; for if there are any mistakes, you are always ready to correct them if you were at fault. W. O. & G. L. BEACH.
Quitman, Nodaway Co., Mo., Nov. 19, 1881.

[Many thanks for your very kind words, friend B.; and all that troubles me about them is, that I may not always deserve them.—As we are doing a great deal to introduce the Waterbury watches, the manufacturers have given us an especial rate, where we use them as premiums, and this enables us to give a watch, free of postage, to everybody who sends us \$5.00 for five subscriptions. It may be a club of five, or sent to five different addresses, if all are new.]

On page 567, Nov. GLEANINGS, I notice an editorial headed, "A Big Swindle," in which you ask, "Now, who of you is it that has been selling us pure queens for hybrids?" I suppose I must confess that I am "guilty," for I see no chance to escape, as one of your customers, whose order I filled, wrote me that the queen (which I sold for hybrid) was pure. Speaking of her bees he called them "little beauties." I wrote him that I was glad to hear it, and of course did not ask for any thing extra. I did not know she was pure when I shipped her; I thought she was hybrid, but found out later that I was mistaken. So it was with one or two more I shipped you for hybrids, and I thought, "Won't that fellow be tickled when he finds that his queen is a tested one instead of a hybrid one?" I feel amply paid by so agreeably disappointing those fellows, if it was really I. I know I am the "chap" in at least one of the cases which I have stated. Can you not tell, friend Root, by going to your queen-books, the one from whom you got the "bogus" hybrid queens? Look, and let me know.

SQUARE MEN.

I wish to state that I fully approve of your idea of having a list of square men. I think it will be a great aid to all of the honest ones. I will leave it to you and my customers whether I deserve to be placed in that list or not. I have dealt with you very much, and you have trusted me whenever I asked you to send me goods, before I had paid for them, for which I hereby tender you many thanks. You can tell whether I have acted honestly with you or not. I have tried to follow the golden rule, "Do unto others as you would have them do to you," in all my business transactions. I have tried to, in every instance, as I thought God would have me do, asking him to lead me; and, judging from the pile of letters before me to-night, I have not tried in vain. J. P. MOORE.
Morgan, Pendleton Co., Ky., Nov. 4, 1881.



GLEANINGS IN BEE CULTURE.

Devoted to Bees and Honey, and Home Interests.

Vol. X. JAN. 1, 1882. No. 1.

A. I. ROOT,
Publisher and Proprietor,
Medina, O.

Published Monthly.
Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts.; Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 26.

MY REPORT FOR 1881.

FRIEND O. H. TOWNSEND would like to know how much those seven colonies, that I bought of him, helped me in queen-rearing. Well, as our little girls say, they helped a "whole lot." Of the eleven colonies that I owned one year ago, only one colony remained alive last spring; and that was so weak that I united it with another colony that I bought. Although it was up-hill work getting started last spring, yet I did not become discouraged. It was with difficulty that I obtained money with which to buy bees, while to find bees to buy, unless at exorbitant prices, was an equally difficult task. Every swarm that I bought was in box hives, or else in movable-comb hives having frames that differed in size from mine; consequently, all had to be transferred. Finally, June 1st, I found myself the possessor of 18 colonies; all transferred, and in fair working order. The weather continued cold so late, that queen-rearing was not commenced until about a month later than usual. Although white clover was so abundant that some fields reminded one of a snow-drift, yet the weather was so cool that no surplus was stored until the latter part of June. White clover yielded fairly from about June 21st until about July 8th, when it was deserted for the bounteous, fragrant basswoods. A fair crop was obtained from basswood, but the yields from fall flowers was cut short by the drought.

I have reared and sold 263 queens; extracted 1100 lbs. of honey, and doubled the number of my colonies. Estimating the colonies now on hand (28) at \$5.00 each, my profits have been only \$15.43 per colony.

In closing his report, friend I. R. Good fairly takes the words right out of my mouth; that is, they express my feelings *exactly*. Please allow me to quote them: "I wish to thank the many kind friends who have sent me their orders for queens. If there is one among you who is not satisfied, let me know, and I will try to satisfy you. I tell you it does me good to receive such kind letters as some of you bee-keepers write."

MR. ROOT DIDN'T COME.

How I did wish that I could go to the convention at Battle Creek! but circumstances were such that I could not attend. I could not help thinking, however, that there was a slight possibility, about one chance in ten, that Mr. Root (Novice) might swing around this way on his way home. Saturday evening, in hopes that he might come, I filled the wood-box heaping full of wood, so that we could "sit up" and "talk" if he did come; and, as I started for Rogersville, I laughingly told Mrs. H. that I was going to the train to meet Mr. Root. But no Mr. Root alighted from the cars; and then I even went so far as to go through the cars to see if, by any possible chance, he might be on the train. I saw only one man that I thought could possibly be him, and while I was debating in my mind whether or not I had better speak to him, he up and squirted a small-sized deluge of tobacco-juice behind the stove. That settled it, and I left the car, went over to the

postoffice, and then went home with nothing for company but my own thoughts, and my pockets full of mail.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

Friend H., although I very often tell young bee-keepers to have fewer colonies, and take better care of them, I do not know but that it is sometimes well to advise them to have more colonies, and take better care of them; and I do not know but that I should do so in your case. As you have 28 now, and will probably have pretty nearly all of them in the spring (?), I presume you will next season show us that you can handle a larger number as profitably as you do a few.— I should have been very glad indeed to have passed the Sabbath with you, friend H.; but I was urged to stay with quite a number of others in the same way, and some of them were *very* urgent too. When I got almost home, my own son got almost out of patience with me because I wouldn't stay with him. Here is what he wrote about it:—

Dear Mother:— I heard that pa came through Oberlin yesterday, and I was *very* much disappointed to think I did not know of it in time, so as to be at the depot. If I had, I should have endeavored to make him stay over Sunday; and I don't see why he didn't when he had such a good opportunity. But as he is one of those impatient home mortals, I think I can excuse him. Next time, I wish he would inform me a little in advance, for I think I could capture him.

Mr. House sends his respects to all Medina friends, and told me to give pa a "free lecture" for not stopping in Oberlin, for he thinks he missed a good deal.

ERNEST.

Oberlin, O., Dec. 11, 1881.

Come to think of it, I believe this is the first time one of our own children ever before penned a word for GLEANINGS. Well, I knew my duty was at home. The great stack of letters that awaited me lay heavily on my shoulders. Just one illustration: Friend Doolittle almost got cross, because one of the clerks had charged him \$8.00 for 400 printed postal cards. The clerk said it was according to the list, which was true, but the list also said *five* hundred would be only \$6.00. Shall I hire somebody to look after all these things? I never yet knew of anybody who would look after things as well as the one to whom the things belonged.

THE CYPRUS APIARY.

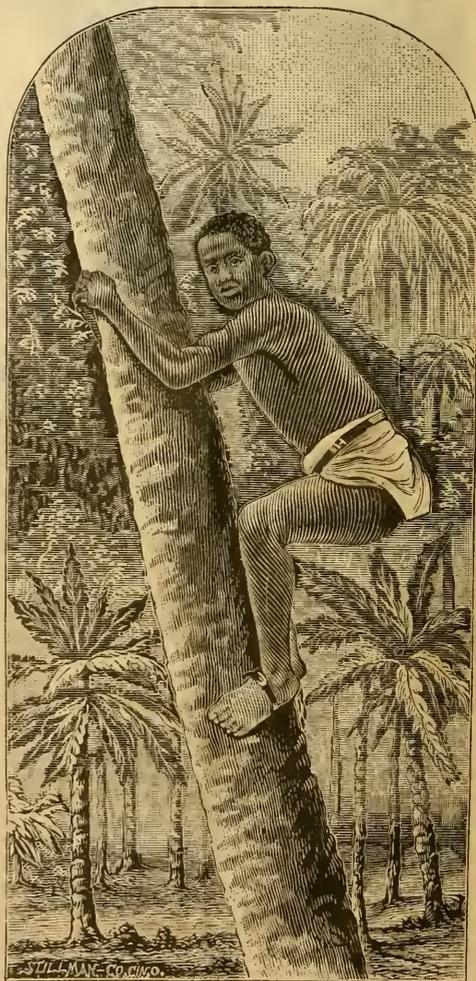
OUR FRIEND FRANK BENTON IN HIS HOME ON CYPRUS ISLAND.

THE photograph—the best and largest that could be obtained here, shows only a small part of the apiary, whose foreground is cut off, and which extends some distance to the right, and a part of which is the large inclosure back of the house.

The costumes of Greeks, Arabs, and Turks, with the group of camels, give to the view a decidedly Oriental air. The camels have just arrived from the interior of the island, and the attendants are busy removing their loads of clay cylinders—the native bee-hives. A Turkish woman belonging to the caravan stands near.

In the group at the left is a priest of the Greek

church, with a Greek citizen, and a Greek porter, the latter being about to start for the steamer landing, with a case of bees for shipment, while the two former are watching that "*Amerikanos*" manipulate a hive of bees. "But, can they be handled thus with so many people and animals about?" asks some one. Certainly they can, if one knows how to manage them, and has a bit of patience.



CYPRIOTE CLIMBING A TREE.

Most of the hives shown in the picture are plain boxes, of about 2000 cubic inches capacity, designed to hold medium-sized colonies for queen-rearing—all queens being reared in full colonies. The whole apiary is devoted to this branch of bee culture, and of course movable combs are used exclusively, the loose-fitting Langstroth being employed to the exclusion of all other styles. The size, however, is 9 inches deep by 10 long outside. Twelve of these are placed in one story, but sometimes twelve more are put into a second story, placed above the other. But even on four of these combs, a queen with plenty of young bees and a good supply of honey will winter here.

At the extreme left of the porch are some twenty clay cylinders piled up like drain-tiles. These are some of the bee-hives of the natives, and this shows exactly the manner in which their apiaries are arranged—is, in fact, a model of a Cyprus apiary. The cylinders are made of clay, and burnt, and each is about a yard long and 9 or 10 inches in diameter, except each end, which is a little larger.* A stone disc is fitted into each end, and the crevices, except an entrance-hole, filled with puddled clay.

On the roof is another model (!) apiary, such as may be seen at many a Cypriote's home. The cylinders of this collection are made of clay, into which short straw has been incorporated, and they have been merely dried in the sun. Inside they are of about the same size as the others, but the walls are

from the back end, after the removal of the rear disc, and after the bees have been driven forward with smoke. But brood and some dirt often get mixed with the combs taken out, which are then crushed, and the honey strained out; hence the quality is very poor; yet 13 cents per pound (14 piastres per oke) is the price which is commonly asked for it in the bazaars. It often happens that the poor bees find their winter-stores have been stolen from them, and that, after a hard year's toil in the hot, scorching hot, summer sun, they must starve in the cold. Surely, I hope there are no Cypriotes in America, and that all of the beautiful little workers I send over there will fare better than would have been the case if they had been left to the not very tender mercies of Greek or Turkish Cypriotes.



FRANK BENTON'S APIARY, LARNACA, ISLAND OF CYPRUS, MEDITERRANEAN SEA.

generally a little over twice as thick as those made of burnt clay, being quite two inches. Of course, they are very heavy, unwieldy things; yet (since there are few trees in Cyprus) these thick clay walls protect the combs from the sun even better than do the thinner burnt-clay ones. In winter, too, they keep the bees warmer. The diameter of these cylinders is greater at the rear end than in front, in order to facilitate the removal † of combs of honey; for from these, as well as from the other kind of hives, the natives take such an amount of honey as they think the bees can spare, by cutting the combs out

The house is one of those old rambling adobe and stone structures so characteristic of Cyprus. Its walls are two feet thick, floors of stone, and roofs of beaten clay six or eight inches thick, and supported by great arches of massive masonry. Some idea of its size may be gained from the following facts: The front court is 60 by 100 feet, and is nearly inclosed on three sides by parts of the house, which contains 14 rooms. The front porch is 12 feet wide and 65 feet long. A hall at the right leads through the house 50 feet to the back court, which is about 30 feet by something over 60, and is inclosed by the house on two sides.

When our little "prize queen," who first "piped" Sept. 5th, 1881, can trot from room to room, it will be

*A palpable infringement (!) on our friend Merrybanks' pal bee-hive.—Ed.

†Merrybanks again, for a wonder.

a task to hunt her up in this old mansion — our home in Cyprus.

FRANK BENTON.

Larnaca, Island of Cyprus, Mediterranean Sea.

Many, many thanks, friend Benton. I do not know what you could have sent us that would have pleased us more than such a picture. Is it indeed you, away off there among those strange foreign surroundings? There are many here at home who think of you often, and our boy Ernest is planning to take a trip over to Cyprus when he gets through with his college course. You have not even told us a word about that native brother who is climbing that tree. Is he after *Apis dorsata*? Kiss the little "prize queen" for us all; and may God grant she may some time see her hosts of friends in the fatherland, away off here in America!

OUR BEE-HIVE,

WITH A PICTURE OF THE GENTLEMAN HIMSELF.

BELOW please find draft of hive, and inclosed, a photo of hive and of your humble servant.

You see I have the side cushion under my foot,—not that I have discarded it, but that it is the foundation of my success. It is made so that it does not come to the bottom by $\frac{1}{2}$ in.; not raised, as that would let the heat pass under the top cushion at the ends of the side cushion.



FRIEND STITES' CHAFF HIVE.



DIAGRAM OF THE INTERIOR OF THE HIVE.

The lower story is $18\frac{1}{2} \times 18\frac{1}{2} \times 10$, and the upper one $18\frac{1}{2} \times 26 \times 10$, inside; coffee-sack, filled full of planer shavings, just-fills it full, but leaves the corners open so the fresh air can come in at the entrance, and pass under the side cushions, and up at the corners of the top cushions, and out at the holes at the gable ends. By this plan the draft is not direct, and they can not smother, if the entrance should get closed up. I use your L. wide frame for surplus honey, at the side below, but mostly use a long wide frame (holding 8 sections) above, running parallel with brood-frames. The frames below are of a size to hold six 1-lb. sections. I find this is very handy, for I can get at the brood by just raising one wide frame above. The piece at the end of the long wide frame passes below the bottom piece 4 inches, so it will not kill bees in setting it in the hive. I use the standard L. frame.

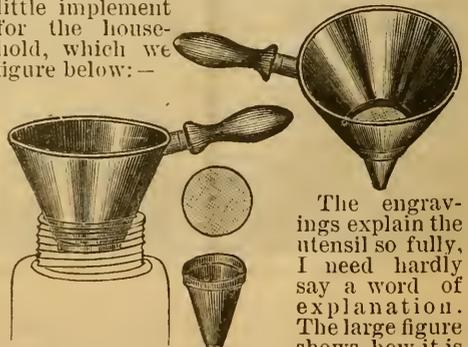
GEO. W. STITES.

Spring Station, Ind., Dec., 1881.

Our friends will observe that this hive is arranged to combine the protection afforded by chaff hives, with the ideas that have been brought out so strongly in regard to thorough upward ventilation; that is, while he has protection from the frost, he also has almost the ventilation afforded by leaving the section boxes on all winter. His plan of having the frames in the upper story a third longer than those below, is the same as has been given with illustrations in some of our former volumes. In some respects this plan is very convenient; but having two sizes of frames in the same hive, or apiary even, seems to be so objectionable that, so far as I can learn, it does not find permanent favor.

A NEW TUNNEL FOR HANDLING HONEY.

WHIO has not been bothered in trying to get honey into a bottle, jug, or even fruit-jar? Well, a friend in an adjoining county has got up a very neat little implement for the household, which we figure below:—



THE COMBINED ADJUSTABLE TUNNEL AND STRAINER.

The engravings explain the utensil so fully, I need hardly say a word of explanation. The large figure shows how it is used for a fruit-jar, or similar

large-mouthed vessel. Well, for a small-mouthed vessel you just slip on the little cone seen below, and if you then wish the honey or other liquid strained, you just slip in the circular piece of perforated tin, and you have a strainer also. The whole is very neatly and strongly made, with a polished enameled handle, and yet the price is but little more than a good-sized tunnel. We can furnish them for 15 cents, or 20 cents, where sent by mail.

IMPROVING OUR BEES BY CAREFUL SELECTION IN BREEDING.

SOME FACTS FROM EXPERIENCE, BY FRIEND WILTSE.

THE experience of Mr. Doolittle, as given in the Oct. No. of GLEANINGS, is so much at variance with the known principles of breeding, and the results reached by crossing two or more races, that I am inclined to believe he has so expressed himself for the purpose of drawing others out on this subject. He says: "The first Italian queen I ever saw was introduced some time in July, and did not raise a drone that season; neither was there an Italian drone within 12 miles of her; yet none of her daughters ever produced a black bee. There were hundreds of queens raised from her during three years, yet none of them ever produced a black bee." Previously he tells of 60 queens, duplicates of their mother, that raised no black bees, though thousands of black and hybrid drones were around, and asserts that he raised them the past season. In this case he does not tell any of the characteristics of these bees, and in the other he does not say who owned them, does not tell any of their characteristics, does not in either case give their color; but gives references to what he has previously written for GLEANINGS. These numbers I did not have. In the *Bee-Keepers' Magazine*, Vol. 8, No. 7, he writes of "the first Italian queen that ever came into these parts;" he says: "Not a drone was raised from her that season. She was introduced into one black stock after another, until queens were obtained for the whole apiary. These queens mated with black drones. Not one of these queens ever produced a black bee. When the daughters of these queens came to produce bees, then it was that a part of the bees emerging from the cells were black. According to the rule of the three bands, the bees raised by the queens that mated black drones could not be told from the simon-pure." No owner is mentioned here; none of the characteristics of the bees are given. So much for the first and second grades produced by crossing the black bee with the Italian.

Of the hybrids of the black bee and the Egyptian, he says: "It is said, that a cross of the black bee with the Egyptian, will, in three generations, produce a bee which no man can tell from the best Italian. If this is so, it is probably the starting-point of our Italians; but why such breeding can so thoroughly fix the bands, that a queen mating with a common drone will not show such mating in her working progeny, is more than I can tell, but know such to be the fact." Does he mean that the first cross, and the grades resulting from such mating, are to be mated with the Egyptian bee? To judge from the context, I infer that such a result is reached by the first cross, when allowed to breed among themselves to the third generation. This is opposed in every respect to the testimony of those who have mated the black bee with other races of bees, and to all analogous testimony resulting from crossing other races of animals. Mr. W. F. Clark says, in the *B. K. M.*, "I apprehend bee stock is ruled by the same laws that govern other stock." Martin Metcalf says, in the above-mentioned journal (see Vol. V., No. 11, p. 272:) "Our conclusions are firmly established, that the same principles which are universally applied to the development and perfection of a distinct type of horses, cattle, swine, sheep, or any other

family of the animal kingdom, must be adopted and rigidly adhered to, if we hope to make any progress, or even maintain the characteristics we now possess." Like the queens referred to by Mr. Doolittle, some that I have raised, and that have mated with black drones when no Italian drones were in this vicinity, have raised worker bees marked with three yellow bands exclusively; but in every case they were of an irascible disposition, and in all other respects resembled other hybrids: such queens we killed. We bred from the old pure queens, and such others as we inferred were pure, from the writings of those who said the most in the bee journals, killing such queens as had evidently mated with black drones; but, contrary to our own judgment, leaving some of their drones. We purchased pure queens, occasionally, to breed from; but could not, under this system, repress the black bee. We at length moved the hybrids, and some Italians three miles from home. They were allowed to breed *inter se*, and they grew darker from year to year. Some became entirely black—queens, drones, and workers. Albinos were produced, and several stocks raised worker bees whose abdomens had a shortened and pinched appearance. Had not the disease of last winter destroyed them, they would probably have developed into a sub-variety of black bees.

Eight years ago we purchased some Lancashire and some Berkshire pigs—the former a white race, the latter nearly black. They were pedigreed stock. When crossed, the Lancashire in every case imparted to their offspring their color; but their characteristics, and those of the Berkshire, were nearly equally blended. Increase of size, and vigor, resulted from the first cross. When this cross was mated with the Lancashire, the result was endless variety in form and color; they seemed to be breeding backward. We continued to breed grade after grade with the pure Lancashire, and not until the sixth or seventh cross had been made did any thing like uniformity result. Resulting from the imperfect blending of the two races, a pig with its upper lip separated from the jaw-bone, several with five phalanges to the front feet, and one with six, were produced, and several with aborted mammae. These cases are not exactly parallel, pure blood having been always used with the hogs, and only when it happened so with the bees; yet from the similarity of the results, I think we can safely draw the following conclusion: That an individual or race, though sufficiently prepotent to exert a controlling influence over a first cross, through the imperfect blending of the races, subsequently fails to exert the same influence. Prepotency failing, the latent tendency to revert back to the color of the original species that exists in the Italian, and is aroused into activity by crossing the races, augmented by inbreeding and foetal circulation, produces the speedy obliteration of the yellow bands.

JEROME WILTSE.

P. S.—Having photographs of two of those hogs' feet, of which I wrote in the inclosed article, I send them to you as evidence of the results produced by mingling the blood of two races. J. W.

Rulo, Neb., Dec., 1881.

The photographs inclosed show very plainly a queer deformity of the feet, and indicate something wrong, without question. If I correctly understand friend W., he claims that the crossing of two races gives fresh vigor to the cross for only a few generations, and that to reap the best results from

crossing the blacks with the Italians, we keep on importing fresh stock, and also preserve pure black bees to cross with them. If we do not wish to do this, keep both races separate. Am I correct?

FROM 10 TO 71 COLONIES, AND 1200 LBS. OF HONEY.

ANOTHER "STUNNING" REPORT.

I WISH to give you some of the ups and downs of bee-keeping—especially the downs. In this locality we had the best honey season we have had for many years. We had the hottest and driest season we ever had. No rain from June 15th until Sept. 15th. The hotter and dryer, the more honey seemingly. Sweet clover is king, as a honey-producing plant. It blossomed until Nov. 14th this fall. I suppose my success is due to the grand honey season, and plenty of old combs on hand, of which I had 1500 sheets. My loss last winter was 163 out of 165 colonies. I bought 8 blacks, and commenced with 10 colonies—8 fair and 2 weak ones. I transferred the 8 June 5th, and made my first division June 12th. I divide by moving a strong colony, and start a nucleus in its place with a full set of combs and a frame of eggs and brood in the center.*

This season I subdivided each nucleus when the queens were ready to hatch, say from 12 to 14 days, by giving each a brood comb again. In this way I have increased from 10 to 71 colonies, which could be done only by dividing and subdividing. My hive is what I will call a systematized Langstroth, 14x14 and 11½ inches high, inside measure, holding 9 frames. From a number of nuclei, started between June 12th and July 15th I have extracted 60 lbs. of finished honey, each from the upper story, in September.

Total honey crop for 1881, 1000 lbs. extracted, and 200 lbs. comb honey; bees all strong, and plenty of honey for the winter. I work on the tiering-up system.

I took 40 full sheets of brood from my only surviving colony of Italians, and yet it occupied 4 stories, containing 36 frames and a case of sections. Again, the middle of September my 8 colonies of blacks were not much behind this. Each occupied 36 frames, and had also furnished a great many brood frames. Quite a number of my nuclei occupied 36 frames. Again, in September also, each old colony gave me 60 lbs. honey, which was taken after it was all finished and capped. Twelve hundred lbs. honey, and 100 lbs. wax from 10 colonies in spring. From the time maple and fruit trees blossomed, say May 1st until Sept. 18th, we had a constant flow of honey. Our principal honey-producing plants here are fruit-trees, white clover, basswood, sweet clover, wild cucumber, and heart's-ease.

After reading a great deal of bee literature, I have come to this simple conclusion: Like all scientific subjects, the more we know, the less we know—or the more we feel the necessity of knowing more.

I have to differ with some of your correspondents on glass jars. I sell my honey in Mason's jars, quarts and pints, and also jelly-tumblers; quarts, 65 cts.; pints, 40; jelly-glasses, 25; so you see my honey nets me over 18 cts. per lb. I have sold up to date, \$166 worth of honey. My object in increasing my bees was to save my comb. I have succeeded in

saving 1300 out of 1500 sheets. Now, how much more could I have accomplished had I received my 8 queens from H. A. Burch in June? My intention was to buy 25 queens this season; but Burch & Co. wiped me in the start, so I got none at all. Accordingly, the queen-dealers have lost on me the price of 15 to 20 queens. Now, if the rest of Burch's dupes have withheld their orders and money from honest dealers, what has been the total loss to dealers on account of H. A. Burch & Co.'s trickery?

H. S. HACKMAN.
Peru, La Salle Co., Ill., Dec. 12, 1881.

AN A B C SCHOLAR'S MANAGEMENT OF BEES,

AND REPORT FOR 1881.

IN March number of GLEANINGS I told you I had my bees down cellar—two box and two Simplicity. They were put into the cellar the middle of November, and remained until the last week in April (without any fly). I visited them often to see that they were quiet and happy, and free from dysentery, and took care not to disturb them in any way. In preparing them in the fall, to the box hives I did nothing, only left the empty surplus boxes on. In the Simplicities I removed the enamel cloth, and placed, instead, a chaff cushion thick enough to fill space in cover with a fourth-inch space across the opposite end from the entrance up by the cushion for ventilation. Then on the rabbet, on the outside of hive of the same end, I placed a piece of wood ¾ square by ½ thick, tipped back against the miter, and let the cover rest on that, which gave a circulation of air through the hive. Temperature from 40 to 45°. I could put all the dead bees in a pint dipper when I took them from the cellar, and I had no spring dwindle (and I will say right here, it was one of the hardest winters we ever had). I placed them on their summer stands about 10 o'clock A.M. on a very fine day (snow all gone). Then there was a fly in earnest.

Now for summer report: I transferred one box hive to Simplicity; changed the other two over into new hives so as to be sure the queens were there, and every thing sweet and clean. After I got them to raising brood I made one colony queenless, using the queen to form another colony, and using the queenless colony to raise queens; got three good cells on the very first frame I put in then; after they were capped, I transferred two cells to separate frames of brood, and with these formed two other colonies, leaving one for the queenless colony. The other box hive I let swarm once, after which I used the bees from the box to prevent swarming, and to build up the others. This doubled my number. I stopped here. As I had no sale for bees, I did not wish to increase further; got them into shape for honey as fast as possible by taking from the strong to build up the weak, and had them in good working order in time; but, lo and behold! the honey did not come—that is, as fast as I expected, but rain, rain, rain, until the first week in August, and then they began to fill up; but it cut short, so I got only about 100 lbs., mostly in 1-lb. sections. However, I am not discouraged a bit. They are jammed full of honey and bees; are all fixed warm, and have been in cellar since the 10th of November; so don't put me in Blasted Hopes yet. My bees built comb between the bottom of surplus frames and top of brood frames. What is the trouble? Do you use

*I would invite the attention of friend Hasty (see p. 25) to the above.—Ed.

honey-board on top of frames before putting on surplus frames? The space on my hives is nearly $\frac{1}{2}$ inch between the frames. Will reducing the space to $\frac{1}{4}$ inch stop them? If so, how shall I do it?

HOME PAPERS.

Now, I wish to say a word about those Home readings. I know you have no idea of leaving them out. If I thought you did, I should hold up both hands, and use my tongue pretty freely too, to keep them in. I think this a very nice journal as it is, and if there isn't room for all, you must increase its pages or leave out some other matters of not so much profit. What does it profit a man to gain the whole world and lose his own soul? Let us have the Home readings, Brother Root, and my dollar shall be coming along to you every year to help you out, and all others whom I can get to subscribe.

L. S. SMITH.

Cherryfield, Washington Co., Me., Dec. 8, 1881.

The difficulty you mention, friend S., is one not very easily remedied. Reducing the space to $\frac{1}{4}$ inch will usually answer, yet there are some stocks that will even then fill the space up solid with honey. If you scrape the top-bars and bottom-bars clean, and grease them with clean tallow, it will usually prevent any further attachments, but it may hinder the bees some from going into the sections. With the case for the $\frac{1}{2}$ -story hive, you can take out the sections, put them in a new case, and leave the case over the frames until the end of the season, if you choose, but you will then be unable to examine the brood-combs during all this time. A good many let alone these attachments, and when they wish to pick out the filled sections, break each wide frame loose, being careful to smoke the bees away, when they are replaced, that none may be killed. I am inclined to think the bees move right into new sections more readily when the latter plan is followed, than where they are prevented from bridging up the space as mentioned.

QUESTIONS FROM AN A B C SCHOLAR.

ALSO A PRETTY GOOD REPORT FROM 4 COLONIES.

EDITOR GLEANINGS: Permit me to ask a few more questions.

CURING HONEY.

How long does it take to cure honey? A good deal has already been written on this subject; but permit me to use a little space for remarks in this connection. During the white-clover season I took some of the best extracted honey, and, after allowing it to stand open a few days, I sealed it up to keep till fair time. I thought it splendid honey, and well ripened too. I also kept specimens of all the kinds of honey, clear to the end of the season. Now, at this time the best I have is that last extracted from fall flowers. I allowed it to stand open a long time, and it has constantly improved till now, and there is not a particle of the "tang" (if that is the word) that we sometimes taste after eating honey. It is even better than the white-clover honey. I have observed all through the season that the longer the honey is left open, the better it is. Is this the general verdict?

I believe the general testimony is, that extracted honey improves by standing open to

the air, if protected from dust. Friend Illeddon said, at the convention, he placed his honey in stone crocks, and piled them up on each other, but so the air could circulate through. The crocks, of course, will give it no taint or flavor, as barrels may do. It seems to me I would use tin cans, because they are so much lighter to handle. Well, if at any time he has an order for a barrel of honey, he gets it from these crocks into the barrel in this way: He has a large tin can to set on the stove, that will hold, say, eight 20-lb. crocks. Water is poured around them, and brought gradually to a heat that will melt the honey; it is then poured into the barrel, while hot. Two lots, melted in this way, make a barrel full. I believe as fine honey as I ever tasted had been standing a year in open crocks, and was candied hard.

GRANULATION OF HONEY.

What principle in honey causes granulation? I noticed that the first honey I extracted was the last to granulate, and *vice versa*. This being the case, which will winter bees better, the early or late honey? If the former, then why extract from the brood-chamber at all? Would the queen be driven out of it, and we be compelled to extract to give her room?

I believe the source from which the bees get the honey has much to do with granulation. Some will get solid very soon, while other samples will not. Honey that is granulated in the combs, seems to be inconvenient for the bees in winter, like grape sugar; but when the weather gets warm, they use it without trouble. Aside from this, I do not know that we have any reason to think granulation is any objection, although I believe clover and linn honey is thought to winter bees rather better than late-gathered honey.

CONTRACTED ENTRANCES AND DEAD BEES.

One year ago I had 4 colonies of bees, my father 9. I took equal pains in preparing all for winter on their summer stands. During winter, my father failed to keep his entrances clear of dead bees; I kept mine clear, and once or twice, on warm, sunny days, I took every frame out, and cleaned the hives of dead bees, they voiding their feces at the same time. I had the satisfaction of successfully wintering mine, my father losing all his. Our hives and bees were alike. What made the difference?

FOUL BROOD.

In speaking of dead bees, allow me to ask if they will induce foul brood to appear. Does this disease ever appear in the winter? And will it live through winter with a swarm of bees?

Foul brood hurts only the brood, and it therefore can do harm only while brood is being raised. The germs of the disease stay in the combs over winter, and affect the brood as soon as brood is raised again. It is claimed that dead bees and dead brood may generate foul brood where none has existed. I am very loth to accept this; still, it may be so. We have never had a cell of foul brood in our apiary, and, in fact, I have never seen any in our State, so I may not be very good authority in the matter. See p. 16.

FROM 1 TO 13 IN ONE SEASON.

A man in this county increased 1 swarm to 12 in 1880; lost all but 1 last winter; said they were all good swarms. This year he increased again to 13.

REARING DRONES.

I have 2 or 3 hybrid swarms, and want to get full Italians. What proportion of queens should be devoted to raising drones, to secure this result from a good queen to raise queens from?

It will be a very good idea to raise as many pure drones as you can conveniently, if you have black drones near you, in abundance.

TO SAVE A VALUABLE QUEEN WHEN THE BEES DIE OFF.

Suppose you wish to save a queen in a colony that was dying off rapidly, how would you do it; i. e., in the winter or early spring?

I have never had much success in keeping queens after the bees had died off and left them, unless it was so late in the spring that I could introduce them into a nucleus of healthy bees made for them. If given young bees in an ordinary queen-cage, and fed on pure sugar and water, they may be kept a month or more.

YEARLY REPORT.

Had 4 colonies last spring; increased to 12. They gave 75 lbs. honey, mostly extracted. Extracted brought 12½¢; comb, 18¢. per lb., netting \$9.70. Value of the 8 new swarms, you may place yourself; but \$150 would not buy the product of my four colonies the past year, and all this from one who did not know a queen from a drone, May 15, 1880.

ENCOURAGEMENT.

Can it be possible that the author of that famous growlery article in last GLEANINGS, and other men who write similar articles, ever glance at the "kind words" from the grand army of constantly increasing patrons of your noble business? If so, do they ever pause to think that *they* may be wrong and you right? It would seem not. Surely such harsh grating words can not fall gently upon the ear of one who is striving with all his might to do justice to the many who are in part instrumental in building up a business for him, which of itself speaks the verdict rendered by the honest, grateful members of our bee-keeping fraternity.

F. A. PALMER.

McBrides, Montcalm Co., Mich., Dec. 6, 1881.

You are right, friend P.; the kind words do help me wonderfully to bear the harsh ones when they come. They do not come very often. I believe you have seen the most of them and the worst of them.

COMB FOUNDATION FOR SECTION BOXES.

AFTER comb foundation had been in use but a year or two, it became apparent to some that the bees did not properly thin the base of the cells so as to make it practical for using in section boxes, as a hard ridge of wax (or "fishbone," as it was termed) in the center of each comb of honey was quite a serious objection, for consumers did not like to eat so much wax with their honey. At this time, fdn. running from 6 to 8 square feet to the pound was used for sections; and it was predicted that if such a course was persisted in, our honey markets would eventually be ruined. About this time the *American Bee Journal* lifted up its voice of warning, and bee conventions resolved against its

use for comb honey, to such an extent that some of our large honey-producers began to study on the matter of making a very thin foundation.

In due time, the Van Deusen flat-bottomed fdn. appeared before the public as a result, and we had fdn. so thin that it took from 10 to 14 square feet of it to make one pound. This seemed to be successful as far as the "fishbone" was concerned; but as the bees had to change the flat bottom into a lozenge-shaped base, it was soon discovered that it was not accepted as readily by the bees as fdn. with a natural-shaped septum. However, this was far ahead of any yet in use, and thus it could be readily seen that we were gaining ground. To overcome this last difficulty, Mr. Vandervort succeeded in producing fdn. running from 10 to 12 square feet to the pound, with a lozenge-shaped base which was said to work equally as well as the Van Deusen, and having none of the objections urged against that. Thus we find the N. E. Bee Convention in February, 1881, giving the Vandervort the preference over all others on exhibition. At about this time, A. I. Root advertised in his price list *very thin* fdn. for comb honey, running at least 10 square feet to the pound, and the prospect looked quite flattering that comb foundation for section honey would prove a success, for "out of a multitude of counselors cometh wisdom." To see which was best, I concluded, last spring, to thoroughly test the matter, and so procured fdn. from the following parties; namely: A. I. Root, Medina, Ohio; G. W. Stanley, Wyoming, N. Y.; I. G. Whitten, Genoa, N. Y.; R. Van Deusen, Sprout Brook, N. Y., and Chas. Dadant & Son, Hamilton, Ill. That procured from A. I. Root was his own make, but proved to run only 6½ square feet to the pound instead of "at least 10," as was advertised; and besides, it was made of dark, dirty wax. Perhaps friend Root will explain why he allowed such to be sent out. That from Stanley was made on the Vandervort machine; was very nice wax, and ran 11 feet to the pound. Mr. Whitten's was made on a Dunham machine, and was the nicest I have seen coming from a Dunham mill, as it ran 10½ feet to the pound, and was made of nice wax. Mr. Van Deusen's was the thin flat-bottomed, which is, I think, the prettiest fdn. to look at of any I have yet seen. Of Chas. Dadant & Son, I had both the Root and Dunham. The Root ran about 7½ feet to the pound, and the Dunham about 6. As to quality of wax, I will say, this last was the nicest of all. I filled 20 section boxes full within ¾ of an inch of the bottom, with each kind, and marked the name of the party producing the fdn. on each box. In due time these boxes were placed on the hives so that an equal number (six, one of each kind) was on each hive. These hives were examined at different times, and the result showed that the two kinds produced by Dadant, and that by Stanley were worked upon about alike, and finished at nearly the same time. That produced by Root and Whitten was about a day later in being finished, while the Van Deusen was nearly three days behind the first-named. This was taking the average time of the 20 swarms which worked upon them. By this experiment we found that *it did take time* for the bees to manipulate the flat-bottomed fdn. After all was off the hives, we were anxious to know which kind had the thinnest base, or, in other words, which was most free from the "fishbone" center so much talked of. Accordingly, I procured a very sensitive pair of scales, showing a variation of ¼ ounce ac-

erately, and upon these fixed a No. 16 wire (being square at the end) so it stood perpendicularly. I now placed the section of honey on this wire, letting it down carefully till the square end touched the base, and then watched the scales till the wire passed through, noting down the number of ounces resistance produced by the base of the fdn. on this wire. Each section was thus subjected to this trial in their different places, when the amount was posted up and an average made. When this was done, the same number of sections containing natural comb were subjected to the same test, and an average taken, which gave us this result: A. I. Root's make showed the average pressure of 6 $\frac{1}{4}$ ounces; G. W. Stanley's make (Vandervort) 4 $\frac{1}{2}$ ounces; I. G. Whitten's (very thin Dunham) 5 $\frac{1}{2}$ ounces; R. Van Deusen (flat-bottomed) 5 ounces; Chas. Dadant & Son (thin Root) 5 $\frac{1}{4}$ ounces; Chas. Dadant & Son (thin Dunham) 6 $\frac{1}{2}$ ounces; natural comb, 4 $\frac{1}{2}$ ounces. Thus it will be seen that the Stanley (Vandervort) fdn. was even thinner than the natural comb, while the Van Deusen stood the next best in the list. These experiments were conducted carefully, to arrive at the truth of the matter as nearly as could be done in one season with 20 section boxes of each kind. I am in no way interested in the sale of any kind of fdn., consequently am not prejudiced in the least. One thing I wish to say about all fdn., which I have long believed to be so, but have had no chance to prove till the past season, which is this: At a time when honey is coming in moderately, say when a good swarm is bringing in from 3 to 5 lbs. per day of extracted honey, comb foundation is a success in the surplus arrangement; but at a time when honey comes in with a rush, the same swarm gathering from 12 to 20 lbs. a day, it does not pay the cost, for my bees will fill a box having a starter of natural comb, and finish it as quickly as they will one full of fdn. by the side of it. All through basswood the past season, when honey was coming in slowly, the fdn. was drawn out and finished before a box by its side with a starter was half filled; but when the rush came from tansel and red clover, those with starters were filled fully as soon, as has been my experience for several years before. Thus I have given you my experience with foundation for surplus comb honey. If it does not agree with the experience of others, please use charity, and remember that localities make a difference in results.

G. M. DOOLITTLE.

Borodino, N. Y., Dec. 17, 1881.

Friend D., I am certainly very much obliged for the result of your valuable experiments, even if you have given our fdn. for surplus honey a pretty square left-handed recommend. Very likely it was fully deserved, for I did discover, one time last spring, that the hands in our wax-room were not making fdn. according to the advertisement. When taken to task about it, the reply was, that if we made it that thin, it would cost more than we ever got for it. I gave them to understand pretty clearly, that we were to do all we agreed to in print, and when there was a difficulty in the matter, I was to be consulted. Since that time, I believe we have furnished clean wax for surplus boxes, and as thin as advertised. I am sorry the above experiments did not include also samples of the *dipped* fdn. With all deference to friend Doolittle, I would remind our readers, that he has, from the com-

mencement, pulled strongly against the use of fdn. Even when everybody else was satisfied, apparently, his experiments seemed to indicate it didn't pay. The above is a pretty big concession in its favor, but it seems to me he is hanging back a little still. Will our friend excuse so much of a criticism? I would mention one more reason why our fdn. was not as thin as advertised. The advertisement was put in with the intention of using drone for starters, and we can work drone down to 10 feet to the pound, with little trouble. Well, when some declared they wanted worker equally thin, we found it much more difficult, because of the greater number of side-walls. Will friend D. please tell us if he experimented with drone fdn. also, and how it compared with the worker?

BEE-STINGS AND RHEUMATISM.

MORE CONVINCING FACTS.

I HAVE read in GLEANINGS, at different times in the past few years, reports of rheumatism being cured by bee-stings; some of those reporting very positively that they were cured; others were not so positive: still others were certain that they were not benefited at all. I have a little experience in the matter of rheumatism and bee-stings, which I will relate briefly, and let you and others judge for yourselves. I have been afflicted with rheumatism for at least 25 years, and of the wandering kind (as the darkey said, "here to-day and gone yesterday to some other part.") I was with Sherman at the siege of Atlanta during the summer of 1864, and during the autumn and winter following, on the march to the sea and through the Carolinas. I was, like the private soldier, exposed to all the extremes of heat and cold, wet and dry—at times my clothing wet night and day for at least ten consecutive days, sleeping upon the cold wet ground, or exposed to the rays of a summer sun, with the temperature up to 106° in the shade, clad in a heavy woolen suit from head to foot, perspiring like a man mowing. Strange to say, during all of that exposure I had not a particle of rheumatism for the space of about one year. On my return home to Medina county, Ohio, my old enemy (rheumatism) returned also, and afflicted me summer and winter—not so badly in summer as winter (changeable weather fall and spring is the most favorable season for the development of rheumatism), till the summer of 1876. Since that time I have handled bees every season on a small scale for my own diversion, and have been stung almost every working day during the bee season up to the present time. Whilst I am handling bees, and am being stung, I have no rheumatism; but it returns in a few weeks afterward. Question (the same that Mrs. Harrison has asked): Will outdoor exercise and profuse perspiration cure rheumatism? I am quite sure it will relieve, but not cure.

Quite a number of articles have appeared in GLEANINGS on the curative effects of bees in dropsy; and the publisher has raised the inquiry, if bees could not be used beneficially for the treatment of other diseases than rheumatism and dropsy. I say, yes. Apis is not a new remedy; it has been used successfully in a great many diseases for half a century or more by the homœopaths. I have used it

with good results for the past twelve years, and where it is indicated in any disease, it never disappoints.

One more item, and I will relieve you. Mrs. L. Harrison said that she and medicine had fallen out many years since, and had never "kissed and made up;" and you fall into the wake, and express the desire that she may die without being required to take much medicine. I say this: If the human race were well posted in the physical and hygienic laws of life, there would be but little need of medicine. More, it is my firm conviction, and has been for many years, that there would be less mortality of the human race, without medication than there is with, as conducted at the present time. You may think the last assertion pretty strong for a man to make who depends upon the practice of medicine for his support; but I have nothing to detract. It is my firm conviction. G. F. PECKHAM, M. D.
Elyria, Ohio.

LECHLER'S 600 LBS. TO THE HIVE, AGAIN.

ALSO SOMETHING IN REGARD TO FOUL BROOD.

FRIEND ROOT:—I have just read, with considerable interest, an article in GLEANINGS, headed, "Lechler's 600 lbs. to the Hive," to which I would like to add a few notes from my own experience; and more especially to the closing letter from G. W. Lechler himself.

During the season of 1878 I increased 4 colonies to 36, and took 1500 lbs. of honey without the use of either comb foundation, or empty combs; nor did they get half the attention they needed, and I am fully convinced that, had I given them my *whole time*, with the aid of foundation, they would have done twice as well. And I know of another man who claimed to have increased from 6 to 40, and took two tons of honey. I think many bee-keepers make a mistake in keeping too many bees; that is, they keep more than they can *properly* attend to. As a general thing, the very best reports and largest yield from any one stock come from those having small apiaries. In order to attain to the *best results*, we must first have prolific queens, and must breed for honey-gathering qualities; and secondly, we must have our bees *strong* at the *right time*.

Friend Wilkin hits a good point when he speaks of "the best management for *that year*." Bee-keeping here, differs widely from bee-keeping in the east. Our swarming season usually begins in the latter part of March, and continues through the months of April and May, during which time there is but little surplus stored, the bees just gathering sufficient to keep them breeding nicely, and to keep the swarming fever at its highest pitch. Now here comes in the fine point of management. All the increase we can make without detriment to the old colony, and have *strong* by the time the honey flow sets in, is so much clear gain; but if we cripple the *old stock*, and do not get the *new ones strong* at the *right time*, we are so much the loser. And all this depends largely on the weather which *is to come*, and of which we know but little. Very frequently, cold winds precede the honey flow, and carry off the bees as fast as they are produced, making it impossible to get them any stronger. A great many young queens are often lost in the same way. The past season was a very bad one to get queens fertilized;

if they were not lost on their bridal tour, they would be killed by the bees on their return to the hive. Mr. Gallup doubled up his bees this year, but afterward had to cut down the increase about one-half, on account of queen failures; and many others have had about the same experience, so you see we can tell better after the season is over what course we should have pursued in the spring.

But I must pass on to Mr. Lechler's own letter, or I shall have no room for my *special remarks*. He says, in speaking of foul brood, "A few years ago there were some apiaries that were bothered with it, and claimed they caught the disease from feeding diseased honey; but on investigation I find about the only apiaries affected were those where the owners practiced artificial swarming, and allowed the brood to get chilled."

During the season of 1877 — the *dry year* — I had in charge an apiary of 150 colonies (perhaps one to which Mr. Lechler refers); they did not gather sufficient stores for winter, and I fed them about 2000 lbs. of honey, procured in San Francisco. In a very few weeks after, I noticed the brood looked very peculiar. I examined it closely, and compared it with Quinby's description of foul brood, and found them to agree exactly. *Chilled* brood has no such smell as *foul brood*, neither does it decay to such *rottenness* as does *foul brood*. By closely following Quinby's directions, and yours in the A B C, we eradicated the disease the next season. But a neighboring bee-keeper, who fed similar honey, denied having *foul brood*, and said we got the disease by letting the brood get chilled; but the next season, after making a big lot of honey (some so thin that it soured), he sold out very cheaply, the buyer getting more than he bargained for — *foul brood in all its rottenness*. This is a cure for *foul brood*, not published in books, and I know of several cases where it has been successful.

Now, Mr. Editor, I should like to explode, with one blow, the idea that *chilled brood* can produce *foul brood*. I presume that you have had as much *chilled brood* in your apiary as any other man, and you have perpetually said that you never had a case of *foul brood*, and never saw one. If *chilled brood* could produce *foul brood*, it would certainly follow in the wake of "spring dwindling;" but no such catastrophe follows, as I know by experience. I have seen many a comb of *dead brood* cleaned out by the bees, without any bad results, but I have yet to see my first comb of *foul brood* cleaned out by the bees. And right here I would like to question Mr. Muth a little. He has stated somewhere in GLEANINGS, that he cured a case of *foul brood*, and a *bad one* at that, by the use of *salicylic acid*. Now, I would like to ask him how he happened to get that *one case* and no more; and if the bees really sucked up the *liquid rottenness* and packed it out of the hive. I do not like to doubt such authority as Mr. Muth, but it does seem strange that any man should get *only one case* of *foul brood* in his apiary, and that a *bad one*, and not be able to account for it. *Salicylic acid* has no effect on the disease here, and I am inclined to think that those who report cures with *soda baths* and *salicylic acid* have the kind of *foul brood* that Mr. Lechler speaks of — *chilled brood*. R. TOUCHTON.

Santa Paula, Cal., Dec. 12, 1881.

I quite agree with you, friend T., so far as my experience goes. I have had a great deal of *brood chilled*, and I have had it get

so as to smell badly too, but it never resulted in any thing like foul brood at all; still, it *may* have done so in other apiaries. The strong point against it to me is, that it seems to involve spontaneous generation. Did a stalk of corn ever grow without a seed? or, if you please, did any plant ever grow without a seed? I believe the latest researches declare that it did not. Seeds of weeds are all through the soil, and, like the seeds of the Simpson plant, will lie any number of years and still germinate. Now, are seeds of foul brood all through all the bee-hives of our land? To use a phrase our young Canadians have brought us, I should say, "*I don't think it.*"

Juvenile Department.

Every girl or boy, under 12 years of age, who writes a letter for this department will receive one of David Cook's excellent 6-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50.

"CHRISTMAS GIFT!" Mr. Root:—I am going to school now. I am 11 years old. I am one of the boys who said, "Papa! the bees-wax!" I have a brother 13 years old (he is sick), and one little brother 3 years old. His name is George Washington. His eyes are as blue as indigo. Pa takes GLEANINGS, and I like to read what the young folks say. Pa has got 23 hives of bees. They are doing well so far this winter. You ought to see his hives, they look so pretty. Pa is building a new mill. My brother and I help him grind when not at school.

JOHN G. STITES.

Spring Station, Ind., Dec. 19, 1881.

And so you are the boy who gave the alarm, are you, John? If I mistake not, we have a picture of your pa, right in this GLEANINGS. I am real glad your pa has got a mill. I had a mill once, and it ran by wind power; but it would grind corn all night when I was asleep, which I don't believe your mill will do, without anybody to tend it. Stand by your father, John, and help him to grind honest grists.

My pa keeps bees. He has got 60 swarms. They are all in chaff hives but 6; he lost only one swarm last winter. We take GLEANINGS, and like it very much. I do not like to have the bees sting me. We have your picture, with your little girl on your lap. Is that the one you call "Blue Eyes"? Have you got any little girls with black eyes? My eyes are black. I have one brother and one sister; they have black eyes too. We all like to sing. I go to school, nearly one mile away. I will be 9 years old the 7th of January. I haven't any bees, but I have some nice rabbits. They have pink eyes.

BERTHA WHITE.

New London, Ohio, Dec. 9, 1881.

I WILL TRY TO WRITE A LETTER. I AM A LITTLE GIRL 7 YEARS OLD. I WILL SEND YOU A BLOCK OF PIECEWORK I SEWED. YOU CAN SHOW IT TO YOUR LITTLE GIRL. HAS SHE GOT ANY DOLLS? I HAVE GOT THREE. ONE OF THEIR HEADS CAME OFF. I HOPE SANTA CLAUS WILL BRING ME A NEW HEAD FOR IT. MY PA'S NAME IS DAN., AND HIS BEES MAKE

GIVES ME HONEY, AND I LIKE TO EAT IT. PA LOVES ME ALL I WANT TO EAT.

New London, Ohio.

DAISY WHITE.

Very well done indeed, girls. Yes, it is Blue Eyes who sits on my lap in the picture. We have three girls at our house, but they have all got blue eyes. Now I am going to guess that your father and mother both have black eyes. Haven't I guessed right? Little Daisy's block is sewed beautifully. I took it down and showed it to Blue Eyes and all the rest, and they all thought those nice fine stitches were wonderful for a little girl only seven. There are quite a lot of dolls at our house, and, if I remember, some of them have got the same trick of going round without any heads, just like your doll. I know your father Dan. He is the man who don't have his bees die winters.

My papa has 21 swarms of bees, and I helped him put 11 down cellar. I drew them on my sled. Some of his bees died last winter, but the imported one he got of you did not die. I am 8 years old.

Marshall, Calhoun Co., Mich. EDDIE M. HERD.

Well, that is a tiptop way to get bees down cellar, Eddie, and your letter and writing are very fair for an 8-year old boy. You must tell us about the bees when you help your pa take them out. Here is another from a little girl only 8 years old.

I am a little girl eight years old. My father has 22 stocks of black bees, but they make beautiful white honey. I am in the third book, and am in division. I go to Sunday-school. I got a book for a prize. I have two brothers and one sister. The baby's name is James Garfield. I like to read the Juvenile Department, and would like to see Blue Eyes.

CATHERINE CHRISTENA.

Westover, Purdy, Ont., Can., Dec. 1, 1881.

Thank you, friend Katy, if that is what they call you, and please give the baby a kiss for me. If Blue Eyes could see all her little friends, I suppose she would be so astonished she couldn't say a single word; but she talks enough around home. She had the toothache the other night, and had to sleep with her pa.

I am 11 years old. I study Fifth Reader, geography, grammar, Second and Third Part of arithmetic, spelling, and writing. I have two sisters and one brother. I do not like bees, for they sting. My pa keeps bees. I like to read Merrybanks and his neighbor. You said you would send a book to the boy or girl who wrote for the department, under 12 years of age; now be sure to send the book to me.

HALLIE A. BAIRD.

Elm Grove, Ohio Co., West Va., Dec. 9, 1881.

Well, Hallie, that is a pretty good letter, even if it doesn't tell very much about bees. It seems I have succeeded in pleasing the little folks with my Merrybanks story, if I haven't anybody else. In Sunday-school work, we think the man or woman who can interest and instruct a class of juveniles will do for almost any other post in the school, so I will try not to be discouraged. Your book has gone, Hallie, and we have got more than a wheelbarrow full of books to send to the boys and girls who write. Speaking of wheelbarrows reminds me that John is now

at work studying up one that he can sell for five cents on the front of his "hotel;" and when he gets a lot made I will give you a picture of them.

I am a girl ten years old. Grandpa keeps bees, and takes GLEANINGS, and I often read the children's letters, and I thought I would write too. Last winter, all of grandpa's bees died. There were 13 swarms. Last July, the 10th, there was a nice swarm came here and went into a hive, and went to work before we saw them. Grandpa did not want them in that hive, so he changed them into another one. Now they are at work nicely. He bought 3 more swarms, and he has 4 to winter. Grandda sent off to Mr. Burch for some bees, but they never came. I like bees' honey, but I don't like them much, for they sting me. I have a little brother who goes and sticks his fingers into the holes where they come out. He is 5 years old.

LUVAN GAGER.

White's Valley, Wayne Co., Pa., Dec. 7, 1881.

Very well done, Luvan. You have given several quite important facts, and they are told, too, in quite a regular, orderly way. If all the grown-up people ever get too lazy to write any more letters, we might get up a very good bee journal by the children's writings alone. We should probably get a good many wholesome truths that we don't get now.

I am a little girl 11 years old. My brother takes GLEANINGS. I like to read about Mr. Merrybanks and his neighbor, it is so funny. My brother got a swarm of bees last spring. They swarmed four times; one swarm went off, and he sold one. He got stung twice, and it swelled up so that he could not see very well. I go to Sunday-school. I like to go very well. The teacher is our minister's wife. She is very nice indeed. I study the Fifth Reader, spelling, geography, arithmetic, history. My pa is a farmer; he keeps about 40 head of cattle; he built a silo last summer, and he is about to open it; but as he has not, I can not tell how it has kept. I like very much to read, so I thought I would write for the Juvenile Department.

LIZZIE D. FLINT.

Waterford, Oxford Co., Me., Dec. 8, 1881.

Very good, Lizzie, and I want particularly to know about that silo. Please tell us next time how it turned out, won't you?

At school the other day, my teacher, Miss Farr, gave us bees as a subject for a composition; and as I had a pretty good one, papa said I might send it to you.

A COMPOSITION ON BEES.

Bees are very busy little creatures, gathering honey in the summer, and eating up some in winter. My papa has 50 stands of bees; some hybrids and some Italians. I often help him with the foundation for the bees. He has a machine for making foundation; he first melts the wax, and then dips a thin board in the can of wax two or three times, then cools it off in water. After he has enough sheeted he turns the crank of the machine, and I pull the wax through on the other side, and it is pressed all over in little squares; then he trims the edges, puts it in frames, and then puts it in the hive. The bees then work it out into cells, and fill them with honey, and seal it up, so that the honey can not run out; and when it is taken out it is sealed

nicer than any person could do it. When winter comes, my papa has to feed them sometimes. One day I went with papa among the bees to help him. I put a veil and a pair of gloves on, thinking they could not sting me. The first hive we went to were hybrids, and they were very cross. The next were Italians, and I thought they would be still crosser; but they were as quiet as could be. He took some honey out, and when the other bees smelled the fresh honey they began to rob, and I got two stings in one hand. I have been stung lots of times since, but I have never been among the bees since. I am now 12 years old.

MABEL NELSON.

Wyandott, Kan., Dec. 7, 1881.

Very good, Mabel, especially the part about making fdn. If all the little girls would tell how they help their papas do such things, it might explain a good many matters to even our older readers, that we grown-up ones don't think of.

Well, Mr. Root, I am a sister of Julia Bannon, who has been writing to you, so I thought I would write you a letter and get a nice little book too. I am 13 years old. My pa gave me a stand of bees two years ago, and they swarmed this summer, and that made me two stands of bees. Julia and I helped pa to pack the bees away in winter quarters last week. We are going to send and get a yellow queen from you for my bees in the spring, if we get them wintered all right. I read GLEANINGS, and think ever so much of it. We have very nice and pleasant weather here yet. I go to school and study reading, writing, arithmetic, geography, grammar, spelling, and drawing. My teacher's name is Miss Coplin. I am a Sunday-school scholar, and I get a nice book every Sunday. You will find inclosed 25 cents for carpenter's dividers. I am going to make a present to my pa of it.

DELLIE BANNON.

Archie, Venango Co., Pa., Nov. 3, 1881.

I am always glad to know all the sisters, Dellie; but you didn't tell us how much honey you got. I hope your pa will like his present.

MRS. HARRISON TO THE CHILDREN.

My dear young readers, we have now entered upon a new year. A merry Christmas and a happy New Year has echoed from ocean to ocean, and from pole to pole. We hope that you enjoyed the holidays, and that old Santa Claus came down your chimneys with a load for every one of you. If he did not bring you what you wanted, do not destroy what you have, or treat your parents or friends unkindly, for they may have denied themselves some comfort to get what they did.

The two past seasons have been poor ones for honey, which means *little money* for bee-keepers; and every one, even boys and girls, should be ambitious to enter upon the new year free from debts of every kind, excepting the debt of gratitude which we owe to our kind heavenly Father for his watchful care over us in years past.

And now, children, as we are entering upon this new year, let us all, each and every one, strive to lay aside every thing not in accordance with that good old Golden Rule,—

"Do unto others as you would
That they should do to you;
Whate'er is honest, just, and good,
With all your might pursue."

Peoria, Ill.

LUCINDA HARRISON.

WHY FRIEND JOHNSON'S BEES DIDN'T "PAY."

FRIEND HUTCHINSON makes so good a point in the following; we copy it entire from the *Bee-Keepers' Exchange*:—

My queen-rearing nuclei were all united, every colony was ready for winter, and I was in the shop "putting things to rights" when there came a rap at the door. Upon opening the door I found standing there a gentleman past middle age; at the gate stood his horse and carriage. He introduced himself as Mr. Johnson, of Forest, and said,—

"I saw in the *Telegram* your bee-keeping account for the year. I have kept bees several years, have tried to manage them upon the most approved plans; but, for some reason, I have never made any such profits as are shown by your account. I have driven over here purposely to see you and talk with you, and see if I could learn where I have made my mistakes."

"I may not be able to point out your mistakes, but I should be glad to hear how you have managed your bees."

"Well, now, see here; if you are not too busy, just get into my carriage, and in less than an hour I will set you down at my place; and then I wish you to criticise every bee-keeping arrangement that you see."

"In the honey season it would be difficult to grant such a request; but at present I can leave for an hour's ride and a lengthy bee-chat, without feeling that my absence may cause a loss of several dollars."

I stepped over to the house and told the "folks" that I should be gone two or three hours, over to Mr. Johnson's. When I came back to the gate, Mr. J. had the horse untied and turned around. I climbed into the conveyance, and we were off. How I did enjoy that ride! The forests were dressed in their gorgeous October robes; maples, with wide-spreading tops, standing alone in some field, would exhibit several colors—bright green, red, yellow, and brown; and, again, the eye would take in at a glance some distant piece of woods with its masses of chromatic coloring. I was roused from my reveries by the sight of several rows of brightly painted bee-hives. The paint was put on in several different styles, and exhibited almost as many tints as the maples that I had just been admiring.

"And so this is your apiary, is it, friend Johnson? and pray tell me what was the cost of those fancy iron handles that adorn the sides of your hives?"

You ought to have seen the looks that he gave me. Evidently he thought it a strange question with which to "lead off," but he finally managed to say that they cost him five cents each.

"Two handles on each hive?" said I.

"Yes."

"Ten cents for each hive. How many hives have you?"

"Sixty."

"Six dollars for handles. There is where some of your profits went."

"Yes; but it would be very inconvenient lifting hives with no handles."

"Certainly; but slots cut with a wabbling saw in the sides of the hives would be just as good, and they could be made quicker than you could put on those handles."

"But I have no saw as you have, with which to do such work."

"Well, wooden handles, nailed on, would have been less expensive."

"But they would not have looked so well."

"Now see here, friend Johnson; if you are keeping bees for the fun of it, and have plenty of money to spare, you can indulge in fancy and expensive hives and fixtures, the same as some amateur poultry-men house their fancy chickens at an expense of \$5.00 per head; but if you are in the business to make money, the cheaper your hives and implements, provided they are durable and well adapted to the purpose for which they are designed, the greater will be your profits. By the way, what is that running down, or rather, that has been running down, upon that lumber pile?"

"That, which has drained out of that box up there? Why, that must be beeswax. I set some cappings up there a month or two ago, for the bees to clean up, and the sun must have melted the wax."

"That will make your beeswax crop a little short, this year."

"Oh! I have so little wax that I don't bother with it."

"How many colonies did you have last spring?"

"Thirty."

"Well, I started with eighteen. I saved all the odds and ends of comb when transferring, also the cappings, and how much wax do you suppose I had?"

"Ten or twelve pounds, perhaps."

"I had twenty-five pounds. Now, if you had saved all of the cappings and pieces of comb, and melted them up into wax, you would probably have had as much wax as I did, and there would have been \$6.00 more to put with your profits. Saving beeswax is something like saving paper rags; it is just about as easy to save, by throwing the odds and ends into a box, as it is to throw them away. How much honey did you have this year?"

"About seven hundred pounds."

"Comb, or extracted?"

"Mostly extracted."

"And you have only doubled the number of your stocks. You must have made some bad move."

"Yes; and I can tell now what that bad move was; it was the selling of my queens early in the season."

"What do you mean?"

"Well, I thought I would try the Holy-Land bees, and so I bought a queen early in the spring, started a lot of queen-cells from the eggs, and then as the demand for queens was good, I sold nearly all my old queens, and furnished the queenless hives with queen-cells. The bees destroyed some of the cells, some queens were lost, and those that became fertile did not lay until they were more than two weeks old. I think, taking it upon an average, that nearly every hive was queenless three weeks, in the fore part of June."

"That explains it. Even 'Blessed Bees,' that somewhat untairly criticised book, could have told you better than that. You should have had your queens fertilized, and commence laying in nuclei, before disposing of your old queens. Why did you get the Holy-Land bees; did you think of rearing queens for sale?"

"Yes; I thought they were going to be all the rage; and that I had better secure them at once."

"Do you hatch your queens in a lamp nursery?"

"Yes; I have a nursery, but have never used it very much. Come in the shop and see it."

The nursery was made of galvanized iron, and was fastened inside of a tall box that was also made of galvanized iron. There were four drawers made of perforated tin and glass. These drawers were divided into compartments, each compartment being furnished with a cunningly contrived door. These drawers and different apartments were to enable the queen-breeder to hatch queens in separate apartments, as mentioned in "Bee Chat No. 6."

"You have a nice nursery, friend Johnson, but there is no place in which to hang frames; your queen-cells all have to be cut out, don't they?"

"Yes."

"Well, there is another question; how much did it cost?"

"I had it made to order at a tin shop, and they charged me \$24.50."

"Twenty-four dollars and fifty cents! Well, there are at least \$20.00 that might just as well have been placed upon the profit side of your bee-keeping account. My nursery is simply a tin hive, with double walls, and a tinner made it for two dollars. It is placed in the top of a tall wooden box, and is heated by a tin non-explosive lamp. One trouble with you, friend Johnson, is that you have been getting too many expensive (and in some cases useless) improvements. What you paid for your nursery would have nearly paid for a foot-power saw, and it would have been of more use to you than this lamp nursery has ever been. What are those piles up there back of the barn, as high as a man can reach?"

"Oh! those are the different kinds of hives that I have tried."

"There are more than a hundred hives, and at least four different styles. How much dead capital do you suppose is represented by that pile of hives? and, if I am not mistaken, there is another new style of hive there upon the work-bench."

"Yes; but that one will take the same size frame that I am now using."

"All right, then. I have had three different styles of hives in my apiary at the same time, but they all had the same kind of frame. Did you notice that hive standing near the path, by the gate?"

"The one made of lath, with a shingle cover?"

"Yes; that is a chaff hive, but the materials for its construction cost only seventeen cents. I shall make twenty more of the same kind, next winter. If there is any thing about an apiary that I detest, it is a pile of discarded hives, 'traps and calamities,' that are good for—kindling-wood. You said that you had kept bees several years, didn't you, friend Johnson?"

"Seven years; and twice before this time I have had more than fifty colonies; and I expected the next season to have a 'pile' of honey; but each time, nearly all died before spring. Then I would go to work and build them up as fast as I could for two or three years, only to have them die again. But, if I have any bees another spring, they have got to pay me something, for I have paid out the last dollar for bees and fixings until they bring in something."

Reader, the above is not a fancy sketeh.

OBSERVATIONS IN REGARD TO FERTILIZATION OF QUEENS.

TRANSLATED FROM "L'APICULTEUR," BY W. P. ROOT.

LAST year, Mr. Pierrard, of Dombasle, sent us the sexual organs of a drone, which were taken from a queen which had returned from her wedding flight. Soon after, he communicated to us a fact which proves that, when the copulative organ of a male is detached, another fertilization is required, as it is necessary for it to remain for a certain time in the vulva of the female, in order to make fertilization complete. He saw a queen returning with this organ, which the bees precipitately tore off, when she started out again the next day for a second fecundation. This queen could not enter the hive on her return, as the entrance had been closed with a grating; and it was just at this moment when she sought to enter, that the workers, over-excited by her movements, set themselves to take from her the male organs. He has had queens fly out the third time for fertilization.

This year, Mr. P. gives some new observations on this point. Here are some of the particulars, which he has sent us.

No. 1. Hive with three little frames. Small colony. No drones. The young queen showed herself at the bars at 1:5. I released her. She re-entered 7 minutes after, without any signs of fertilization; 5 minutes later she went out again to return in 15 minutes with indications of fertility; 3 minutes after, a bee came slowly up the bars, carrying a little white body. I took it away, and I am assured that it was really the male organ. I went to my work, and toward night I passed by the hive to take a look at it. The queen was quiet. She carried at the vulva a little bleached-out filament—the last trace, doubtless, of fertilization. The next day, and the day after, the young queen appeared no more at the bars. Finally, on the third day of fertilization some eggs were laid.

No. 2. Same kind of hive and colony. When five days old, the queen appeared at the bars at 2:5. She flew out and returned in five minutes, without fertilization. At the end of 20 minutes she flew out again, and returned in 14 minutes after, bearing the male genital organ, which I took a few minutes after from a worker, which ejected it. That afternoon the queen was quiet, and did not appear at the bars. At evening no eggs were laid, nor next morning; but at 12:5 P.M. the queen appeared at the bars. She sallied out and returned in 11 minutes with indications of fecundation. In the evening I inspected the hive. The queen was quite calm, and she carried

at the vulva a grayish filament—the last trace of fertilization. Her bees appeared rather hostile to her. Finally, 3 hours after the second union, the young queen laid.

No. 3. This was a rather strong colony, but on account of bad weather, the queen did not fly out till 12 days after hatching. She returned in 17 minutes, this first time with the male organ. A sharp cry resembling that from a young queen when resisting restraint, was made, and the bees seemed somewhat agitated. At dark, all was quiet. The next day the queen did not appear; but the day after that, she came to the entrance and flew out. She returned in ten minutes without any signs of fertilization. She flew out again four minutes later, and returned in five minutes (the weather was bad) without fertilization. The entrance-bars being out of order, the young queen experienced some difficulty in entering. Being impatient, I took her by the wings in order to replace her in the hive; but she was so much frightened that she flew away and did not return.

No. 3, again. Same hive. The next day I inserted in this "orphaned" hive a queen-cell ready to hatch, 6 hours after the young female was hatched. Six hours later she went out on her "love-flight," and returned in three minutes; 25 minutes after, she went out anew, and returned fertilized in 29 minutes; three minutes after, while examining the entrance in order to satisfy myself that the male organ was ejected, I heard a sharp cry, that of a young queen, and the bees seemed slightly agitated. Having raised the hive, I saw the queen surrounded by a knot of bees, which, without molesting her too furiously, nevertheless impeded the freedom of her movements. She did not appear the next day. The day after, June 25, about 2 o'clock, she took her flight and returned in a quarter of an hour without being fertilized—a large cloud, accompanied with wind, appearing. For three days the weather was windy, by which time the queen had laid eggs without further copulating.

No. 4. This was a hive of two frames, and small colony. The queen went out on the 7th day, and returned fertilized after the second attempt. Her bees received her rather badly; and an hour after, they were very much excited. Inspecting the hive, I saw the bees hem in and maltreat the poor queen. On the evening of the next day she presented a sorrowful figure, and had the appearance of being quite fatigued. The vulva opened and contracted alternately. This queen did not go out again, but had laid eggs by the end of 48 hours thereafter.

No. 5. Same kind of hive and colony. The queen was fertilized the first time. The next day she was calm. The next day at noon she went out and returned at the end of 17 minutes, impregnated anew. The bees surrounded her with fury; and in spite of smoke to make them let go their hold, I found the queen dead the next day.

No. 6. This was a small hive—two full frames and one empty one. The 8th day after the queen was hatched, the bees were greatly excited, but the queen was not so. Then all at once the bees flew out and returned in a rage. Even the young bees, still white, came out and crouched down on the walls of the hive. The queen did not always appear at the entrance. Quiet was restored. The queen appeared no more for the two following days; and at the end of the third day, many eggs had been laid by the workers. Perhaps she may have found

issue without my knowing it, when she went out for fertilization.

No. 7. This was a small colony. The queen laid at the end of 40 hours, after one flight.

No. 8. Same details and same results.

No. 9. This was also a small colony. The queen laid in 30 hours.

Note.—All the preceding queens were Cyprians.

While many of our friends will doubtless be rather puzzled to hear of queens going out to be fertilized the very day they leave the cell, there is much in the above that we have most of us verified by actual experience. I have for years been in the habit of closely scanning the terminal tip of young queens of a proper age to lay, and if I could see the least trace of this grayish shriveled thread remaining, I always expected her to be laying next day, and I was seldom disappointed. I know, too, that the bees often pursue the queen, and try to pull this whitish substance from her; but I do not know that we have before been told that at such times the queen is obliged to go out a second time. Of course, we have discussed the matter of a second fertilization pretty thoroughly, and the facts of this as given above are, I believe, well established. Will our friend across the water accept thanks for the additional light he has given us on this strange point?

FEEDING BACK EXTRACTED TO GET BOX HONEY, ETC.

HOW TO DO IT, AND HOW IT "PAYS."

HERE is my report for 1881: I went into winter quarters last fall with 40 colonies, and started the season with 25, having lost 15, all wintered on summer stands. I had 12 of Nellis' chaff hives, and tried to winter 2 colonies in each, thinking to economize; but I lost heavily in that hive; the rest were in your own chaff hives, but I lost in those also. I doubled back to 20 on friend Doolittle's plan, as given in GLEANINGS, and ran them for extracted honey, with the intention of feeding it back to get box honey, as box honey sells better here than extracted; and in about 3 weeks, during July, I got 1700 lbs. of the nicest honey I ever saw. This honey was thrown out before it was capped over, "contrary to the teachings of the A B C," and put into large, new, waxed barrels holding 64 gallons each, with a cover to each, and a honey-gate in the bottom. I was told by several that I should never get them filled. I began to think so myself; but when it came, it came with a rush; the bees were ready, and so was I. Colonies that had their top story emptied, we will say to-day, were full again in 3 days. Oh how they would work out foundation, wired at that, so you could scarcely see the wires! Well, I increased to 40 again, and got them packed away for winter a little more carefully than I did last winter. Those I have in Nellis hives I have turned the frames half around, with only one colony in each, packed on all sides, some with chaff and some with cedar sawdust. I have left 31 on their summer stands, and put 9 in the cellar in Simplicity hives; they have been in now about 2 weeks. I try to keep the temperature at about 45°.

Some time about the middle of last month I noticed an unusual stir about one of my hybrid stocks, and

on close examination I found 3 young queens on the alighting-board dead. They were packed for winter, so I did not disturb them; pretty late queen-rearing, was it not? All my queens are reared under the swarming impulse; but whether they will be any better or not, if I am spared another year I am going to try to find out.

FEEDING BACK; DOES IT PAY?

I picked out 10 of my best stocks, and took away all their combs, except 3 or 4, and these were solid sheets of capped brood and honey. I then put in my broad frames of sections, using sometimes 10, filled with Vandervort fdn., 10 sq. ft. to the pound. My feeder is Nellis' side feeder, holding about two quarts; this is screwed fast to a thin division-board, and pushed tight up against the broad frames; 3 holes in the division-board correspond with 3 others in the feeder, giving a good passageway for the bees; when all are in I shake the bees in front, and give the combs to other stocks to take care of. I now take about 40 lbs. of honey, heat it to 116°, add enough water to make it run thin, throw it into the extractor, run it into a coffee-pot, and fill up the feeders whenever they are empty; the sections were taken off as soon as completed, and I tell you they were beauties, especially so from some stocks; others would not till them so completely. I kept on until I had used up 1200 lbs., and found I had only 800 sections. They brought me 17c. each; the extracted, 14c.; so by my way of working it did not pay to feed back; and I tell you it is an awful job to feed back when you can not open a hive without robbers pitching in. I guess I won't try it again. I had a party here go back on me on account of the fish-bone in the box honey. He was going to take 20 cases; do you think they neglected thinning the fdn. when they found honey coming in so fast?

I commenced bee-keeping in the spring of 1878, and up to the present time they have cost me over \$800; but this year will bring the receipts above that figure, besides my stock in hand. I do not devote my entire time to the business, otherwise I might do better; but you've got to creep before you can walk.

OUR HOMES.

In reading over the above, it brought up some vivid recollections of the past. Yes, friend Root, as far as I know, I have a father living; but the broad Atlantic separates us, and I can not very well visit him as often as you could yours. I have been in this country 10 years next February, and was here 5 years when I promised him I would return. I did so. He did know that I was coming, so when I met him in the garden, he did not know his own son. No, sir, he did not know me; but when I made myself known, the expression on his face I shall never forget; joy intermingled with tears. I had a splendid time; but parting again, that was the hardest, with chances of never seeing him again on this sphere; but I hope to see him again beyond. Whenever I get a letter from him he always says, "Please write soon." Now, to own up, your loss has made me feel that he does not get a letter half often enough; but he shall get one oftener, through reading Our Homes.

W. G. SALTFOORD.

Poughkeepsie, N. Y., Dec. 6, 1881.

I think, friend S., it is as you say, that the rapid feeding had induced them to hustle the honey into the combs without waiting to thin out the fdn., just as they covered eggs

and larvæ with syrup for neighbor H. I feel quite sure you will find a great part of that 400 lbs. stowed away in the brood-combs, from what experience I have had in a similar line.—Thanks for your kind concluding words; and when you write your father, send him that Dec. No. with this one, and I will give you a couple of extra ones.

REPORT FROM GEORGE GRIMM.

THE MAN WHO WINTERS HIS COLONIES BY THE HUNDREDS, AND NEVER HAS SPRING DWINDLING.

THOUGH my report is not a very brilliant one, yet I am well satisfied with my season's work. About 200 per cent net on the capital invested is not a bad gain. Last winter left me 392 colonies; but though my loss was less than 10 per cent, the remainder, after the ordeal they had passed through, could not all be in good condition. The demand for bees was so great and so urgent, that almost before I knew it I had sold 248 of my best colonies. This left me but 144—and, of course, the poorest of the lot. The season opened up with the best prospects for a honey crop, and I began to wish that I had back the good strong colonies that I had sold. Finding several parties not far distant, whom the past poor season and the *trouble* of last winter had entirely disgusted with the business, eager to sell out, I bought the weak, half-starved, and partly queenless remnant of their stocks at a bargain, and was enabled to face the new season with about 190 colonies; or, perhaps, I had better say, nuclei and colonies. Anticipating a good demand for bees next spring, and having a large number of hives and about 2000 combs on hand, I determined to increase as much as possible. I divided them up into five apiaries. At home I started some 80 small nuclei to raise queens. Myself with one assistant did all the work. Nov. 19th to 21st, my bees were put into cellars—610 colonies. Two were left outdoors. Nineteenth were supplied with young queens during the season, and all have a good supply of honey. Oct. 1st I returned from a trip to northern Dakota. Not a cell of brood was to be found in any of the hives. What feeding I did was done after that time. The colonies are, as a rule, of medium strength, and present a good appearance. I believe they will winter well.

I increased by dividing; but, don't ask me how. There are too many ways, each adapted to its peculiar circumstances. It depends upon the time of the season; the flow of honey; your expectation as to its continuance; the strength of the colony; whether they are hauled to a different location; whether there are queens at hand to introduce; and, I suppose, often upon simple notion. And, though considering every thing, one is likely to make mistakes or miscalculations for which he feels like kicking himself afterward. By the way, friend Root, will you please tell me how you manage your bees about Oct. 1st to 15th, or thereabouts, without using tobacco smoke, and protector too? When I got home from my northern trip I started as usual with my rotten-wood smoker to make examinations. My examinations were not very extended or very minute, and I suppose—upon cooler reflection, it was cowardly for me to run; but I didn't stop to consider at the time. I thought of Satan in the swine, and

began to wonder if he hadn't got into my bees. Or is it because my bees are so much crosser than those of other people? Yet they were so exceedingly gentle during the whole season that I thought I had discovered a new trait in their character. Then, I could handle them with no smoke; now, you could blow smoke, cinders, and hot air at them, and they would simply "go for you." But tobacco smoke will make them sensible (don't give them too much, or it will make them *insensible*). By using a little tobacco smoke they can be handled with ease at any season; and for the fall of the year I advise its use, notwithstanding any conscientious scruples some people (possibly friend Root is one of them) may have against the weed. But I tell you I have one colony upon which even tobacco smoke (unless *liberally* given) has little effect. He is a terror to the hens at all seasons of the year—and to careless visitors too—a "simon-pure" hybrid. Yet I wish my 612 colonies were all like that hive. He gave me 108 lbs. comb honey, and increased to seven, always raising his own queens, and the young swarms have now at least 60 lbs. of honey to spare. Nor was this in my best location.

Does it pay? Well, I should say so! 200 *good* swarms can be bought for \$1400. In a poorer year than this, an average surplus of 50 to 100 lbs. per hive, and an increase of 50 per cent, would not be extraordinary. The increase would easily pay for expenses, and 10,000 to 20,000 lbs. honey at 20c would be better than 4 per cent on U. S. bonds. Or take my case this year: 190 *not* good colonies; increase, 422; prospective loss during next winter, 10 per cent, or 61 colonies (but I am certain 5 per cent to 8 per cent will be the limit), leaves a balance of 361 in spring at \$7.00 per colony is \$2527, and honey \$300, gives total gross gain, \$2827. My expenses were between \$500 and \$600; leaves balance of at least \$2227. If I estimate good colonies worth \$7.00, my 190 were worth on an average not more than \$5.00. It is not hard to do twice or three times as much with good colonies as with poor ones. I think we'll stick to the business a few years more, even though every winter should equal the last. GEORGE GRIMM.

Jefferson, Wisconsin.

Friend Grimm, I suspect the reason your bees are so cross at the dates you mention, is because they cease gathering honey at that time. *Our* hard tussle with stings comes in July, when the basswood ceases; and at such times it does seem as if they were possessed of the very spirit of evil. The way we do is to use the mosquito-bar tents, and be very careful about leaving a drop of honey anywhere. After a few days they get accustomed to it, go off to the corn-fields after pollen, and finally settle down to pretty fair behavior.—Now a word to the boys in regard to the bright visions friend Grimm shows up on paper in regard to the profits of bee culture. It is all true, every word of it, and I am quite sure bees will do all he mentions, in almost any locality; but the sad part of it is, that the owners won't do all he mentions or implies in any locality. The average boy or man can not be intrusted with 200 colonies of bees. I know you all think *you* can; but you are no good judge of your own self. Look at some neighbor of yours who is a bee-keeper on a small scale, or a man unused to handling much property of any kind, and think over

in your own mind what the result would be if he were to run in debt for 200 colonies. He would let them starve, swarm out and go to the woods, get the lives full and hang out in idleness, and possibly, too, because he had some other work on hand that would hardly bring him 50 cents a day, when with the bees he might realize several dollars a day. Failing in this, he would swap them off for some useless truck. What I mean is, that such would likely be the result with one who was not equal to the responsibilities of such an apiary. It would be like giving him a steamboat or train of cars to run. But if he should build up 200 colonies, little by little, without going into debt, the case would be far different. Friend Grimm would perhaps handle 1000 colonies safely. I might possibly 200; in fact, that is just what I am trying to do now. My friends, how many do you suppose God can safely intrust to your care? If I am not mistaken, he is testing your trustworthiness in that respect just now. He that is faithful in few things shall be made ruler over many things.

QUESTIONS ABOUT CALIFORNIA

ANSWERED BY E. GALLUP.

THERE is but about two cents per pound difference between the poorest quality of extracted honey and the very best, in the San Francisco market; and as we can raise the poorest quality every season, and on an average the best quality only every other season, I have come to the conclusion that there is more money made from the poorest quality. I learn that the Chinese purchase considerable quantities and ship to China, and two cents in price is an item with them, and not quality.

At Downey City is a good place to locate an apiary for lowland honey, as the land is moist, with water from 5 to 25 feet from the surface. It is too moist for grapes for profit. Splendid fields of alfalfa, which the bees work on when in bloom, are here. The products are corn, hogs, cattle, barley, English walnuts to perfection, apples, pears, peaches, etc., and mostly without irrigation. This alfalfa gives us about ten full crops in the year in this climate. I have located my bee ranche on a stock range where there is no fruit — only chickens, hogs, horses, cattle, and sheep, with several hundreds, perhaps thousands, of acres of swamp on one side, that is green, and produces flowers the entire year; close to the ocean, and no fear of miasma or unhealthfulness.

The willows commence to blossom in December, and continue until about the first of March. It is 8 miles from Santa Ana, and 10 from the fruit ranche. Santa Ana, Tustin, and Orange, are situated about equal distances apart, in the form of a triangle (2½ to 3 miles), and I am situated about centrally from the three places. That is the first ranche. There are nine churches within three miles; railroad, schools, and as good and enterprising, kind, neighborly a class of citizens as there is anywhere in the known world. We are 13 miles from the Santa Clara coal-mine, where coal is \$5.00 per ton, and 10 miles from the steamboat landing (Newport harbor); so we have the advantage of railroad and ocean for freight. Goods of most kinds are a trifle higher than east; land from \$20.00 to \$1000 per acre; people from the Eastern States coming in by the carload, and usual-

ly settling in communities. Every kind of fruit, vegetable, or grain, that will grow anywhere on the face of the globe, will grow here to perfection. The most beautiful homes that can be imagined; roses in bloom the entire year; lemons from the blossom to the ripe fruit, in all stages of growth, at any season of the year.

There, Mr. Editor, if you will be kind enough to publish the above, it will save me a wonderful sight of repetition, and answer a great many questions.

Santa Ana, Cal., Nov. 12, 1881.

E. GALLUP.

BEES ON A RAMPAGE.

THE following was sent by the writer, clipped from the *Messenger*, Russellville, Ky. The "piece" explains itself.

I wrote the following for *Gleanings in Bee Culture*, Medina, Ohio. That, as you know, is a land of Puritans and Quakers. Fearing that its publication there might compromise me as a man of veracity with that interesting class of people, I thought it best to start it from nearer home, where we have a plenty of people of my own ilk. If you think it worthy of a place in your paper, please publish it, with this explanation as a caption.

Since I have been a reader of *Gleanings*, you have, under the above heading, given two accounts — one from Mrs. J. Hilton, and the other from Merrybanks — the first doubtless true, as it is written by a lady; but the other is *apocryphal*, name and all. From these readings, as Mark Twain's *Sandwich* storyteller, would say, your correspondents or readers know nothing at all about what a real and genuine rampage of bees means, and, consequently, have no true conception of such a situation. I shall here leave this noted story-teller, and adopt the words of the immortal Burns:—

But this that I am gaun to tell,
Which "once upoa a time" befell,
Is just as true as the deil's in —
Or Dublin City.

A well-to-do farmer lived in Logan County — no matter in what part nor when — who had a son who had for a long time been in bad health. The Allopathies had failed to cure him, and he had been induced to try the botanic, or Thompsonian *persuasion*.

So, one morning early he began the practice by taking a large dose of lobelia, which, it was said, operated finely more than once. He did not throw up his boots, but he never could tell just how sick he was. In the midst of an extreme paroxysm he heard a great noise, for which he could not account; and forgetting his sickness, and going to the door, he saw in the garden four horses, hitched to as many plows, running and kicking at a fearful rate. The drivers and others were trying to stop the horses, but in vain. The sick man seeing the imminent danger from the pointed steel of the plows, where men and horses were mixed up in such a hurley-burley, ordered all to leave the horses to themselves. Bees filled the air as if a large swarm was on the wing, and they made war against every living thing that made its appearance. The negro plowman had got out early to plow a vegetable garden before going to the field. When called to their breakfast, they left their horses to graze on the blue grass of the walks, with a little black boy to mind them. Some days before this the bees had swarmed and settled on a lilac in the garden, where they had been hived, and the hive had not been removed. The boy said, "The bay mare rooted the hive over with her nose," and here the *melée* began. It seemed that the other bees, and there were several hives, regarded it as a free fight, and pitched into it with a will; and one would have supposed, from the confusion, that, besides the horses, every turkey, chicken, dog, puppy, cat, kitten, pig, and person, black and white, near the premises, had received one or more stings, except such as kept closed doors.

You will say that this was much of a rampage in the bee line, and so it was; but I am not done yet. Three of the horses were hitched by only one trace each to his plow, and soon got loose, jumped the fence, and took to the woods. Not so with the mare that turned over the hive. She was hitched by both traces, and made two or three rounds in the garden,

after the others had jumped out, before she would try the fence. She went over clear, but the plow hung against the fence, which was a strong post and railing. She jerked loose, however, and made for the stables. At this time the sick man's youngest brother, a boy about ten years old, was seen running in the same direction, fighting bees, and squalling at the top of his voice. He was called to open the gate for the mare. Instead of opening the stable-lot gate, he opened the yard-gate and the mare dashed in and made for the house. She passed through the porch and entered the sick man's room. The first damage she did was to dash his bowl of lobelia behind the fire. She then ran her head under the head of his bed, and drew it nearly to the middle of the floor. She kept up a continual kicking with both hind feet at once. Several of her kicks came very near to a new clock; and to save the clock, the sick man forced her around. She then directed her heels to a large glass-door press, filled with glass and queensware. Two or three kicks demolished the doors, and the most of the contents of the press. She was then forced out, and jumping the yard fence she ran into a stable where she put her head under an hour. When the bees had cleared the field, which they did effectually, they returned to their homes, and all was calm except the stings they had inflicted. No lives were lost. The mare was the worst used of all. She was covered with welchs from her nose to her tail; but, after a few days, she took her place before the plow. The old gobbler was very badly used, and looked crest-fallen and shame-faced for some days, when by degrees he assumed his wonted self-importance, and, hoisting his feathers, went on gobbling as usual.

Now, Mr. Editor, if any of your correspondents can beat this, and tell the truth as I have done (except perhaps in some minor details), let him do it, else let him hereafter hold his peace about bee rampages.

I had almost forgotten to say, that the bee scrape proved a specific against the effects of lobelia. The sick man did not think of his lobelia for more than an hour afterward, and has not taken a dose of that drug from that day to this. He, however, got well, and attained the weight of 200 pounds, and he very often writes for his name,— T. N. L.

As our friend has omitted to append a moral, I will suggest this:—Don't leave horses "nosing" around bee hives while you are getting breakfast.

BEEES AND GRAPES IN CALIFORNIA.

BY the letters I receive, items from California must be interesting to many of your readers.

The question has been repeatedly asked, Why not locate an apiary in the valley, where bees can gather forage the entire year? In the first place, the honey is inferior to mountain honey; and in the second place, bees destroy large quantities of fruit, such as figs, peaches, and grapes. I know one man here who kept his bees in the valley this season until the fruit began to ripen, and then moved them into the mountains. His product was about 100 lbs. to the hive in the valley, and 30 lbs. each in the mountain (750 lbs.), which he sold at from 7 to 8 cts., right at home. He had 70 or 75 stands. But there is considerable trouble and some expense in moving.

Our grapes here are probably as sweet, and perhaps sweeter, than in any other portion of the globe, and bees make sad havoc among them. It will not do to tell a California raisin-maker that bees will not injure grapes: he knows better, positively.

WILD BEES IN CALIFORNIA.

There are wild bees all through the valleys; but where it is thickly settled they are usually found and taken up. Still, new swarms are often found and hived in nail-kegs, old boxes, etc. They build on bushes, bunches of cactus, and in all conceivable places. I found another good swarm on a two-year-

old peach-tree, and hived them the 3d of October. They were evidently intending to stay, as they had commenced raising brood. I expected to have to feed them, but they have kept right on building comb, storing honey, and raising brood. Bees are found on bushes here that evidently have been there two or three seasons.

The thermometer ranges in our coldest weather at from 44° to 50° in the morning, to 75° at noon; occasionally it gets lower, but not often; and since I have been here (three years) we have averaged about five rainy days in the year. The most of our rains come in the night. One man found a swarm on a willow bush. The comb was about two feet long, horizontally, and one foot perpendicularly (6 sheets). You see, they built Langstroth style. It was an old swarm. I found one swarm in an owl's-nest in the ground; two in badger holes; three in squirrel holes (all in the ground), and I have not spent two hours hunting. I stumbled right on to them. Now, the above will explain why bees can be picked up all through the valley at from 50 cents to one dollar per stand.

E. GALLUP.

Santa Ana, Cal., Nov. 14, 1881.

COMPARATIVE HARDINESS AND LONGEVITY OF WORKER BEES FROM DIFFERENT QUEENS.

A NEW FIELD FOR INVESTIGATION.

FRIEND ROOT:—I, too, have been experimenting with my bees. I am an A B C scholar with three years' schooling; have studied Quinby, A B C, Prof. Cook, L. C. Root, GLEANINGS 3 years, A. B. J. do., and yet I have not seen the first word written in reference to the longer life of one queen's worker bees over another. Every one wants a prolific queen—one that will keep the hive full of brood. Doolittle says, "Have the brood so it comes out to the side-bars of the frames; even the cells bordering on the bars at both sides and top should have brood in them, and do not stop short of this. If you have queens that will not keep the hive filled with brood like this, replace them with those that will." That, of course, is just splendid, and what we all try to have. But suppose the life of those bees is from 15 to 25 days; it will take all the honey they can gather to rear the brood, without giving us any surplus. Right here is where my experiment comes in.

From the tested queens received from you I chose one for queens; another for drone-rearing. Introduced them into No. 3 and 10,—two very strong black colonies,—the former for queens, the latter for drones. This spring, 1881, I commenced stimulating with flour candy.

On examination, about the middle of Feb., I found them about of equal strength—rather the more black bees in No. 10; brood in two frames of each hive; gave a 1-lb. lump of flour candy on top of the frames, and returned the packing.

March 8th, again opened the hives; found brood and eggs in 5 frames of No. 10; in No. 3, 4 frames not quite so well filled out with brood and eggs. Ten days later, the 18th, I overhauled them again. No. 10 had every available cell in the 6 frames filled with brood and eggs, while No. 3 had only 4 frames fairly filled, and a small patch in the 5th (both colonies were wintered on 6 Quinby standing frames). I began to think that I had made a mistake, and that I

ought to have taken No. 10 for my queen-mother. I gave No. 10 an empty comb, and closed up No. 3 as it was.

April 1st I examined them again. The comb given to 10 was filled out to the wood on every side; the hive literally full of brood; but it didn't seem to me there were bees enough for the amount of brood that had been hatched, while No. 3 was running over with bees, and at no time had more than two-thirds the amount of brood. Here, then, was a study; could No. 10 be more industrious, and have more workers in the field? I will watch this thing a little closer.

I find this entry in my diary, April 12th: "No. 3 hanging out as large as my head; no sign of crowding in No. 10; No. 10 still ahead in amount of brood." There seemed to be more dead bees in front of 10 than there were around No. 3. The thought struck me, that perhaps the bees in No. 10 were less hardy than those of No. 3, and the cold showers and winds were killing them off as fast as they were hatched; I'll give them a trial, and see which will stand confinement the longer. I took two 5x5 section boxes, cut some old tough comb from a frame filled with honey and pollen, and filled my boxes, leaving a half-inch space at the bottom for the bees to pass around the comb. It was arranged the same as your section-box shipping-cage, only a tin door on one corner to put in my bees and rake out dead ones. I now caught 50 young bees from each hive, put them into the cages, and placed them on a table in the honey-house, a foot or so from the window, and waited results. The 4th morning I raked out 3 dead bees from No. 10; the 8th morning there were 13 dead from No. 10, while No. 3 had lost none yet. The 19th day I raked out the *last* bee in No. 10. No. 3 had lost but 11 bees; the remainder were as lively, and, to all appearance, as fresh as ever. I turned them loose, and think most of them made their way into some of the hives.

Here, then, was the trouble; the bees in No. 10 were less hardy, and died with old age about as fast as the young bees hatched out to take their place; no wonder that they were not as strong in numbers as No. 3. I now took No. 3 for a *standard*, and tried the bees from 4 other colonies the same way, and invariably found that the colonies that gave the best results in honey produced workers that were the longest-lived. Perhaps you will ask, What does all this amount to? It amounts to this much, anyway: It's not *always* from the most prolific queen that you get the best results in honey.

H. A. MARCH.

Fidalgo, Whatcom Co., Wash. Ter., Nov. 2, 1881.

We are very much obliged to you, friend M., for the details of your experiment, although I am a little inclined to think No. 10 had a touch of the modern spring dwindling; for where bees are affected with this, it is very hard indeed to make them stand confinement any length of time. We have tried this in shipping bees in the spring, which had wintered over, and even the young bees hatched in affected colonies. Be it as it may, it is an important point; and if the bees from a certain queen will stand confinement better than others, it is exactly these bees we want to send out with queens. We once had a hive of gentle Italians that could be put into a cage with any strange queen, and they would never molest her. Now, if we had a strain of bees that were so tenacious

of life they would hold on to it, as a queen does, for instance, together with this other quality, do you not see what a grand thing it would be?

WHAT I DIDN'T DO.

AND THE UNREALIZED POSSIBILITIES.

I DIDN'T make forty colonies out of one this season; no, sir, I didn't. I got my mouth made up for just that; and why I didn't succeed, I'll presently tell you. I wanted more bees "awfully," and was too spunky to buy 'em — if not too hard up — and having left one colony of those on Gallup frames that were in fair condition, and withal of a very prolific strain of bees, I resolved to take some risks in pushing them to the very utmost. If I can make ten good strong nuclei of them by the last of June, thought I, why, then I can rise to twenty by the last of July, and double again and reach forty during August. During September I wish to build them up to proper strength to winter — feeding them lots of honey, and keeping it out of the way of the queens with the extractor, if such means should be necessary to prevent brood-rearing from coming to a halt. As I just remarked, the thing didn't go through according to programme. I got the ten colonies in June very nicely, and also the twenty in July; but at about that point the wheels kind o' got fast in the mud: too many colonies would spend a whole month getting a laying queen. Early in August a long pull of sickness, preventing me from making any more divisions, brought the scheme to a final stop. Had it not been for this I most likely would have made the forty nuclei, in spite of the queen-rearing mishaps, but would have had to unte some of them again probably. Some more might have been made well enough, as some of the colonies stored a little section honey, 17 lbs. in all. Also three colonies of queen-killers and cell-tearers that went to ruin while I was sick might have been saved. The highest point I reached was 21 colonies; have now 18 of them packed for winter; but one of these is in a ruinous condition from a drone-laying queen. I gave no brood or laying queens to this stock of which I demanded such large increase. A few queen-cells and virgin queens from outside stocks were given when more convenient, this being considered a trivial matter; in fact, I think that hardly any of these were used except in the contrary colonies that destroyed them. On three occasions I took brood from them to help outside stocks in need, but paid them for it again afterward. Empty combs and combs of honey were given without stint, as the colonies that died last winter left me more than I knew what to do with of the latter.

Now, dear Novice, I want to pile upon your broad shoulders a good share of the blame of this failure, claiming that it was largely owing to

HERESY IN OUR BEE-BIBLE.

I want the sam expurgated, expunged, and ex-kicked-out right away. On page 26 of A B C (Artificial Swarming) you teach us to have queen-cells built at stands where the queen and part of the bees have been carried away. If I mistake not, the same idea is encouraged in other places in A B C. By sad experience I find that at such stands the unsealed queen-cells get notches torn out of them, and the sealed ones get holes torn in them. Why, the bees which were carried away keep coming back daily for

a week. Coming fresh from a hive that has a queen, they of course resist the cell-building efforts of their comrades which were left queenless. I think it reasonable to infer that they also eat up the royal jelly, and tumble the royal larvae roughly about in the cells, although I did not watch close enough to catch them at it. After awhile the holes would be mended up, and things go on very much as if nothing had happened; but surely we can not rely on such ill-used young queens turning out well. I had better success where the cells were built at a new stand, and the queen left behind at the old one. Of course, the desertion of the old bees is somewhat injurious, but not so bad as discord and violence. I feel confident that the better way is to take away the queen only, without musing up the colony in any way, then to carry away all, or nearly all, the frames together when the cells are capped, then to divide into nuclei just before the first queen hatches. If I had known this much last spring, and my health had not failed, I think I should have had my forty colonies all nicely in pack this very minute. I vote for the adoption of this plank in our bee platform:—

For the rearing of good queens, it is necessary that the bees be unanimous in wishing for a queen; and there is no reliability in the result where bees not in sympathy with queen-rearing efforts are coming in every hour.

As to queens from too old larvae, they can be headed off by looking in just before the time for cells to be capped, and destroying any that are capped prematurely.

A branch thought, suggested by my forty-colony experiment, is, that the possibilities of big yields of honey have not been fully worked up to yet. It would be quite possible to have a colony to start with twice as strong as mine was; and in a favorable spring, dividing could be begun a month earlier than last spring. Thus 20 colonies, twice as strong as my 20 were, could be made by the last of June instead of the last of July. In one month more it would not be unreasonable to expect them to begin to work in sections. Now it happens, sometimes, in this region of Ohio and Michigan, that the best run of honey in the year is late in the fall. With colonies started as above, 50 lbs. each would not be impossible, aggregating 1000 lbs. of comb honey as a year's fruit of one colony.

Another thing I didn't do: I was going to re-queen most of the apiary with the progeny of my favorite queen. I chose the double-barreled method of rearing cells—putting a tight division-board in the middle of the colony, and continually shifting the queen from side to side. The partial failure of this plan I attribute to the same cause as the above—too many bees from the side which has the queen, going in on the side where cells should be built. Perhaps total failure would be nearer the correct word to use. I occupied the time of one of my precious colonies for the whole season, preventing them from making any surplus honey, and to-day I have to show for it only eleven colonies, queened with that family of queens.

The proof just given, that 1000 lbs. is possible from one colony, will make the actual result of my bee-keeping this year look a little small. I think, however, that I have done very well. I have just been looking at the record of the strength of my colonies last spring. May 6th was the lowest point. Four frames from the heart of a good colony in the height of the season would carry more bees than the strong-

est one. Eleven of the 17 colonies were not over half as strong as this, several being mere wrecks, with not bees enough to fully cover one comb. Starting with these 17 colonies, two of them queenless to boot, I, without buying a bee, increased to 72, and took 1070 lbs. of comb honey—enough to be thankful for, if not enough to brag about.

E. E. HASTY.

Richards, Lucas Co., O., Dec. 8, 1881.

Many thanks, friend Hasty, for the particulars of your experiment, which certainly does you credit, for it is one of the largest results ever reported, in the way of increase from a single colony in one season. If all those bees had been sold at the regular price of \$2.00 per lb., it would have been, I imagine, a pretty large result in dollars and cents.—In regard to your criticism of the plan I have given in the A B C, I would say that it is intended, primarily, for the purpose of teaching beginners a plain and simple way of artificial swarming, and not as a regular plan to be followed by the expert when he is trying to see how many stocks he can build up from one in a season. It is used only in increasing the number of colonies, and very seldom in the regular work of getting queen-cells by the quantity.—I have never noticed the trouble you mention with queen-cells, but have sometimes, in introducing queens, had them balled by bees which I supposed had come in from the removed colony.—Thanks for kind criticism. I presume that you are well aware, that some stocks behave quite differently from others, under the same circumstances.

CHERRIES, AND WILLOWS AS HONEY-PLANTS, ETC.

ALSO SOMETHING ABOUT VISITING OUR ESTABLISHMENT.

I SEE in Chas. Kingsley's advertisement that he says, "The black Tartarian cherry is *very hardy*." This is not true; in fact, it is right the reverse. While it may be hardy in Tennessee, it will not stand the winters above 40°, and very often kills down to the ground at 38°. The advertisement might lead some one in the North to buy trees, and be disappointed. I know whereof I speak, as I have had them in my nursery, and had them winter-kill.

I indorse nearly all Doolittle says about the willow; at least, it is true in my neighborhood. The pussy, or tassel willow, blossoms *very early*, and I have seen each tassel entirely covered with bees. They never seem to carry off much pollen on their legs from it, and still they seem to be loaded. Golden willow is quite a honey-producing tree, but blossoms later, and I have never noticed the bees on them as much as the pussy willow. Gray, white, or fence willow, is about the same as the golden, while the pussy willow is low, bushy, almost a shrub in growth. The golden and gray willow grow to be large trees, especially the golden. We have in our town golden-willow trees 20 years old, 9 ft. in circumference. The gray willow will do to set 1 foot apart in low places for fence, and will stand cutting back to 5 and 6 feet in height; equal to Osage orange. Golden willow will not stand such severe treatment. We use it for tying up nursery stock. It is tough, pliable, and grows in long slim withes. I have watched bees very closely on the golden willow (and we have lots of it), but

have never noticed that they were much excited over it. They can't hold a candle to the box elder (the willows, not the bees).

It must be that the air around friend Doolittle is surcharged with honey, judging from the enormous yields he gets from his bees; in fact, every thing he touches or even writes about rains honey. I have 60 colonies packed for winter on summer stands. As I wintered my bees successfully last winter, I had thought to make a report, but have neglected it.

I went a long way to see you last fall, friend Root, and spent quite a number of dollars, and I must say I was just a little disappointed in my visit. It was a rainy day, the next day after Garfield's funeral, and everybody felt a little blue, and perhaps I had imagined you to be—well, I don't know what—something as my brother remarked when I introduced him to you: "Good morning, Mr. Root; this young man here has always swallowed whole every thing you have written." Mayhap I have swallowed too much. However, I hope not.

P. S.—The black Tartarian cherry is supposed to have come from one of the territories of Tartary, near the Sea of Japan. It is a seedling, and is propagated from the under branches, which sprout up thickly all around the tree, like the Morellos, and is a rather new one on that account.

Rantoul, Ill., Dec. 8, 1881.

H. M. MORRIS.

Friend M., there is something in your closing remarks that makes me feel very sad indeed. It is, that it is almost beyond my power to give my vast circle of friends the kind treatment and consideration I feel I ought to. To tell the truth, I did not know until this minute that you had ever paid us a call, and quite often some one writes about having made us a visit, whom I would have been very glad to have seen. Perhaps I can explain it to our mutual help. A great part of the season I am shaking hands with new friends almost every day of my life, and unless the name is a very unusual one, although I know you by your letters, I can not recognize you by name. If you introduced yourself as Morris, it would hardly give me any more light than if you said Smith or Jones; but had you said, "I am H. M. Morris, of Rantoul, Ill.," I should have recalled you at once, principally by the rather unusual name of your postoffice. We in the office almost always name you with your postoffices, or there would never be any chance of our understanding each other. A man once came into the office and introduced himself as Newman. I shook hands with him, and talked quite a while on bees, supposing him to be Newman of Norwalk, O.; but when I found he was the editor of the *A. B. J.*, I had to shake hands over again and take a fresh start. I want to be courteous; but it often pains me much to be obliged to tell some very good warm friend of mine (whom I have known for years through the letters), when he comes to me, that I can not remember of ever having heard of such a person before. Now let me advise: When you come here, come right up into the office; we never have closed doors, so you need not knock, and the girls will, some of them, be sharp enough to remember you, even if I am not, and they will make it plain to me what friend it is we are entertaining, and, may be, entertain you better than I can, especially

when I am burdened with a load of cares, as is often the case.—May I suggest, that the black Tartarian cherry seems sometimes tolerably hardy, even as far north as we are, and that our young friend who advertises them may not be far out of the way, after all?

A WORD FOR BLACK (WITH "BANDS" ON THEM) BEES.

ALSO THE OTHER SIDE OF LAST WINTER.

As others send in their report, I do so too. Our best flow of honey was in September from blackheart. I had 4 colonies in spring, and took off 423½ lbs., an average of 105½ lbs., and increased to 7. I bought 5 Italians in the spring, of Geo. Grimm, Jefferson, Wis. The 5 gave me 517 lbs., and increased to 13. I used about 12 lbs. fdn. for starters, and I think it pays to use them; an average of over 100 lbs. I also had the care of 4 others, belonging to my brother. His gave 385 lbs., an average of 96½, and increased to 13. The 13 gave 1323 lbs., all comb honey, an average of over 100 lbs., and increased to 33. My only box hive last winter stood in an open shed, 1 foot from the ground, the bottom-board cracked so the bees went down through, and warped so they came out on the north side, and 1 more so on the south side than they did at the regular entrance on the east side, with three corn cobs under a timothy-chaff pillow as a honey box, with six one-inch holes open down through. This gave me 139 lbs. and 2 swarms. The first new swarm gave 91 lbs. And you say transfer! While the box hives do as this does, I transfer by putting new swarms into sash hives. One hive gave 126½ lbs. and 5 swarms, the first swarm giving a big swarm Aug. 1st, and also on the 15th. The one that gave the most honey, 139 lbs., was a black; the one that increased most (5) was a black; the one that gave the least honey, 75 lbs., was a black, and the one that swarmed the least (0), were blacks. From the above, you see the blacks did the best in honey, the best in swarming; also the poorest in the same; both honey and swarming. The blacks here are more or less banded by their own mixing. I bought the above 5 Italians partly to introduce new blood.

Limerick, Ill., Nov. 21, 1881.

E. PICKUP.

CULTIVATION OF BUCKWHEAT.

BUCKWHEAT is called the lazy man's crop, because, no matter how poor the cultivation, he is pretty sure to get something. But I find there is no crop that responds quicker to good treatment. The cultivation of buckwheat for grain or honey is the same; but in selection of soil, and time of sowing, there is a material difference. To yield honey freely, the soil must be strong enough to produce a good crop of corn or potatoes. A field that, with good cultivation, would produce a fair crop of grain, nine times out of ten would not furnish a pound of honey.

If I were sowing expressly for honey, I should proceed as follows: If the field to be sown were greensward, I would plow it as soon as the frost left the ground in the spring, and let it lie until about the first of June. At that time I would select some very warm day, and go over it several times with a two-horse cultivator. My reason for taking a warm day is, that I would be sure to kill all weeds and

grass. If the field had been cropped the previous season, I would cross-plow in place of cultivating.

Buckwheat is such a quick-growing crop, the point is to get the soil loose and light as deep as the roots go, and also have the surface pulverized very fine for a seed-bed. The time for sowing with us is the tenth of June, but would vary according to locality. In average seasons the bees commence storing honey 45 days after sowing; and as there should not be a break between basswood and buckwheat, it would be impossible to fix a date. The seed should be soaked 24 hours, and then rolled in plaster or quicklime; this insures an even catch, and also gives the young plants a start. The quantity of seed for smooth ground would be half a bushel per acre; for rough and uneven ground, double the amount will be required. Most grain, where a small quantity of seed is sown, will send up several stalks from each grain. Buckwheat sends up but one from this main stalk. Side branches are thrown out, on which the bulk of the crop is matured; and unless the surface of the ground is very smooth, the stalk can not be cut below the side branches. When more seed is used per acre, the branches are thrown out nearer the top of the stalk, and there is less trouble in harvesting.

In regard to soil: If I could have just what I wanted, it would be a sandy loam. When grain is the only object, I would sow the fifteenth of July. I have had a good yield of grain when sown early; but on an average, my late sowing does much the better.

H. T. BISHOP.

Chenango Bridge, N. Y., Dec., 1881.

Thanks, friend B.; but if I am correct, many of our farmers would object to your very rich soil, on the ground that the grain would all fall down in consequence. Very likely you are right in saying that it must have a richer soil to produce honey largely, than for just grain alone. What do the rest of the friends say about the cultivation of buckwheat, especially for the honey?

OUR BUSINESS.

THOSE who think of entering our ranks as honey-producers always inquire, "Which is the best hive to produce honey? how much can you get from a colony of bees annually?" and a lot of questions like these. Were I out of the business, and contemplated going into it, I would ask myself, or some better posted man, or both, the following: As it is a fact, that honey is bringing a good price now in our markets, do you think we can safely figure on the perpetuation of this state of things? How many pounds of honey, taking the years together, will an area of six or seven miles diameter yield? Can you tell me of a good unoccupied field? How many colonies of bees in proper hives, and properly managed, will I need to collect the amount you mention, getting the greatest proportion of surplus? How much capital do you think it will require, to set up in business? About how much labor annually?

The above are some of the primary questions that those who are destined to succeed will ask. The man of tact will feel at once that the possibilities, or even probabilities, of one or ten colonies of bees has but little bearing upon his future success as a honey-producer. Some have urged the purchase of a very few colonies at first, so as to let knowledge of

the business grow along with the capital. In this course I have no faith. Why will not the same reasoning and advice apply to carpentering, shoemaking, doctoring, preaching, or the practice of law? I believe our business a hybrid, or cross between the trades and professions, and I believe that, when the man who is going to succeed at it turns his mind to it he will be fit for little else; that it will be found a great waste of time, to be tinkering along with a number of colonies unworthy of the time of the operator; also a slow and uncertain method of getting knowledge. Where is the producer of to-day who has grown up in this way, who has not in the past, or got to in the future, throw away hundreds of dollars in the many hives and other fixtures? I believe that in this business, as in all others, the specialist can produce the product the cheapest; that he will be forced to produce it as cheaply as he can, the same as has been the rule with other productions. That will put the business in the hands of specialists; and I believe that there is great wisdom in letting it severely alone, unless you expect to become one. Those who do, will do best by serving a season or two as a student apprentice, with some one in whose success and methods they have confidence, getting as much for their services as they can agree upon. I know of a few cases of this kind, and they point strongly to the wisdom of the course.

I commenced in 1869, and the first thing I lost the capital I began with; took a small start in connection with fruit and vegetables, and crept slowly upward. Honey was high; and could I have traded the fruit and vegetable business off for practical knowledge of apiculture, I would have done much better. Though it is a fact, that the field of apicultural knowledge was considerably smaller than it is to-day, it would have paid me handsomely, and saved me hundreds of dollars had I worked under Adam Grimm, or some such man, a year at least, even if I had got only my board. I know that, when the honey of the country is produced by a smaller number of well-posted men, who will buy only a few necessities that they can not more economically make, that the supply trade will be much less than as though the same amount of honey were produced by amateurs and persons of other callings, in a smaller way; and this proves the economy of speciality. While the supply trade will no doubt be, even then, in advance of what it is to-day (so much more honey will be produced from fields now unoccupied), it will also be a more agreeable, staple trade, goods and prices being more uniform, dealers and purchasers better acquainted with each other, and our whole system running with less than half the friction and disappointment of to-day.

All honest men, whatever may be their interest, who see it in this light, are anxious to herald the "good time coming."

JAMES HEDDON.

Dowagiac, Mich., Dec. 12, 1881.

If one undertakes the bee business because of the money he can make out of it, and for no other reason, I do not know but that I pretty nearly agree with friend Heddon; but if I am correct, a great part of the readers of GLEANINGS have other reasons for keeping bees. The man who makes honey-pails by the hundred thousand can assuredly make them cheaper than the one who makes them by the dozen; and the man who raises and puts up honey by the ton, can (or at least ought to) furnish it at a less price than the

bee-keeper of a dozen colonies. For all that, it seems to me there are many good reasons why we should have small tinnners and small bee-keepers. Often one may well be both; for while his bees need no care in winter, it may be better for him to make tin pails at 50 cents a day, than to leave home to engage in some other employment. With many of us, the work with our bees is recreation in the open air; and although we should pay out more cash on them than we ever get back, it may be a gain after all, in better health. It is very likely true, that the great honey-producers do not patronize supply dealers very much, for the reason you give; but, friend H., what is to be done with the world of ordinary people, who are not blessed with very much energy (or brains either, perhaps)? What about those who are equal to the task of caring for only a dozen or 20 colonies? Is it not well for such to take a small start, and grow, even though they never get up to great heights? Again: I have a very much valued friend who makes boots and shoes sometimes. He also has a small farm; and as he at one time was a printer, he dabbles occasionally in printing, stereotyping, electrotyping, etc. A few days ago I suggested to him, that although he did succeed with all these things, it could not pay him very much. Said he, "Mr. Root, I do not always work for money. Sometimes I work for the pleasure of it." If I am correct, he is not in debt, but has money enough to visit our great cities when he wishes, and see how the large factories do the things he has been working on there at home, and I know he enjoys seeing the world progress in these things, with a relish many of us can not understand. Now, while I believe in him, and enjoy taking a look into his happy face, I also admire specialists. Since I met you at the convention, and heard you talk, friend H., I have had quite a longing to visit your apiaries; and I also want to visit George Grimm. I am sure it would do me good, and, mayhap, it might do GLEANINGS good. What do you think, friends?

HONEY FROM CORN.

BY ONE WHO IS THOROUGHLY WAKED UP IN REGARD TO THE MATTER.

MR. EDITOR:—We desire to provoke thought, rather than convey information. We would prefer to convey information, if we possessed the facts. "Will bees gather honey from corn?" This is asked on page 895 of GLEANINGS. The answer given by "one," as friend Doolittle had it, is, "Yes, and lots of it, sometimes." Now, I do not believe that honey is ever gathered from the tassels, or male organs of corn, or from the pollen-producing organs of any plant. Honey, I regard as a sort of menstrua of the female organs of plants, designed by nature to entangle the pollen for impregnating purposes. In most plants these organs are in immediate proximity. The honey secreted by the pumpkin is at the apex of the embryo pumpkin, and immediately under the pollen, etc. Now, corn is an exception to this general rule. The silk of the corn is the natural location from which honey should flow. But, bees do not visit the silk, in this section of Iowa; and we have not been able to find our bees

longing the corn-tassels. We do not say that bees do not find honey on corn-stalks or corn-tassels. We believe the old German saying, that "in a good year, every bean-pole sweats honey; but in a bad one, no flower secretes any." The sap of plants varies in the quantity of sugar secreted. Some years it is very sweet, and beetles act as "sugar-tree tappers," while bees gather in the sap, etc. "No admittance" seems to be tacked over many departments of Nature's laboratory, and we have not found out all we want to know about honey. Will the A B C class allow me to say, that when a plant secretes pollen in large quantities, it secretes honey in small quantities? Much pollen supersedes the necessity of much honey. The reverse of this problem is also true—much honey, little pollen. We think that, when bees come from the buckwheat fields heavily laden with pollen, it indicates a meager flow of honey. Small pellets and full sacks; large pellets and empty sacks. Hang this on the basswood-trees anyhow, and then tell us where else, and what you know about it. I offer \$50 for one pound of honey from corn-tassels. Any one knowing his bees to be gathering honey from corn-tassels, will notify me by postal or dispatch. I will at once start for his place. If bees are not gathering honey from corn-tassels, he must pay my expenses. If the honey is produced from corn-tassels, I am to receive the pound, pay \$50, and my own expenses.

JESSE OREN.

La Porte City, Black Hawk Co., Ia., Dec. 13, 1881.

Although I don't quite like friend Oren's way of bringing out facts, it may be that his letter will bring out what we do not know about corn from honey. Can not the particles of honey in the tassel, if such there be, be found with the microscope? It seems to me this would settle it.

SPEAKING UNKINDLY OF THOSE WE KNOW.

THE following is from the *American Bee Journal* of Nov. 9:—

WOULD IT BE AN HONEST TRANSACTION?

I notice the following editorial remarks in *Gleanings* for Oct., page 496:—

"The Holy-Land bees certainly have some strong points of difference that promise well. We often send them out to fill orders, and I have never yet heard them called any thing else than nice Italians. The bees would please almost anybody in appearance, and we have never had a complaint of their being cross, like some of the Cyprians."

Now, are we to understand by the above that, should we order from Mr. Root an Italian queen, he is to send us just what he chooses, and it is all right so long as we do not know the difference? That is on a par with the dairyman who would ship a customer a tub of oleomargarine, and would console himself that the customer would not know the difference between that and good butter.

Roekland, N. Y.

W. CAIRNS.

Whatever ails you, friend C.? Can't you be kind o' half way civil and decent, even though you may be writing for the *A. B. J.*? I haven't said a word about queens in any thing you have quoted — I only said bees. In "our parts" we sell bees by the pound — bushels and bushels of them. Folks buy queens, and then we send some bees along with them, and the Holy-Land bees are very pretty Italians. Do you suppose the bees sent with a queen are going to spoil her purity? And, by the way, friends, is it just, kind, and civil, for a brother-editor to publish such things about one you all know as you do me?

Heads of Grain, From Different Fields.

WINTER PASSAGES OVER THE COMBS.

THE practice of giving winter passages over the combs is one of my hobbies about wintering. I have practiced it for the past three winters, and have not lost a colony when so prepared and chaff packed. I formerly used corn cobs, the same as Mr. Shane did; but I have thrown them aside, and use now in their stead a new, clean, well-seasoned pine shingle, nine or ten inches wide, with a cleat one-half inch square on each end. I think it has some advantage over Mr. Hill's device, as illustrated in November GLEANINGS. It is easier made by persons not having the use of machinery. It prevents the fine dust from rattling through the burlap directly among the bees, and I think retains the warmth of the cluster much better than burlap and chaff alone. The moisture will pass off at the sides of the shingle as well as if not there. I have examined a number of colonies so arranged to-day, and find the bees clustered close up against the shingle in all of them. I consider the cleated shingle of equal value for cellar wintering. I winter half my bees in cellar; the other half outdoors packed in chaff; so far with about equal success. To sum up with, if it were not for the trouble, I would use a board similar to the old-fashioned honey-board, fitting close around the side of the hive, and glued on, with a half-inch space above the frames—the board to have from four to eight one-inch auger-holes, according to the strength of the colony; those to be covered with burlap, and the whole well protected with chaff.

L. D. GALE.

Stedman, Chaut. Co., N. Y., Nov. 14, 1881.

Why, friends, it looks almost as if we were going to swing around to the original air space above the frames, invented by our good old friend Mr. Langstroth, pretty well toward 30 years ago. I have before spoken of the fact, that a number of our neighbors who use the old-style Langstroth hives with honey-boards, winter, year after year, with but very few losses comparatively.

CANDY FEEDING IN WINTER NOT INJURIOUS.

I see on p. 490 of Oct. GLEANINGS, that friend Hubbard claims that the "honey-board, or substitute thereof," should not be loosened too late in the season for the bees to wax all up tight again before cold weather; and that you agree with him. That, I will not question; but I will give some facts on the subject, from the experience of the past winter. As above stated, the season of 1880 was very dry. There being no fall pasturage, I had to feed my bees for winter supply, which was done in October. Freezing weather set in the latter part of October, and continued all winter with but few days during which snow would melt. Now for the facts: About the first of January I found that one colony was dead. They continued dying until I had lost four—starved, as I supposed, by being unable to get to the honey in the outside frames. With the mercury standing below the freezing point, and the ground covered with snow, I opened every hive I had, and put in cakes of candy, made as you direct, on top of the frames. Thus I continued feeding those in the

weakest condition, always, of course, selecting the warmest days. After giving the first candy I never lost a single colony, and succeeded in bringing my remaining 15 colonies through the winter in fair condition. I was away from home during the winter, teaching school, being at home only at intervals. I believe that, had I been at home where I could have watched them, that I should have lost none.

Orleans, Ind., Nov. 5, 1881.

J. H. REED.

Since you mention it, friend R., I recall to mind that I have done the same thing, through pretty severe winters too, and now I am inclined to think disturbance does harm only when the bees are confined to natural stores, or stores not easily assimilated when they can not fly. If given pure sugar candy, disturbance in winter, or at any other time, is not necessarily detrimental; if confined to natural stores, and threatened with dysentery, it may, as in your case, prove quite the contrary.

"OUT OF THE WOODS."

Mr. Root, if you remember, you told us last spring not to erow until we got out of the woods. I think I have got out now. Our honey is not all weighed yet, but I will erow about 1000 lbs., all comb honey, and 48 good swarms of bees. This is my second summer with bees. I worked in the tannery every day 10 hours except 1½ days with my bees. I have a wife, and twin boys 10 years old. They would come to the tannery to tell me when the bees swarmed; and I have one girl, 13 years old. I sent to H. Alley; got 3 queens, Hungarian, Cyprian, and Holy-Land. I introduced them all right, and raised two queens from the Cyprians. I like GLEANINGS (you can put me down for one year more), and I like your advice; but I don't like those fault-finding letters that you sometimes receive. I gave Mother Robins one swarm of bees the 17th of June; they made 75 lbs. of surplus honey.

F. ROULO.

Portville, Catt. Co., N. Y., Oct. 12, 1881.

HONEY AT 25c. A PAILFUL.

On page 570, Nov. No. of GLEANINGS, you say that 1½-lb. tin pails of ext. honey sell readily for an even 25c. Is that the wholesale or retail price? If the latter, it is not enough; for no one can expect to retail a large lot of honey. I can not get grocers to handle a package of extracted honey for less than 10c.; deducting this and price of pail, leaves 10c. for honey, label, and putting up. Ten cents for the grocer, I know, is too much; but what are we to do?

Salem, O., Nov. 19, 1881.

M. FRANK TABER.

Friend T., you will see, by the Honey Column, that extracted honey can be bought by the barrel at an average price of about 9c. Well, call it 10, and your pails, by the hundred, 4c.; labels and putting up should not make all over 20c. Well, if your grocers will not sell such pails of honey for a commission of 10 per cent, for just handing out the pails, you have an excellent locality to start a grocery.

ELEVEN INCREASED TO 20, AND 1100 LBS. OF HONEY.

Here is my report for 1881: In the spring I had 11 colonies, mostly weak, and all in box hives; they are black bees, with just a trace of Italian blood. I transferred 4 into Simplicity hives. These 4 gave us no swarms, but they increased so as to fill three I-story hives, and made 600 lbs. of surplus honey. The

others all swarmed, and now I have 20. Fourteen are in Simplicity hives, and 6 in box. I have taken, in all, 1100 lbs. of honey — 1000 extracted, and 100 of comb. Just after basswood bloom they gathered a quantity of very thick dark honey which tasted more like molasses than honey. I think it must have been honey-dew. I was surprised to find how large some swarms become when they have plenty of room; before, I had always supposed they had room to do their best in box hives containing 2000 cubic inches. I had one case of two queens in one hive. I accidentally killed one of them, and the bees very soon started queen-cells, but tore them down as soon as they were sealed up. Bees are now in the cellar.

Bloomington, Minn., Nov. 29, 1881. G. H. POND.

WILLOWS AND BLUE THISTLE AS HONEY-PLANTS.

I have been looking over A B C respecting bee-plants, or honey-producing plants. What have you to say on willows? I herewith send you some cuttings of the Holy-Land willow, from Sunnyside. They come into blossom early — the very first to make its appearance in this State, and they are full of bees from morn to night when weather will permit bees to work them. You will see they already show signs of budding. It is the most valuable early honey and pollen producing shrub I am acquainted with. I will send you specimens of full flowers this season. Now another thing I wish to correct you on: Blue thistle is no thistle, and does not belong to that class. It is *Borago grandiflora*, and is a perennial, and you will find a few plants with the willows. It is a great honey-producing plant, and remains in bloom to this date, Dec. 1, in sheltered positions. My bees are bringing pollen to-day, and I can find nothing else in bloom, and I see a few bees on this plant.

C. H. LAKE.

Sunnyside, Baltimore, Md., Dec. 1, 1881.

I did not mention willows among the honey-producing plants, because it did not seem to me that anybody would set out any plant so hard to eradicate, for honey alone. I did not at that time know that our fence willows were honey-producing in some localities. In a recent back number we have been told something of the difficulty of eradicating willows. It has also been mentioned that blue thistle is not a thistle; but still, some of our friends who "got a going" could not well stop; and to keep peace in the family I took blue-thistle seed out of the price list.

INTRODUCING BY MAKING A NEW COLONY FROM TWO OLD ONES.

Noticing in the Dec. No. of GLEANINGS, p. 601, an article in which a method of "introducing" a new queen to a colony of bees without being obliged to hunt up the old one is described, the writer seems to leave a part of the problem unsolved, or at least does not carry his description far enough to cover all requirements of the case. He writes, "Opened No. 1, took out five frames heaviest with brood; brushed all the bees from them, put the frames of brood into an empty hive with queen caged on one of the combs; removed swarm No. 2 a rod or so from its old stand, when bees were flying briskly; put cage containing queen and brood in the place from whence I removed No. 2." Now, from this transaction the influence seems to be that the bees which are absent from No. 2 at the time of the opera-

tion and removal of their hive, will, on returning to their old stand, enter the nucleus placed there by the operator, as it occupies the place of their former home. But as there are bees in No. 2 at the time of its removal, how will they conduct themselves on their return from their first trip to the fields, from their new position? It seems that the old bees, and, in fact, all those properly belonging to No. 2, in gathering, would invariably return to their old stand; leaving only the nurse bees, or those very young, with the old queen in the old hive, at the new position, making the whole performance no more nor less than the establishing of a new colony by *dividing* two others; viz., by supplying brood from one, and bees from another — the queen being furnished by the operator. If every thing would work favorably by the employment of such means, there seems to be but little chance for objection to *dividing* in this way. The impression derived from the description seems to favor the idea that there would be no unfavorable result; but, before attempting its practice, a further assurance seems necessary to establish a perfect confidence in the *modus operandi*. Has the method been practiced heretofore? If so, can we not have a few words of admonition through GLEANINGS, from the editor, or some of its numerous veteran bee-keeping correspondents?

JAS. F. LATHAM.

Cumberland, Maine, Dec. 7, 1881.

The method has been practiced to a considerable extent, when queens are to be introduced, and the number of stocks increased at the same time. I know of no objection, except the one friend Hasty alludes to in his article on page 25. The queen should be kept caged about 48 hours, or until bees from the old hive have pretty nearly stopped coming in.

HOW FAR BEES FLY FOR HONEY.

I find in Dec. No. of GLEANINGS, page 596, "3½ miles is as far as we have been able to find Italians working from their hives, when the first ones were brought to our county." Now, when the first Italians were brought to this county (Monroe) they were found working on the flowers 7 miles from the nearest hives. Of this there can be no doubt, for it was before there could have been any of them in the woods; and although I did not see them, yet I have the fact from the parties who did, and who are entirely reliable. As we may not soon again have an opportunity, at least so good a one, of testing the flight of bees for honey as we had when the Italians were introduced, I think it is well enough to record all the facts we can get on so interesting a subject.

HUGH MARLIN.

Bloomington, Ind., Dec. 10, 1881.

Very good, friend M., and thanks for the item. What has been the experience of others?

OUT OF "BLASTED HOPES" INTO "SMILERY."

I believe I was in the wrong pew anyhow, don't you? Although I had been sick all winter, and lost all my 24 colonies of bees but one weak and queenless stock, my *hopes* were not blasted; 'twas only the bees; for I went right to work and bought a hybrid queen for the little swarm I had left, and bought another weak swarm with hybrid queen, and from those two weak swarms I now have nine, all in good trim for winter. But I got no honey — didn't expect any; worked for increase altogether. It was a very

poor season for honey here anyhow, but I am satisfied. I smile again.

JACOB COPELAND.

Allendale, Ill., Dec. 5, 1881.

I guess you *were* in the wrong pew, friend C., and I suppose you will now keep in the right one.

ROCK CANDY AS A REMEDY FOR DYSENTERY, AGAIN.

I am a subscriber to GLEANINGS, and see no communication from this part of Wisconsin. The old-style bee-keepers lost all they had last winter. The season was rather poor, so they neglected their bees until cold weather came, then they went to work to pack and house them for winter, rousing them when they ought to leave them alone. I had 18 swarms. I saved 6. Last spring, when I saw them dying, I commenced to feed rock candy, and those that were not too far gone partook and lived. The summer of 1880 was wet, and the honey was too watery, and it soured, causing dysentery. I have 16 swarms now, all in good condition—all Italians, but they are getting rather dark colored. I will get some queens in the spring. I use the Langstroth hive, and don't want any other. I have tried a good many, and all proved good for nothing. I had bees 16 years; but last winter was the worst on bees I ever knew.

PROTECTION FROM THE WINDS.

I think the northeast winds very injurious to bees; and west winds also. I protect mine with a high-board fence on the west and north, and pack them in chaff boxes. This part of Wisconsin is a good place to keep bees—plenty of forest, and bass-wood plenty; white clover grows abundantly, wild and tame; a good deal of dairying is done here, and we have large pastures covered with white clover almost all summer. Some buckwheat is raised.

RAPE HONEY FOR WINTERING.

Not much rape is raised some years. Four years ago there was some a mile from me, and I hope it will not be raised nearer than 20 miles of me again. I had 8 swarms smell strong of rape in the fall; in the spring they smelled like rotten turnips, and the 8 swarms died.

JESSE H. ROBERTS.

Munn, Manitowoc Co., Wis., Dec. 3, 1881.

This matter of protection from the prevailing winds is a very important one indeed, even if you have the best chaff hives for every colony; for not only do cold winds detract very much from the efficiency of chaff hives; but days when the bees can fly, if the hive is sheltered from the winds, they will regain the alighting-boards when they would not otherwise. They will also often go out and get water for brood-rearing, keeping under the shelter of this fence, or wind-break, when they would otherwise be compelled to stay inside. You will notice, in the picture of our apiary, that we have a close row of evergreens, completely surrounding our apiaries.—I have never before heard of the objection to rape you mention.

UPWARD VENTILATION NOT ALWAYS A NECESSITY.

I went into the winter of 1880 with 26 colonies and two nuclei, all on their summer stands. All were well packed with chaff early, and before cold weather set in. Each colony, by the use of division-boards, was confined on as few combs as was practicable, and the space outside the division-boards (I use two in each hive) was filled with oat chaff. Upward ventilation was carefully guarded against by spreading smoothly several thicknesses of newspa-

per on the quilt that covered the frames, and on this was placed loose chaff well pressed down. The entrances, during the coldest weather, were contracted to about one inch by $\frac{3}{8}$ of an inch. Now for the result: Do you say they all died? No; the first of April, 1881, found them all in pretty good condition, with the loss of but one queen. So much has been said of late in favor of upward ventilation, I have been induced to prepare my bees for winter with a view to testing the two theories; viz., "upward ventilation," and "no upward ventilation." I now have on their summer stands 33 colonies and 6 nuclei. Ten good strong stocks I have left empty, and partly filled boxes on. In all other respects they are well prepared for winter. The rest of my colonies have but little, if any, upward ventilation. I will report their condition next spring. There are but few bees in this neighborhood, outside of my own apiary. Four years ago there were 76 colonies (all blacks) within a mile and a half of me. Now there are but 8 colonies within that distance of me. These 8 are all that have survived the cold and the famine; and they must be mine, or be Italianized, next spring, for I do not want a black drone to take wing within the flight of my virgin queens next year. Last summer I thought I was going to get into Blasted Hopes *sure*. We had such a drought and such a famine as were never known here before. But finally showers came, and with the showers came flowers; and with the flowers came honey; and I got nearly a thousand pounds when I expected none.

M. J. HARRIS.

Calhoun, Ill., Dec. 14, 1881.

FOUL BROOD; FOUNDATION THE CURE.

I almost got out of bees last winter. The principal cause was foul brood. It got into a great many before I knew what was wrong, being too late last fall (when I found what was the matter) to remedy the evil; consequently I lost over 40 swarms. As soon as honey was in the blossoms in the spring, I turned the bees all on to foundation in clean hives, took the comb away and melted it into wax. I boiled the honey, and fed it back to them. I did not wait for the starving process recommended, but set them right to work with success, as none of the disease appeared. I put 46 good swarms into winter quarters in cellar Nov. 21. They are nice and dry. I made over 1400 lbs. of honey last season, and started with only 6 swarms; bought 12 second swarms, cheap; built up to good swarms, so I feel thankful, as my loss might be worse. However, it was a good lesson.

GEORGE DUNCAN.

Embros, Ont., Can., Dec. 6, 1881.

The matter of curing foul brood was very fully discussed at the convention, and friend Jones declared salicylic acid a perfect failure with the real virulent foul brood, every time. With the plan you give, however, in connection with the starving process, he says foul brood is little more to be dreaded than the moth-miller we used to hear so much about a few years ago. The starving process, he says, may take as long as 70 hours, when the drummed-out bees have filled themselves with new honey. They should be placed in a box covered with wire cloth, and allowed to remain until a few bees begin to fall to the bottom, with the usual signs of starvation. They may then be put on frames of fdn., and be fed the honey, after scalding. The combs containing sealed brood may all be placed in one queenless

colony until all the brood hatches; then treat this as the others, and we have really lost nothing but the old combs. The hives and frames must be thoroughly *boiled* in a large kettle, before being used again. Intense freezing does not kill the germs of foul brood; but *thorough boiling always does.*

BEES IN COLORADO—135 LBS. TO THE COLONY AND ONE-HALF INCREASE.

Some people in Colorado are asking if it will pay to keep bees in Colorado; and as a partial answer I will give my experience for this year. I had, in the spring of 1881, 26 colonies in chaff hives; increased to 39, or one-half, and took 3510 lbs. of honey, being an average per colony, spring count, of 135 lbs., nearly all extracted; 250 lbs. 1-lb. section. I curtailed increase all that was possible during the year. Wife and the children took care of the bees during the honey season. I provided hives, frames, sections, and all bee furniture to hand—showing also a large field of usefulness and profit as well for our wives and daughters, especially those with lung trouble, as with Mrs. Rhodes, who has received great benefit inhaling the fumes or scent of the hives during the honey season. I use and recommend the chaff hives for this country. Mine are now so strong that it was only last week we could get them below to cover with chaff for the winter. Bees are flying to-day, and carrying in water. We have had snow and cold weather, but it lasted only a few days. Our altitude is between 5000 and 6000 feet, 10 miles from the foot of the "Old Rockies," and 5 miles from Denver, the "Queen City of the Plains." In a part of that country marked on the old maps as the "Great American Desert," we find that bees flourish as in the land of Palestine, which has been described as a land of milk and honey. By the way, I almost forgot to say, that wife wants a Holy-Land queen some time early next season. Now I will close, by saying that we enjoy much your monthly sermon in GLEANINGS, and pray that they may be greatly blessed of God to all who read them.

R. H. RHODES.

Arvada, Jeff. Co., Col., Dec. 3, 1881.

POLLEN AND WINTERING, AGAIN.

As Mr. Heddon says, the wintering problem is getting to be interesting; but how will the innocent bees fare in the hands of the A B C class when our wise ones differ so widely in their advice? One says, upward ventilation; another, crowd the bees on the smallest possible number of combs, and give them ample time to close up all openings; others advise us to give plenty of room, without any protection whatever. What are we, the A B C class, to do with all of this confusion? I think that Mr. Heddon is on the right track. I am confident that pollen is at the bottom of all our troubles in wintering (don't understand me to say, that if we remove all pollen that the bees will winter without further attention), and I think that it is useless for us to leave our bees exposed to the winter blasts for experiment sake; because, if it is an open winter, so that bees can fly once a month, they will winter with or without an abundance of pollen. As we can not tell when we are going to have a hard winter, had we not better prepare for a cold winter every time? I will tell the friends how we can test the pollen theory. At the close of brood-rearing, remove all the combs that contain pollen, and give them combs of honey, if you have them; if not, give them empty combs, and

one of neighbor H.'s milk-pans of extracted honey, and they will soon have it in place of the pollen that you removed. By the way, friend Rice will winter his bees this winter as usual. That blackheart field has done for his bees the work that the rest of us should attend to—removed the pollen out of the brood-nest, and filled the place with late brood and blackheart honey—the best feed for bees (in my opinion) in the world.

S. H. LANE.

Whitestown, Boone Co., Ind., Dec. 13, 1881.

LARGE YIELDS OF HONEY.

After reading the report of H. Newhaus, I don't wonder that man in Germany wondered if it rained honey in America. If I had such a wonderful yield as Mr. N., I shouldn't tell of it, for fear you might think I was telling a "whopper."

JUNO.

La Porte, Iowa, Dec. 7, 1881.

Gently, friend Juno. If you will look carefully over the present number, you will note a lot more of astounding yields; and if you read carefully, I think you will find the stamp of truthfulness on all of the statements. We have blasted hopes, tolerable success, very good, and, once in a while, the astonishing. You will also find, by our back volumes, that many who give these large reports now, have, in former seasons, given some of the most discouraging. I think any candid reader will say that the reports we have given have the general stamp of fairness and truthfulness. God does send us the honey at times almost in showers, and very often quite unexpectedly too, and here is the value of these astounding reports, that they may incite us to be in readiness when *our* turn comes.

AN ASTONISHING REPORT FROM AN A B C SCHOLAR OF THREE SUMMERS.

This being the last of the year, I will hand in my report for the summer just past. I am an A B C scholar of three summers. My account stands as follows:

	Dr.	Cr.
To one extractor	\$4 00	
" Postage	41	
" Lumber and nails	80	
" one queen	1 00	
" Sugar	2 00	
" GLEANINGS	1 00	
Total	\$9 21	
By extracted honey, 90 lbs., at 15c		\$13 50
" comb honey, 25 lbs., at 20c		5 00
" 8 young stands, at \$7.00		56 00
" 2 old stands at \$7.00		14 00
Total		\$88 50
Deduct	9 21	
Net profit		\$79 29

I am well pleased with my success. My bees are all in chaff, except 2 in two-story hives with cushions on.

GEORGE COLE.

Freeport, Shelby Co., Ind., Dec. 12, 1881.

Why, friend C., do you mean to say you made the bees that gathered all that honey, out of nothing but an extractor, postage-stamps, lumber and nails, one queen, sugar, and GLEANINGS? Why I so infer, is, you do not debit the apiary with *bees* at all, but you do credit it with two old stands and eight young ones. Did you not omit to charge the two old stands you started with? In any case, you have done tiptop, and we hope more of our beginners will be able to send in an equally good report.

"DOCTORS" WHO DISAGREE, ETC.

I like to read GLEANINGS. I have read it now nearly a year, and I read of many ways to keep bees. One says this is the best way; the other, that; and they have all lost about alike. One says they had dysentery, and honey is the cause of it; the other says pollen; another, confinement, etc. Now, they have not proven yet, to my satisfaction, that they have dysentery at all. I know the bees spatter their hives around sometimes, but don't they do that naturally? The reason that I believe so is because, when I was a little boy my father bought a stand of bees, and those bees lived in that hive 30 years or more. I know they spattered their hive all around. Why did they not die out, if that is dysentery? That was a three-story box hive, or a drawer hive; each drawer had its own entrance; the brood-nest was in the middle drawer. They had a passage from the lower to the upper story. A neighbor of mine has had eight for many years, and they act the same way. Why don't they die? His hives have entrances 3 inches deep, and the breadth of the hive open all winter, and they come through strong. He put a few swarms in Langstroth hives, and they died for him; they were not so airy as the box hives. Does not that show that they smother rather than freeze? Another neighbor had five — 4 in a frame hive, and one in box hive; the four frame died; box came through; it had an empty surplus box on top; it sat on a plank two feet from the ground; had large entrance; the wind could blow through the entire hive, and he got two good swarms from it this summer.

GEO. FAUSNIGHT.

Middle Branch, Stark Co., O., Nov., 1881.

Thanks, friend F. : but I do not think you are quite correct in saying they winter all about alike. We have a few men who, we might almost say, never lose in wintering. Our friend George Grimm, for instance, and friend Hill, of Mount Healthy. By looking over our back numbers you will find many more. Dysentery does not always kill bees. If not too severe, they get over it. Again: A few years ago we had losses where there were no traces of dysentery; they "just died," and that was about all you could say about it. Two of our successful neighbors, Shane and Blakeslee, used to laugh at the rest of us about our losses: but they have both had seasons of spring dwindling that have taken at least some of the "conceit" out of them. They winter pretty fairly now; but they don't often brag a great deal about their ability to do so.

A BUSINESS OPENING FOR OUR SOUTHERN FRIENDS, SUGGESTED.

If this is an open winter I shall take my 3 stands through. My experience has been, that there is no trouble in wintering bees, if the winter is moderate. I think I have found out, that if a man wants to make money by the sale of bees he must go south; then he will have a market north for three years out of five, when the bees in the North are winter-killed. The same with fruits. When peaches are ripe in this climate, the North has been supplied from the South, as we learned two years ago, hundreds of bushels rotting on the ground, and no demand. There, now, what do you think of this essay?

G. W. HOUSELL.

Bainbridge, Putnam Co., Ind., Nov. 20, 1881.

Well, I think it quite an interesting essay,

friend H. : but I can not quite agree to the statement, that we here in the North lose our bees in wintering, three times out of five. I admit there is a pretty good demand for bees as often as that, and that there are usually a good many bad losses; but, my friend, we are going to do better. Never mind; bring on the bees from the South; there will always be a good market for them.

RUBBER FOUNDATION PLATES.

I was anxious to be able to say I could make good work, which I can not exactly say yet; but the season was almost past before I got them, so that we have not had much experience yet. I can at times make perfect sheets, but not uniformly. I have no trouble in getting them off, but the sheets have white blisters in them here and there, mostly in the center, as if it were air-bubbles. I saw some in the sheet sent me. Can it be remedied any way, as they look so badly?

LESLIE TAIT.

Foveran, Aberdeenshire, Scotland, Sept. 27, 1881.

It is true, that fdn. made on the rubber plates has not the finish and nice appearance of that made with the rolls, because they compress the wax so as to put a gloss and accurate outline to it: but, my friend, this finish in the hard wax is just what the bees do not like, and you will find they will work out your fdn. with that soft look and jagged outline very much easier than that made on rolls. In fact, the latter is worked clear down like natural comb, because it is virtually wax in the state it is in natural comb, without any of the hardening or compressing. The white blisters you mention do no harm at all for actual work. Shall we sacrifice utility for looks simply?

SEEDING ALONG OUR RAILWAYS WITH HONEY-PLANTS, ETC.

During the past fall there has been thrown up the roadway of a new railroad that passes within a few hundred feet from my apiary. Now, I have availed myself of the opportunity of getting quite a lot of fine bee pasture by sowing the entire roadbed (some hundred feet wide) for a distance of some two miles, in white Dutch clover, sweet clover (mellilot), golden honey plant, motherwort, and catnip. As a great part of the roadbed was of loose, fresh earth, the seeds (all mixed together) when sown were covered by the first rain that fell, and much of it is up already. Now, as the land in question would soon have been covered with tall coarse weeds, was it not better to give the seeds of well-known honey-plants the first and best chance to occupy the ground? Of course, it costs something; quite an item, in fact, to get seeds and time to sow them; but I feel convinced that within reach of the majority of the wide-awake bee-keepers of the U. S., there is enough waste or idle land to give their bees ample stores to gather, if these lands in question were only sown in honey-producing plants, that would seed themselves from year to year, or become perennial. We bee-keepers, as a class, have not enough faith in the outcome of our business, and consequently our works are few compared with what they ought to be. Let some one in each township decide to do a little, and stick to it, even through repeated failures, and the result will be almost magical in its effects on improved bee culture and the production of honey.

Belleville, Ills., Oct. 12, 1881. E. T. FLANAGAN.

FROM ONE TO EIGHT IN ONE SEASON.

I have written to you several times, and never have told you anything about my bees. Last spring I started in with one hive, mixed with Italians, and I now have eight hives; the old hive swarmed, four times, and three of the new hives swarmed, and are all doing well. I can't work with them myself, but my wife tends to them; that may be the reason they do so well. What do you think? R. T. NORRIS.

Bakersfield, Kern Co., Cal., Nov., 1881.

Of course it was, friend N.; and your letter has just given me an idea. If we can't get letters enough from the ladies to keep their department going, we will get their husbands to report in regard to their doings, just as you have done. I suppose, of course, none of the husbands will report any of their bad conduct.

WHERE TO HAVE THE HONEY-HOUSE, ETC.

I started a year ago last spring with one hive of bees; increased to 4, and I wintered them packed with chaff in dry-goods boxes. The four came through in pretty fair condition. I bought 2 swarms this spring, then started with the six; then my report for this summer. I extracted 505 lbs. of basswood, clover, and dandelion honey, and increased to 19 by natural swarming. I use the Adair frames in two-story hives. I sold my honey for 15 cents per lb.; Comb honey sells for 20 and 22c. I packed 15 hives in boxes, and put 4 in the cellar for winter, all in good condition. I have your A B C, and Cook's *Manual*, and I take GLEANINGS. Would you please answer this question? How far has a house for extracting to be from the hives, or is there any certain distance?

WM. A. MURKAR.

Aberdour, Bruce Co., Ont., Can., Dec. 7, 1881.

It is simply a matter of convenience to the operator, friend M. In our original hexagonal apiary, we put the house in the center, as you will see by the A B C; but this was objected to, because the apiarist could not see what was going on, on the other side of the building. Experience has demonstrated this to be a very important point, especially in swarming-time, and we now have the honey-house at one side, as you will see in the apiary near our factory. In such a case, it is well to have a car or wheelbarrow arranged to carry the combs back and forth. Having the extractor on a car, with a tent over it, is a very good way where the apiary is run for extracted honey alone. You will observe that all these arrangements are very fully discussed in the A B C.

HOW TO DO WITH QUEENS RECEIVED BY MAIL IN THE WINTER.

The queen received at noon to-day. I opened the cage in the postoffice. They appeared so quiet I was afraid they were dead; and so they were to all appearance. I emptied the contents into my hand, and warmed them by blowing my breath on them, and presently I had the satisfaction of seeing them move. The queen was the first to show signs of life. I took them home in the house; they soon were lively. I certainly would not use the tin slide in winter, as it is too cold. Thanks for promptness. I never received queens in so short time before.

JOHN SMITH.

Morpeth, Ontario, Can., Dec. 9, 1881.

We are now covering the tin slide with

thick paper. I know that some other substance would seem to be better for cold weather, but it is very difficult to get any thing that will answer the purpose for the Peet plan of introducing, as the tin slide does.

AN A B C SCHOLAR'S TROUBLES.

I received of you, through friend N. T. Phelps, about the first of June, one pound of bees and a tested queen. About the 8th of July I divided them, and shortly afterward I discovered my queen (which was a good one at first) laying nothing but drones. I got another queen of you, and removed the old one; in the meantime the bees in the other hive had been trying in vain to raise a queen from drone larvae. I then got another queen of you, which I worked five or six days to introduce, and finally lost. I then got a queen-cell from which they raised a fine-looking queen. In due time she was impregnated, and proved to be purely mated, and very prolific. Before any bees hatched, my two stocks had become very weak, as you may suppose. I got two frames of brood, and about a pound of black bees, which I united with them. As the drought had destroyed about all bloom, I commenced feeding, and the way the queens filled the frames with brood was wonderful. I fed about 30 lbs. of A sugar to the two stocks, and, fearing they had not enough to winter on, I gave the two about 10 lbs. of candy when I put them up for winter. I crowded them on four frames in one hive and five in the other, packing them on their summer stands, and I am in hopes I shall not find myself in Blasted Hopes in the spring.

In putting my bees up for winter I had a good opportunity of observing the difference between blacks and Italians in amiability. In one hive, the blacks I had united with my Italians were quite plenty, and their disposition any thing but pleasant; in fact, I had to get friend Phelps to help me in preparing them for winter. We thought we would be good subjects for a cartoon—he at one side of the hive plying the smoker with all his might, and I at the other side getting them in shape for winter. With the other stock I had no difficulty whatever, the blacks having all died off. You see I came pretty near having more experience than bees.

The bee-keepers about here have had very little surplus this year, on account of drought.

Kingsville, O., Dec. 19, 1881.

H. H. PEASE.

You did just right in feeding them up as you did, friend P., and if you persevere right along on that track, you will come out ahead, and I wish you would just see if my predictions do not come true. You have persevered amid difficulties, instead of letting them "all slide," as many might have done, and you are of the right stripe to make a bee man.

HONEY FROM THE OAK.

I see on page 601, December GLEANINGS, in answer to a Texas correspondent, you say that honey is not a normal product of the oak-tree, but is produced only by insects, etc. Now I will tell you what I do know about honey from the white-oak tree. In the spring (I can't just recall the exact time), when the little acorns are just shaping, they furnish honey, and sometimes a considerable amount. The spring of 1880 was the first I had notice of it (not paying much attention to the matter before). I was in the timber, and heard a very large humming

of bees. I thought at first it was a swarm, but soon found out they were working on the white-oak tree. To make sure of the matter, I climbed up in a tree and watched them alighting on the little acorns. I secured some of them, and found the sweet liquid oozing out of them. They reminded me of the gum blossoms, the honey standing in little drops. But this tree must be different from Texas oak.

Flat Ridge, O., Dec. 7, 1881.

A. H. DUFF.

BEE-KEEPERS' CONVENTIONS.

I have been reading the journals very closely, and I notice that there is a great interest being taken in the bee-keepers' conventions throughout the United States. I notice that Michigan has six associations; and if Michigan can have six, it looks as if Indiana could afford to have one; and I think that it would get the bee-keepers acquainted with each other, and enable them to discuss the best method of handling and wintering our little pets, and getting them as strong as possible by the time the honey crop comes. I would like to hear from the rest of the bee-keepers of Indiana and other States, for I think we can have a convention that will be interesting and beneficial to all who attend. Mr. Root, I would like to hear from you on this subject, and would like to know if you will help us all you can in trying to get up this convention. Bee-keepers of Indiana, let us all try to see if we can get this association started, and have a meeting this next spring. Let us hear from all who are interested in the welfare of bees, through GLEANINGS or any other journal.

GEORGE W. BAKER.

Lewisville, Ind., Dec. 8, 1881.

I will gladly do all I can, friend B., consistent with the best interests of our large circle of readers, for I am well convinced that conventions, like the one I have recently attended, will be productive of much good. Please bear in mind, that we wish to have these pages filled with matter of general interest to all its readers, as much as possible, and that it would hardly be fair to take much space for any thing of interest to any one special locality. We mean to announce all conventions; but please bear in mind, that for reasons above given, we can not give very much space to each.

FROM BLASTED HOPES TO SMILERY.

I am not a new subscriber to your magazine; my time ran out last spring, and I thought my bees were going too. I put 16 swarms into the cellar after a two-week's zero freeze, and came out in the spring with 9, and felt quite discouraged; but God in his goodness has increased them to 21, and gave us (I should say *us* instead of *me*, for my wife is a worker in the apiary with me) 585 lbs. of honey, mostly in 1-lb. sections, and have sold most of it at 17 and 20 cts. per lb. We have missed GLEANINGS very much.

Waupaca, Wis., Dec., 1881.

J. B. GREEN.

FRIEND HAYHURST'S "TIN-PAIL STORY."

The consignment of pint pails that you refer to on page 578, Dec. GLEANINGS, was duly received, and they outsell any package I have ever used. The freight bill was \$1.81, making the total cost to me \$14.56 — just \$6.44 less than the lowest figures that I can get, in our city of nearly 100,000 inhabitants, for the same article; I begin to think that some of us fellows out here had better start a tin-shop. I thank

you from the bottom of my — boots for your prompt way of doing business, not only in shipping without delay, but in *always* acknowledging receipt of orders. Your style of packing is excellent; not one of the whole 300 pails was injured in transit. If we Kansas City folks get a good crop of honey next year, and do not have our tin-shop started, "John" will have a big stock of pails to make for us.

E. M. HAYHURST.

P. S. We (wife, babies, and self) are *wonderfully* pleased with the little pails.

E. M. H.

Kansas City, Mo., Dec. 15, 1881.

Bee Botany.

OR HONEY PLANTS TO BE NAMED.

CHAS. E. MCRAY, Canon City, Colorado, sends us a beautiful-looking blossom, which he describes as follows:—

It is in blossom all summer, and bees work on it almost as they do on mignonette.

Canon City, Colorado.

CHAS. E. MCRAY.

As it was beyond our experience, we sent it to Prof. Beal, who names it as follows:—

This is *Petalostemon macrostachyus*. I have had two other species sent in as bee-plants. It is nearly related to the clovers, and several of them are called prairie clovers.

W. J. BEAL.

Agricultural College, Lansing, Mich., Nov., 1881.

Ladies' Department.

THE following is credited to Mrs. Harrison, but as the scrap of paper I found it on told no more, I do not know how I shall be able to give credit any further. See if it does not sound like her.

Bee-keeping, although a laborious employment, demands no great outlay of strength at one time. It embraces the performance of many little items, which require skill and gentleness more than muscle. The hand of woman from nature, habit, and education, has acquired an ease of motion which is agreeable to the sensibilities of bees, and her breath is seldom offensive to their olfactories by reason of tobacco or beer.

Women have demonstrated that the making of hives and surplus boxes is no objection, as they have purchased them in the flat, nailed, and painted them. The hiving of swarms is neither more difficult nor dangerous than the washing of windows or milking. The right time to extract honey, or to put on, or take off surplus boxes, requires no more tact or skill to determine than the proper fermentation of bread, or the right temperature of the oven required for baking. She is in her allotted sphere while raising queens and nursing weak colonies, or caring for the honey when off the hive.

The most powerful argument in view of the suitability of bee-keeping for women is this: that it is something she can do at home, and not interfere with her domestic duties. Many women of small means have young children depending upon their exertions for support, and remunerative work to be performed at home brings very little in the market of to-day: for instance, the making of overalls at

five cents a pair, and shirts at 50 cents per dozen. She is compelled to accept less pay than men for the same service performed. We had a friend, chosen as principal of a school on account of her efficiency, but she was compelled to accept lower wages than her predecessor, who was a man, and dismissed for his incompetency. But we have never found a dealer unscrupulous enough to offer less for a pound of honey because it was produced by a woman.

HOW SOME YOUNG LADIES KEPT BEES — AND DIDN'T KEEP THEM.

DEAR GLEANINGS:— I thought you would like to hear about bee matters from this part of the Union, and so I will attempt to make a report that I hope will be of some interest to you and your readers. My two sisters and myself formed, last year, under the guidance of an old and tried friend, and scientific apiarist, a co-operative apiary association to carry on bee culture on our father's farm, adjoining the famous Bonaventure Cemetery. We had wintered three colonies on the summer stand without the least protection — not even a honey-board, and did not lose a single colony, nor did we perceive much dwindling; although we had the severest winter known for forty years. So you see the question of wintering, that is so extensively discussed in the bee papers, does not puzzle us here at all. Last spring we divided each of our three colonies into three, and with some nuclei given us by a friend, we attempted to build up fifteen or sixteen good colonies. After the unusually severe and protracted winter, spring vegetation came on rather late, but with a rush. The sudden abundance of forage seemed to demoralize our bees; they were taken with a swarming rage that nothing could control. Cutting out the queen-cells did not produce the least effect; and even the weakest colonies could not resist the swarming impetus.

After the turmoil was over, we found ourselves the possessors of 17, more or less, weak colonies, which we hoped to be able to build up into strong colonies for the fall crop. But we reckoned without the host. First we were invaded by foul brood, which destroyed two colonies before we could stay the pestilence by freely spraying with thymole; then came the long drought, lasting nearly five months, and proving to us as destructive as the last winter was to the Northern bee-keepers. In consequence, we could build up and retain only six colonies, and did not get a pound of surplus honey. And still we fared better than many a bee-keeper in these parts; for many lost their entire stock. But we do not feel discouraged, for we know that this was an extraordinary year, and that we will soon be able to recuperate, so do not put us into the Growlery. I think young women have no business, anyhow, to go into the Growlery, for they ought always to be of a hopeful and cheerful mood. At any rate I try always to preserve that. Hoping that I may be able to send you a more favorable report next year, I am

Yours truly,—

T. LA DORA MILLER.

Savannah, Ga., Nov. 22, 1881.

I most emphatically agree with your closing sentiment, my friend; for if the young ladies should take to growling, where in the world should we all land? By the way, where was that "scientific apiarist," all the time during the drought? Couldn't he send or give you a little sugar, or something to keep your bees from starving? In some re-

spects, a severe drought is just the nicest time in the world to rear bees and queens. Neighbor H. once said something, to the effect that he would be glad when the honey season was over, or he could get along a great deal better by feeding, than he could when the honey came in so fast as to be cramming the queens for room all the time. Never let bees die, simply because of a drought, girls; and when you can't find anybody else to loan you the money to buy sugar, write to your Uncle Amos. The "Co-operative Apiary Association" would be good for it, would they not?

Notes and Queries.

I HAVE 400 lbs. extracted and box honey my bees gathered for me this summer, which brought me over \$500, all cash in hand. An advertisement in GLEANINGS brought me the customers. Bees all in good shape; 68 in cellar, 80 on summer stands, with quilt, trodden flax straw, hives wind and water tight, and all for winter protection for bees.

J. B. MURRAY.

Ada, O., Dec. 12, 1881.

I have 245 lbs. of box honey from 6 swarms in the year.

JAS. P. BURDICK.

Glen's Falls, Warren Co., N. Y., Nov., 1881.

NO WATER NEEDED IN WET WEATHER.

Queen received on 14th, O. K. Thanks for teaching me that bees don't need water in wet weather; also for promptness.

I. L. VAN ZANDT.

Dido, Texas, Nov. 16, 1881.

I say amen to all the square men. The Lord help us to hold the light up by precept and example, and encourage all we can to take a higher stand in business as well as morals.

W. STANARD.

Bear Grove, Iowa, Nov. 8, 1881.

My bees have not done very well this season. I have sold 400 lbs. of honey from 7 hives, at 25 c. per lb. Owing to the severe drought this fall, my bees did not hold their own, and I had to feed some in order to put them in good condition for winter.

Bethel, Conn., Dec. 5, 1881.

S. H. HICKOK.

ONLY ONE MISSED IN EIGHT YEARS.

December number of GLEANINGS has not made its appearance up to date. Will you please send again? This is the first number missing in about 8 years.

JOHN F. DIPMAN.

Fremont, Sandusky Co., O., Dec. 8, 1881.

I had 48 colonies of bees in the spring, and had them transferred into the Langstroth hives. We got 40 gallons of extracted honey; 100 lbs. of beeswax, and now we have our bees Italianized and all in good fix.

TOM YOUNG.

Spring Grove, Union Co., Ky., Oct. 25, 1881.

The bees did well this summer. One of my neighbors had 1400 lbs., ext., from 10 hives in the spring, and made 6 new ones. Mine were all dead but six. I increased to 24, very strong mostly, with 20 frames; I took away the upper 10 frames, and crowded the bees to the under 10 frames; extracted 200 lbs., and have 300 in combs for next year.

JAS. McLAY.

Madison, Wis., Oct. 20, 1881.

HILL'S DEVICE FOR WINTERING.

Please send me two of those things to put on the frames (Hill's device). I know it is nice, for I put some large spools in to hold the chaff cushions up in the middle, last winter; made candy after your recipe, and fed a small swarm, and they did nicely.

A. E. HARROWER.

Lawrenceville, Tioga Co., Pa., Nov. 28, 1881.

TELEPHONES TO TELL WHEN BEES ARE SWARMING.

I took down my telephone from the house to the shop, on account of the incessant thumping heard at each end by the bees. I thought it would be too bad if it served them as it did the pigeons which I so often see lying dead under our telegraph line here.

R. WILKIN.

San Buenaventura, Cal., Nov. 28, 1881.

FLORIDA.

Bees have been gathering steadily for the past eight weeks, some swarms having stored 30 lbs. of surplus in that time. There is every prospect of their continuing at it until Christmas, as the saw-palmetto berry crop is still to come when the present one is exhausted.

W. S. HART.

New Smyrna, Fla., Nov. 15, 1881.

UPS AND DOWS IN SCOTLAND.

I have got your A B C book, and think it is up to the times. I try the bees in a small way, but I have not got a *lick* of honey this season, as I had even to feed in the month of June to keep them from starving. I had a rare good "smile" last year, so can stand a little long face this, but don't mean to "growl."

THOS. EWART.

Landrick Castle, Doune, Perthshire, Scot'd, Nov., '81.

IN THE SUN OR OUT OF THE SUN, FOR WINTER.

I have a row of hives standing in the shade of a south building, and the sun will not shine on them till spring. All are on summer stands. Now, which will do better, move them to where the sun shines on them, or shade till spring?

MRS. D. A. DONNELLY.

Valmont, Colo., Nov. 24, 1881.

[This matter of shade in winter is an unsettled point; and, if I am correct, different winters would give different results. I would say, give us the sunshine. What has been the experience of others?]

AN APOLOGY.

The Southeastern Michigan Bee-Keepers' Association met the 15th. There was a small attendance, but a very interesting meeting was had. A little apology for not giving notice in GLEANINGS would be satisfactory to your subscribers, and relieve me from blame. New officers were chosen.

A. PRUDDEN, Ex-Pres.

Ann Arbor, Mich., Dec. 20, 1881.

[I do most humbly apologize, friend Prudden, and if you will tell me when you meet next, I will give you a notice that I hope will make all amends.]

HONEY-PAILS AND CANS.

I had some honey-cans made this year, and the party that made them put $\frac{1}{2}$ mouth-pieces to pour in and out of, and I assure you that it is annoying to pour honey out of them or in them. I had three 100-lb. cans, and two 6-gallon cans made. Can you manage to nest the large cans, say from 50 lbs. down to 1 gallon? or for what can you sell me 1 dozen 1-gallon cans and 1 dozen $\frac{1}{2}$ -gallon cans? Now, what

I wish, is enough different sizes so that when I extract I can fill the cans from the extractor, and in that way obviate the difficulty of drawing honey when I go to market, as it will be in suitable vessels to deliver to purchasers. Please let me know about freight and price at once, so I can order when I send for hives. I know that you advertise nests of cans such as Dadant uses, but I do not wish any thing under $\frac{1}{2}$ gallon, as I do not retail much under that size.

J. D. FOOSHE.

Coronaca, S. C., Nov. 30, 1881.

[I think, friend F., the tendency is, of late, to prefer covered pails instead of cans, for we then can nest them in shipping. Canded honey can be easily got out, and the pails are always wanted by the purchaser of the honey. Covered pails will be found on our counter list, from 1 pint to 1 $\frac{1}{2}$ gallons. We can furnish 5-gallon pails for 50 cents each, and 10-gallon pails for 75 cents each. For prices by the hundred, see lists. Freight will be very much less on nested pails, because they make a solid package, compared with covered pails all of one size.]

Blasted Hopes.

Or Letters from Those who have Made Bee Culture a Failure.

SEND you three dollars for three subscribers. I thought I could get a club of five by this time, but I have failed. The bee-keepers in this section think bees are a perfect failure, and those who write for the paper tell too many big stories about the amount of honey they get from a stock of bees. I am not discouraged yet quite, if the honey don't pour in by the barrel. I have twenty stands nicely tucked away in boxes, filled with chaff, to try my luck again this winter. But there is one thing that I have got disgusted with; that is transferring and fixing up my neighbors' bees, and then they will let them stand and never look after them till something goes wrong, no odds how much I tell them how to look to them, then somebody is to blame. I love to work with the bees, and have worked and handled them for three years, and taken and read two bee journals, so I think I know something about them.

T. M. PEARSON.

Tippecanoe City, O., Nov. 26, 1881.

That is right, friend P.; do not get discouraged, even if honey does not pour in by the barrel right away. God will send you the barrels full in his own good time, providing you do not get weary in well doing, nor get out of patience with your neighbors. I wonder if they will feel hurt if they should see this. If both you and they have a Christian spirit, they will not, assuredly; but on the contrary it will do them good to be told of what they must know is their own shortcomings. It just now occurs to me that this letter don't belong in Blasted Hopes after all.

TOBACCO COLUMN.

IN the first place, in regard to stopping Our Homes: I vote, "No, sir!" every time. I quit the use of tobacco after you offered to pay men out of your own pocket (you don't owe me any thing for

that), but I believe you'd better quit that. I think—yea, *I know*—that we have men who will lie and swear to it for less than the price of a smoker, because I know some who have been before the grand jury, and, under oath, lied from beginning to end. I have no father to take care of, but would gladly, if I had a father as good as you had. Mine died when I was a little boy. I am now 42. God will take care of you if you are obedient. X.

East Germantown, Wayne Co., Ind., Dec. 7, 1881.

Why, friend X., you astonish me by your apparent faith and trust in God, and then, almost in the same sentence, express such a woeful want of confidence in your fellow-man. Again, you object to the Tobacco Column, and yet, almost in the same breath, give us one of the strongest proofs of its power to do good we have ever had. If I understand you, my offer induced you to stop using tobacco, although I did not know of it, nor even think of its having that effect. Does it not seem that God blessed my feeble (and, as many of you think, *misdirected*) efforts, and that, too, in a way I had not thought of? Now once more: I do not believe that those who gave their promise here on these pages have, very many of them, been unfaithful. Two, at least, have come forward like men, and paid for the smokers, and I feel pretty sure the rest are holding the fort, like yourself, friend B. Is it not so, boys?

Friend Root:—There is a little idea some friend might be thankful for having his attention called to. It was just brought fresh to my mind whilst reading your Tobacco Column. It is the definition of sin. When an infidel, I used to often say, "Those religious fanatics who thought they were all the time committing sin, and were calling every one a sinner, might do so, but for my part, I acted out the nature God gave me, so he, if any one, not I, committed the sin," until one day the definition came before my mind: "A sinner is one who does either what he ought not to do, or leaves undone what he ought to do." How many of us are in many ways doing both these things? Then the truth flashed on me, that I was indeed a sinner, and must continue to be one until able to do, not what some one else thought right, but until my conscience was satisfied I had not failed in either particular. I quit tobacco when 15, because of an argument that came up in my mind whether it would do more harm than good in the world; and though at the time not admitting that it did me any particular harm or good, except a pleasurable animal gratification, the argument stood so plainly, that it probably did more harm than good, that my cigar was buried right there, to remain until I could get the arguments in favor of smoking. But 23 years of experience has not been able to change that decision, and now I ask the question of my professing Christian friends, "Will you not honestly argue the case in your own minds, and if you are satisfied that it is not to the glory of God that you use it, if, after examination you are satisfied you are doing or leaving undone, and thus committing sin, will you not put away the weed, and come with a clean mouth and conscience, to the Lord in prayer?" I have not a word here to say to those who do not believe, "Ye are the temples of God, and the Spirit of God dwelleth in you; who so desecrates the temple, God will destroy." How continually

should we examine all questions, to see if we are doing or leaving undone anything! Are we making the most of life, using even the body to the best advantage?

I. B. RUMFORD.

Bakersfield, Kern Co., Cal., Dec., 1881.

I see in your bee book that you will send a bee-smoker to any person who will quit using tobacco. I have quit chewing, after being a slave to the weed for over forty years; so if you will send one, and if I ever chew the stuff again, I will send you double the price of the smoker.

Bakersfield, Kern Co., Cal.

ASA FINLEY.

MR. MERRYBANKS AND HIS NEIGHBOR.

And the rain descended, and the floods came, and the winds blew, and beat upon that house, and it fell not; for it was founded upon a rock.—*MATT. 7:25.*

IT was the next week one morning, that John, as he woke up, heard the sound of rain on the roof. He looked out, and it was rain everywhere apparently; and as he met his mother, he remarked,—

"I guess pa won't work to-day anyway, because it rains so he can't."

"But I guess he will; and more than that, he has been at work some time." There was a pleasant twinkle in his mother's eye as she said this, and at the same time noted John's look of surprise as he looked over the small house and could see nothing of his father. Dear reader, did you ever see anybody sit down and complain they had nothing to do when you could see a dozen things that needed doing sadly? And did you ever notice other people of your acquaintance who were *always* busy, and who would find some work to do, even during the few minutes they were waiting for dinner, or at any other similar odd moment? I suspect the reason why some are so industrious, and others are not, is because some are more selfish than others. I here use the word "selfish" in a sense bordering close on laziness; a lazy person is always a selfish one, I believe, although a selfish person may not always be a lazy one, perhaps. Well, one whose heart is full, and fired by the sublime words of our Savior, that so stirred the heart of John's father, can not well be lazy or idle. I will repeat his favorite little text, for you may have forgotten it: "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength, and with all thy mind; and thy neighbor as thyself." Well, it was through this text that our friend had learned to love work, and to be happier, too, than he had ever before been in all his life, even though he was at the very time fighting against the cravings for tobacco. In fact, I am not really sure he was not happier for those cravings. Do you remember the lines of the little hymn?—

Soul, then know thy full salvation;
Rise o'er sin and fear and care;
Joy to find in every station
Something still to do or bear.

Well, after John had been sorely puzzled at the queer smile in his mother's face, he all at once thought he heard a strange sort of

scratching, or scraping. At first he thought it was overhead, but finally decided it was under the floor. His father could not well be under the floor, for there was not room for him, unless he lay down on his face, and crawled. He opened the door on the side opposite the storm, and looked under. There was his father, sure enough, scraping out a place in the dirt, so he could manage to sit up by bending low his head. John was soon under there too, by his side, and very soon, by the aid of the spade, shovel, and hoe, they could both work quite comfortably. It is true, the water started two or three times to run in on to them, from the rain; but by vigorously banking up the dirt it was kept away, and by breakfast time a place was made that would almost do to call a cellar. Did they enjoy it? To be sure, they did; and as John bowed his head while the father asked God's blessing on all the little household at their morning meal, I am sure every one of the four echoed his words from the bottom of their hearts, even though it was a damp and rainy morning. Before noon, John's father struck a rock which proved to be the same one found down by the new spring. The rock was at a depth that made it rather high for the cellar bottom, and John proposed they should split out pieces, and use them for a wall on which to support the building.

"But we are not masons, my boy, and we don't know how to cut stone and lay it up into a wall, even if we had a mason's tools."

"But, father, I know we can do it, if we only try hard; and we can do it rainy days, so it won't cost any thing."

"All right," said his father; "we will do our best at it."

With the spade, a place was cut into the rock, comparatively soft through dampness, right under the center of the house, and in this a post was set, that just drove under the main timber of the house, effectually preventing the tottering of the floor overhead, even if John should get excited and jump up and down at the success of their experiments. They soon found the hole in the rock filling with water.

"Why, father, it must be another spring."

"Very likely."

"Oh! I'll tell you! We will just make that drain in the rock, that runs up to the spring, come clear up into the cellar, and then the water won't do any hurt. Can we not do that, father?"

"I was just thinking of the same thing, John, and I think we can do it." It took a great deal of hard work, but it was done. More than that, a place was scooped out in the rock, for setting pans of milk, and there they had a nice little spring-house right in the cellar.

I suppose it will now be as good a time as any to tell you about the speckled trout.

You see, while Mr. Merrybanks was visiting some friends in Connecticut, he was so much taken up with the beauty of the speckled trout of the mountain streams, that he brought quite a lot of small ones home, and looking about for a place where they could have fresh spring water, he decided on the spot near to John's temperance hotel,

which you will see in the picture on page 563, Nov. No. A secure dam of stone was made across the brook, and in the center of the little pond thus formed was a tuft of aquatic plants and grasses,—a sort of little island in appearance. Of course, the children all took a very lively interest in the work, and when the beautiful little fishes were set at liberty, their admiration and joy hardly knew any bounds. The fish soon became quite tame, and would come up to be fed as readily as a lot of chickens, when no stranger was near; but at the first glimpse of a strange face they were off under the little island so quickly that no one would ever dream there were any fish at all in the little pond. However, if he came up and stood there a while, pretty soon, to his great surprise, he saw a beautiful fish in the water, where, a second before, there were none, as it came so suddenly and quietly he was half tempted to say it then and there for the first time sprung into existence. In this way, another and then another would all at once start into view, with a suddenness that would lead you to declare most positively they could not have swum out from the weeds in the center island. Well, as little fishes, like little bees, are always ripe for mischief or adventure, it was not long before they found their way through the subterranean passage, up into Mr. Jones's cellar, and merry times did the children have watching for them by lamplight, as they came trooping in one after the other, only to scud around the pans of milk a few times, and then hustle off down to the pond again, through the narrow way cut in the rock. Of course, everybody had to see the speckled trout, and so it transpired that all of Onionville, and some folks who didn't live there, came to see the sight, and were thereby induced to make purchases at John's "hotel." Of course, every one must have a drink out of the tin cup, and then pretty nearly every visitor had to take a cup home, just because—well, I really do not know why everybody had to buy one, unless it was because they looked so bright and clean; for John did not make them much faster than people wanted them.

Close beside the little trout pond was placed a gentle colony of Italian bees, and the sight of the pretty creatures, as they sported in front of the hive, which was nicely leveled up, and banked in front with white sand, was almost as great an attraction to visitors as the speckled trout. A path ran up to the barrel, where one could look in and see the sand still boiling up in the bottom, as the pure spring water came forth from the rock. On either side of this path, and, in fact, over the whole tract of ground that had been the slop-hole, John's father had sown turnips, and planted white beans, as these were the only two crops he knew of that would mature so late in the season. As this garden patch was so plainly in sight, it was kept very cleanly tilled; for, in fact, so pleasant a spot was it that the whole family were frequently out there with their hoes; and Nature, as if in gratitude for their care, smiled with a most luxuriant vegetation. Some way, some flowers got in along the border, and among them were a

few Spider plants and figworts that somehow strayed across from friend Merrybanks' premises, and the old slop-hole was truly transformed into a place that the children would have nicknamed the Garden of Eden had not John's mother reproved them.

"But, mother, is it not most beautiful?" said John.

"Yes, my boy, it is most beautiful: but you know the beauty did not come without most earnest, hard work."

"No, indeed, it did not, mother: but why did we not have it so last summer?"

The mother did not answer: but if we could have looked into her thoughts, I think the answer would have been, that, a year ago God and the Bible had not yet entered into their little household. The garden and little dooryard were not the only things that had changed, for now the whole family, including both John and Mary, were members of the little church just over the way, and not only had they helped some to pay the minister his salary, but a payment had been made on the old gray horse; and with the amount of work Mr. Jones had found to do with him, the prospect was fair that he would be entirely paid for in due time. All these changes had come in but little more than two months' time, since that eventful Saturday night.

As Onionville is a rather small place for very much trade in a certain line, John found he must make larger articles of tinware, to do very much of a business, and these would require expensive tools and machinery. Besides, the vacation was over, and he must go to school. John once did offer the suggestion, that he should attend to the hotel, in place of going to school; but a single look from his mother made him drop that idea.

"Is not our boy, with all his skill and ingenuity, to be also one of education and culture?"

"But, mother, I can work at the tinware nights and mornings and Saturdays, can I not?"

"Surely, my son, if you do not deprive yourself of the outdoor exercise schoolboys always need."

"And you will sell things to folks when they come after them, will you not?"

"To be sure, I will; and days when father does not find work he is going to make some things of wood that we hope may sell as well as the tinware."

"Oh! what things, mother?"

"Well, we do not exactly know yet, but perhaps, when you get home from school to-night, he may show you some of them."

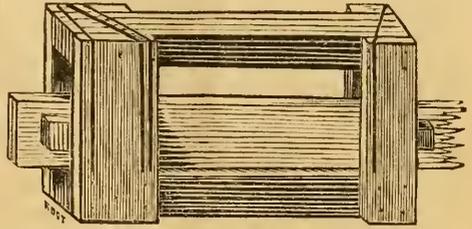
Sure enough, when John got home that night his father had quite a number of knife or nail boxes made up, just like the picture below:—



THE TEN-CENT KNIFE-BOX.

The boxes were made of $\frac{3}{4}$ basswood, that he purchased at a planing-mill near by, and

the cutting-up he did by means of a miter-box that he found described in some old volumes of GLEANINGS, that friend Merrybanks loaned him. Lest you have forgotten it, I give the picture again:—



OLDROYD'S MITER-BOX.

You see, he sawed the boards out to the right width, planed one edge, and placed these planed edges all exactly level. Then they were wedged in the miter-box, which had a cut to give exactly the right bevel and slant, and he could saw a tight joint as easily as he could cut a board square off. This made the sides and ends; and when he made the middle piece, that holds the handle, he clamped several boards together, cut the ends in the miter-box as before, and then, without loosening them, he bored three holes through all, where the hand-hole is, cut out the corners, and smoothed the oblong hole with sandpaper. Then the whole were firmly screwed in his vise, and the tops finished down to a pattern, with draw-knife, plane, and sandpaper. After the boxes were all nailed (except the bottom) they were turned over, and the lower edges dressed level; and then a $\frac{1}{4}$ -inch bottom was nailed on, so as to project a little on all sides, as you see. The trays, as he made them, were $8\frac{1}{2} \times 12$ at the top, and $10\frac{1}{2} \times 7$ at the bottom. The sides were $2\frac{1}{2}$ in. wide. John and Mary started out in high glee to sell them among their neighbors. John took six, and Mary four. John's father was a carpenter by trade, and knew how to do a nice job, and the pretty white basswood, so neatly sandpapered, seemed to captivate everybody's eye. "And only ten cents?" said the people curiously; "why, I am sure I can afford that trifling sum;" and before dark every box was sold, and people were coming to see if they had got any more of those "handy little boxes." Even the one that John's mother had got so tidily placed on end in the pantry, leaning back against the wall, with the forks on one side and the knives in the other, had to be emptied and given to a customer. Friend Jones had worked pretty hard, and got only \$1.10 for his day's work, and the lumber he had used had cost 22 cents; but still, he felt happy. This lot had been but an experiment, and he knew he could make twice as many the next day, having every thing all arranged as he had. He found it quite a saving to have John do the nailing, as he could, after a little practice, nail one in five minutes, right along.

One evening at supper, John's mother looked quite tired. Selling the cups, boxes, etc., aside from her other work, proved quite a task, and even her boy was kind enough to notice it, and put in a plea that she should

sit down for the evening and take a good rest. "But, my boy, who will do all the picking-up that has to be done, especially when two romping children have been all over the house after the confinement of all day in school?"

"Do Mary and I scatter things, mother?"

"Oh! I guess not, more than other children do, of your ages." A tear was in her eye as she spoke, for her boy's solicitude had touched her.

"Mother, if we put every thing away that we touch or handle, would it help you very much?"

"I think it would, my boy."

"But," chimed in Mary, "we don't know where to put the things, as mother does."

Here, somewhat to the astonishment of all, the father put in, "Can't I help too?"

Was this really another answer to prayer? thought the mother. She had been sorely troubled about the disorderly ways of her little family; and, if the truth must be told, she had many times been tempted to be cross and fretful at the very thoughtless way in which mud had been tracked in on the floors she had just been at so much pains to sweep and clean. Almost, as a last resort, she had of late been taking these troubles to her Savior, and now, without her having said a word, in some strange way the whole of them were getting zealous about a reform in this very matter.

The Lord is my shepherd; I shall not want.—PSALM 23:1.

Has any one ever yet sounded the depths of those words?

"All right, father; you help us, and I know we can make it easier for mother. What shall we do first?"

Mary supplied the needed information quite promptly by saying, "Hang up your hat! there it lies on the floor, right behind you."

John whirled around in his chair, almost in surprise, but presently recovered, and said, a little shyly, "Well, father's hat is on the floor too," as if that were a sufficient reason why his should be cast right on the floor the minute he came in.

"Why, is *my* hat on the floor? I am *sure* I hung it up as I came in."

"You *did* hang it up," said the mother, "but it dropped from the nail almost as soon as you turned away."

"Well, now, I will tell you one of our rules," said the father. "Not only are we all to hang our things up, but we are to do it carefully, and see that they *stay* hung up."

"Father, would it not be a good idea to have all the hats and bonnets hung in one particular place, and have something to hold them, from which they would not slip off; then everybody would know just where to put them, and we would never need to hunt to see where we hung our hats when —"

"The bees are swarming?" suggested Mary.

"An excellent suggestion, my boy; and now I will go down to the barn, and see if I can not make a hat-rack."

It was here evident to the mother (who could catch almost the thought of the children from their faces), that Mary had some-

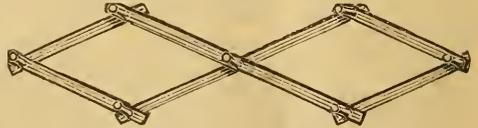
thing to say, so she begged that she might have a hearing.

"It was only this," said Mary; "that if we are going to be so fine as to have a hat-rack in our house, we had better all be very careful to wipe the mud from our feet more than we do, before we come into our nice home."

This sally occasioned a hearty laugh all round, and John began teasing her, and pulling her around so much at the idea of a "fine home," that he was in great danger of making his mother more work in the way of mending dresses, etc.; but his father stopped him.

"John, Mary is right, and we will have a foot-scraper and mat, as well as a hat-rack. Now let us go quietly and orderly to work, all of us, to 'help mother.'"

Down in the barn, near the work-bench, was an old unused turning-lathe; but of late, John's father had rigged it up and fitted in it a little circular saw that he borrowed of friend Merrybanks. He found this helped him quite materially in making the knife-boxes. Well, with the lathe and buzz-saw he soon had the hat-rack made you see here below:—



THE FIVE-CENT HAT-RACK.

The turned pins for the above were 2 inches long and $\frac{3}{8}$ inch in diameter. The strips were long enough to permit the pins to stand 8 inches apart, from center to center, and of stuff sawed with the buzz-saw, $\frac{3}{8}$ wide by 3-16 thick. Friend Jones has decided that he can make them of black-walnut, and even then sell them for the small sum of 5 cents. He probably will not get so rich at the business as to get proud, but it will keep him from idleness and temptation, and give him much happiness, which, you know, even money often fails to buy. Just here Mary caught sight of John making some strange motions out on the grass.

"O mother! just see John cleaning his feet."

"As he came in he walked up to his mother, 'There, mother, aren't they clean now?'"

"Yes, my boy, very clean."

With mock gravity he goes up and places his hat carefully on the hat-rack. Although there were seven pins in it, they were all full but one. He came back and sat down by his mother, and she reached over for her little Bible, where it lay on the stand, and opening it, read,—

And the rain descended, and the floods came, and the winds blew, and beat upon that house, and it fell not; for it was founded upon a rock.

He thought awhile, and then, pointing down to his clean shoes, and up at the hat-rack, said,—

"Mother, do you think such work is 'building on the rock,' where mothers are so tired and have to work so hard?"

"I think it is, my boy."

Reader, what do you think?

Our Homes.

Howbeit Jesus suffered him not, but saith unto him, Go home to thy friends, and tell how great things the Lord hath done for thee, and hath had compassion on thee.—MARK 5: 19.

HOME, THE CHRISTIANIZER OF THE COMMUNITY.

THE story was recently told of a company of poor children who were taken by the hand of charity from the filth and confinement of their city haunts into the open country. Among their number was a little fellow who had never been beyond the shadows of the great city. The children were taken by train to a huge farm-house. This little fellow was especially astonished at his surroundings. Pure air filled the lungs that had been accustomed to the fetid atmosphere of cellar or garret. Bright sunshine played on hillside, or stole through dancing leaves upon soft grass. Instead of the black smoke which hung like a pall over the narrow street of the city in which he lived, white fleecy clouds floated high above his head in a great sea of blue. Flowers everywhere. He could not walk but he stepped on them; and no one scolded him if he did. No one but such a poor half-starved little waif could understand what the first sight of green fields means; what the first breath of pure air means; what the beauty of cloud-flecked sky, or mottled shadows of leaves; what all the beauties of nature are. At an early hour the bell sounded for breakfast. The little fellow was placed at the table, and ate, and ate. When capacity rather than appetite was satisfied, he went out again to look at the wonders of earth and sky. In due time the dinner-bell sounded, and he went in to another full meal. He was greatly surprised when they called him to supper. He had never heard of three meals a day before. After supper the tired little mortal was put into a soft bed. As the nurse was leaving the room she heard him call to one of the older boys, —

"Jemmie! I say, Jemmie! if they sets out that 'ere table again to-night, you just wake me up; do you hear?"

He had gotten one brief glimpse into that which most boys enjoy to the full every day—a comfortable home. The long year must drag on and find him day after day in the filth and starvation of his city haunts. He will probably grow up to lie and swear and steal. It may be that blacker crimes than these will follow the education which the city is giving him. The question is often asked, "Where do our criminal classes come from?" We generally answer by referring to the hosts that are pouring into our country by emigration. But this is only half a truth. We are also educating criminals. Look over the criminal lists of any city paper, and you will find that a large proportion is made up of children. From a few papers recently read, the following results were gathered: Arrests for dissolute conduct, 10 girls, all under 17, and 5 boys under 14; theft, 10 girls, under 17, and 3 boys, under 15—one little fellow only five; drunkenness, 12 boys, under 14; pickpockets, 2 boys, one 16 and one 13; highway robbery, 3 boys, 16 each; burglary, 13 boys and girls, under 18; murder, 6 boys, under 18, three of them only 12. How may this stream of corrupt men and women be stopped? We can not dam it up with workhouses and penitentiaries. A bad man is still a bad man, although confined. We can not turn

this stream from its channels by asylums or hospitals. It can be stopped only by purifying the fountain; viz., the homes of these outcast boys and girls. Sound lungs can not be secured by a week's pure country air and fifty-one weeks of poisonous breath from cellar or sink-hole. Sound morals can never be secured by one day in Sunday-school and six days in the school of vice, of which the parents are teachers. This is no new doctrine. It is the principle on which Christian philanthropy acts. Asylums, hospitals, schools, and Christian services, are of little permanent good, as long as the homes of these classes are the schools of crime. I have referred to this extreme case to bring out this thought; viz., the value of the home as a Christianizer of the community.

1. We sustain three distinct relations to each other: Individual relation, family relation, and social relation. By individual relation is meant those associations which have little reference to family or society, except remotely. The relations of trade in this sense, are individual relations. Goods are bought and sold, with little reference to a man's family or social position. Social relations are those which grow out of the common needs of many. Public schools come from the recognition of the community of a common social want—education for children. Government is only society organized under law. Distinct from these is the family relation. It is peculiar in several respects. Other relations are, in the main, voluntary: those of the family are enforced. Duties come from the accident of birth, which can not be escaped. These family relations also affect us more powerfully than both the others combined. It follows, that each member of a community has more real interest in his neighbor's home than in all else that pertains to him except his moral character. We are speaking of home in relation to the community. There is power in this close organization, which would not exist were the members isolated individuals. A well-organized regiment is much more efficient than a thousand men fighting at random. Law throws its safeguards around the home for the sake of society. The home, although the product of Christian civilization, is also a gigantic factor in the progress of that civilization. To some extent, society has a right to say what shall and what shall not be, in each home in the community.

2. The power of the home as a Christianizer is the thought presented in this text. The best service this new convert could render the Master was in returning to his home and telling there the wonderful story of his deliverance. This was Christ's way of reaching one of the worst communities in which he ever preached, through one Christian man, and he was to begin at home. We notice, in the Savior's instructions, that he was to go home. He had been hiding himself in the filthy caves in which the dead were buried. Men often now-a-days hide themselves in a saloon, or some other vile den, when the Devil gets hold of them. Even Christians occasionally have the mistaken idea, that that work which is done outside of home is the most acceptable to God. I do not believe that any work will be of great permanent value to the community, which is rendered at the neglect of home religion. A neighbor's children will not probably be converted through the labors of a man who neglects his own. Filial love is God's own golden chain which he has put into our hand to draw our children to Christ. Would he say to any

of us, if, in enthusiastic love, we leaped down into the boat beside him and sought to go with him to other and strange fields of labor, "Go home to thy friends, and tell them how great things the Lord hath done for thee"? For one, I have little hope for the Christian work in any community that follows public exhortation with fretfulness and impatience at home. How shall we save our boys from the saloons? By making home so bright and cheerful and Christian, that they do not want to go. Does this method sometimes fail? The *opposite* method almost always fails. There should be hours of each day, and days of each year, sacred to home and children. This is possible in the busiest lives.

But this man was not only to go home, but he was to go home clean. Absolute purity is another precious stone which must be put into the foundation of any home which proves a Christianizer to the community. The Devil must be kept out or cast out of father and mother, or he will be pretty sure to get into the children. This man did not go home, raving as he came out of the tombs, nor surly and sour: conversion had cleansed him from these vices.

Why is it that so many men are gentlemen on our streets, and surly grumblers at home? Why is it that so many women are ladies in society, but fretful complainers at home? Why are so many boys and girls respectful to teachers and friends, and so seldom truly courteous to father and mother? Is it because we all forget so often, that the most efficient way to save the community and world to Christ is by doing our utmost to save those whom God has especially committed to our care in our homes? Every man, every woman, every child, is a preacher. Each one preaches a daily sermon to the congregation of home. That sermon should have for its text, *Love*; for its introduction, *Love*; for its proposition, *Love*; for its application, *Love*. Such a sermon needs no music of choir to impress its truth; no sounding bell beneath gilded dome need call worshipers to listen. The first church which God ever planted was—a home. The church in which God's Son preached for thirty years was home. The church to which Christ sent this first missionary among the Gadarenes was *home*. The church in which you and I preach with surer results than from pulpit or prayer-meeting or street, is home, home, home. If your life is pure from every stain, that sermon will tell; if it is impure, bitter, careless, or fretful, probably no amount of outside work will balance the evil of that daily sermon.

This man went home. He went home clean, and, lastly, he went home reverent. "Tell them how great things the Lord hath done for thee." Reverence was to be a mark of this change in his life. The lack of reverence is one of the great dangers to our nation. We sometimes attribute this lack of reverence to the influence of Young America; but, my friends, Old America is also to blame for it. Flippant disregard for those things which are held sacred by good men and women is ruinous to the young. It matters not what a man's belief may be, if he has any real interest in the purity of the young, he will treat with respect that which is held sacred by the virtuous. Any home which proves itself a Christianizer must have its corner-stone laid in veneration. Any thing that destroys this in the young, tends to ruin the home, and to overthrow one of the most potent forces for the civilization of the world. This poor restored demoniac told at home the simple story of his healing and conver-

sion. What was the result? Still keeping to the simple story of Christ's restoring power, with reverent love he published in all Decapolis how great things the Lord had done for him. The story spread. Other hearts felt its power. It found its way into other homes until, through that whole region, men marveled at the wonderful deliverance. All this the result of telling the simple story of one's own conversion, beginning with those of his own home.

My friends, is the religion of our Lord promoted by the influence of each Christian home in our community? Is every Christian family an organized force for bringing Christ to other hearts? Is it possible that Christ might say to some of us who, in mistaken zeal, are forgetting these duties, and following him in more public places, "Go home to thy friends, and tell them how great things the Lord hath done for thee, and hath had compassion on thee"? The only hope which I have that Christian work will be carried on permanently in any community comes in connection with Christian homes. Every Christian home has its family altar. What a power these are in the community! It has its sympathies and sorrows. How these open the heart for Christian work! It has its guests, frequently not Christians. What opportunities for exhibiting before them the influence of Christ over hearts in every-day life! Who can begin to measure the influence of truly godly homes in Christianizing a community? The entire influence of this newly converted man would probably have been lost had he regretfully refused to begin his humble Christian work at home.

I suppose you have found out, dear friends, that the above was from another pen than my own, ere this. It is a sermon I begged from the dear friend who points out to us here in Medina the way of everlasting life each Sabbath. It was so emphatically a *home* sermon, I begged it for Our Homes. If it has gone home, in its mission, into your hearts and homes, thank God for such an earnest worker as the Reverend C. J. Ryder. Well, there comes most opportunely just now a word on the same subject, away from the Pacific Coast. Many of you know already our friend who writes it. There is a little patch of alfalfa right close to our building that makes such a vigorous growth every time we mow the tops off. I can well feel the force of his powerful illustration there. Listen:—

MORAL REFORM, AND THE DANCE-HOUSES.

Editor Kern County Republican:—SIR,—I am glad to see by your issue of the 19th ultimo, that the people have formed a Moral Reform Association; for it is, of all things, the one most needed. But the operations of such associations in years gone by have not been nearly so efficient as we might desire; they have, in fact, been notoriously deficient in saving society from the effects of immorality, else we would have much more improvement to-day; and, as one citizen interested in the consummation of moral reform, I would beg the privilege of calling attention to the fact that nothing comes without a cause; no tree, of good or evil, springs up without the seed and conditions. Therefore, as the Association has been formed because of (and erected its batteries against) the dance-houses, I would ask: Will it not be best—yes, imperatively necessary, in order to insure success—to look to the cause, to go to the root of the matter? Constant mowing may reduce the number of blossoms in an alfalfa field, but it will not eradicate the trouble. You will continue to have crop after crop, of hay and blossoms, to take off so long as you keep the roots there, and supply them with necessary nourishment. Now, is not the community dq-

ing this very thing — furnishing seed and vitality to this upas-tree of evil? "How is this being done?" do you say? I will answer by asking the question, Who are the individuals who make the demand for these dens of vice? Are they not the growing and grown-up children of the community? and is it not because they have a social nature which is not suppressed at home, or turned into scientific or religious channels, that they visit and sustain these places? That the young go astray is generally the fault of the parents. They live in an improper manner, violating natural and moral laws, and their children inherit vitiated moral natures, aggravated by stimulating food, and tea, coffee, tobacco, and whisky. There are other causes, but these are the prominent ones. By your raids and imprisonments you may, for a little time, drive this evil into a dark corner, or cause it to assume some new form; but, so long as children are born of parents who do not live for the glory of God, the world will be filled with men and women devoted to the cause of vice and depravity. And I can not blame these poor, unfortunate persons. They are not to blame for the faults of their progenitors' bad examples, and the vicious education of their minds and bodies. Not having been taught better, or brought up with any real abhorrence of vice, they seek — in the best way, as it seems to them — to get the most enjoyment out of life, or secure a living. If we do the same in a better way, it is because we have superior ability or advantages of some kind. Jesus said: "Let any one among you who is without sin, cast the first stone." That is, first begin to enforce the law. Was it bad advice? If one without sin was found, would he not find more efficient means of overcoming the evil? Did not Jesus show a better way? That "the prayers of the righteous avail much, but the prayers of the wicked are an abomination to the Lord," is probably as true to-day as ever. Therefore, would it not be best to make an interior examination, and see if the Lord has prepared us for the work of reform. There can be no reform, unless it begins at home. Let this sink deep into your minds, my friends, and see if it is not truth; and if so, go to work in good earnest to reform the world; to save the young people; to save, as far as possible, the Magdalens, by first beginning to reform at home — to pray, to work, to live for the glory of God to be made manifest again upon earth. If you do this, the churches will be full, not only of your children, but of the purified and redeemed from these very dance-houses that are a curse to-day.

Oh for one pure spirit,
One heaven-inspired heart,
The love of God breathing in it,
And forming of it a part!
With this as a power and lever,
The light of the world would increase,
And the light of God's own wisdom
Bring, to the soul-sick, peace.
Give, O Lord! this blessing,
And make us feel its power;
For thy love is all we need,
To save in this dying hour.

Bakersfield, Cal., Nov. 28, 1881. I. B. RUMFORD.

SHALL EDITORS BE HELD RESPONSIBLE FOR THE CHARACTER OF THEIR ADVERTISEMENTS?

SOME PRACTICAL EXAMPLES IN THE MATTER.

AS the excitement on this point has subsided a little, I presume it will be safe to have a little friendly talk in regard to the matter. Last month I gave you the statement the *Sunday-School Times* makes weekly to its subscribers, and below is an extract from a bright spicy little sheet, the *Philadelphia Farm Journal*. If it is a free advertisement for them, they deserve it, and I would advise you all to send for a sample copy:—

OUR BUSINESS METHOD.

The *Farm Journal* offers no premiums, gives no chromos, puts no swindles, inserts no hanging advertisements, and does not devote one-half its space to telling how good the other half is. It is published monthly, and is furnished to subscribers at 50 cents a year, postage prepaid, cash in advance. At the expiration of the year the paper is stopped, unless renewed.

FAIR PLAY.

We believe, through careful inquiry, that all advertisements in this paper are signed by trustworthy persons, and to prove our faith by works, we will make good to subscribers any loss sustained by trusting advertisers who prove to be deliberate swindlers. Names shall not ply their trade at the expense of our readers, who are our friends, through the medium of these columns. Let this be understood by everybody now and henceforth.

In the above, they have expressed exactly what I wish and intend to do for my readers. If I am correct, I have never yet been entrapped into receiving the advertisement of any one who was a "deliberate swindler." I did not expect, when I started out, to come off scot free, nor do I now; nor did I expect to be called upon to pay the debts of one of our number who should fail in business. The *Sunday-School Times* has again, it seems, been careless, as you will see from the editorial below, taken from their issue of Dec. 17:—

It is not an easy matter to keep such an oversight of the advertising columns of a paper as to guard against the admission of false statements intended to deceive the readers to their injury; but it is none the less a duty because a difficult one. The truer test of the character and spirit of the managers of any religious paper is what they will consent to put into their columns if they are paid for it, rather than what they will put in without pay, or which they will pay to have put in. The advertising columns of a paper are the best measure of its purity and of its integrity. Yet the most cautious managers are sometimes deceived; and when they are, they ought to bear the loss. Those who receive money for publishing false statements, rather than those who are misled by them, are the parties to make good the amount lost by the transaction. Here is a new illustration in our own experience. The advertisement of "Ozone," which has for a few weeks appeared in our advertising columns, was not admitted until after satisfactory correspondence concerning it with gentlemen in prominent official position in Cincinnati, to whom the advertisers referred. Those gentlemen certified favorably, to the publisher, concerning the preserving qualities of ozone, and the good standing of those advertising it. But subsequent personal examination has convinced the publisher that some of the declarations in the advertisement are unqualifiedly false, and that, however good ozone may be as a preserver, the statements of its Cincinnati advertisers concerning it are not worthy of confidence. Ozone as now advertised can not keep their reputation from tainting. Although a city official is treasurer of the concern, and other prominent gentlemen have allowed their names to be used as references, it is believed that no one of these would knowingly countenance the concern's deceptive statements. The advertisement has been shut out from our columns, and we advise our readers to let the Prentiss Preserving Company alone. Moreover, if any subscribers to *The Sunday-School Times* have been led to purchase sample packages by misstatements as to the profits of other parties through handling ozone, and are dissatisfied with the result, our publisher will, upon their application, refund to them the money they have paid out for such packages.

Now, friends, is it not a fact, that any paper taking such a position as that should be encouraged? Let us give them a rousing big club. I will at once send them an advertisement, to do what I can. Now in regard to the ozone. See:—

Mr. Root:—Inclosed I send you an advertisement I cut from the *Western Agriculturist* for your indorsement, if you know any thing of ozone. If I can learn of its being as recommended, I will invest every dollar I can raise next spring in eggs at 6, 8, or 10 cents, and pack them till January, 1883. What think you of it? Please answer through GLEANINGS.

J. P. WATT.

Duck Creek, Mercer Co., Ill., Dec. 12, 1881.

I presume our readers know how extensively this ozone advertisement has been re-

ceived. Well, I wish to call your attention to just one clause in it at the end:—

A fortune awaits any man who secures control of ozone in any township or county. The most valuable article in the world. The \$2 you invest in a test package will surely lead you to secure a township or county, and then your way is absolutely clear to make from \$2000 to \$10,000 a year.

You can safely set down any man as a swindler, who makes any such offer or statement, verbally or by advertisement. Now, friends, how would you feel toward the editor of your family paper, who, after he had inserted "ozone," for which he received a good round sum of money, should coolly tell you that everybody must look out for bogus advertisements themselves, and in actions, if not words, should say that he was in no way responsible for the money you had lost?

LETTER FROM SCOTLAND.

SOMETHING ABOUT BEES THAT WON'T RAISE A QUEEN.

DEAR SIR:—I beg to send you our subscription to GLEANINGS for another year, and to say that we consider it the most valuable, and, at the same time, the cheapest treatise on the subject of apiculture that we have ever had the pleasure of perusing. I do not mean to make any exception of the A B C, because of it I consider GLEANINGS to be part and parcel. Apiculture is not in Scotland the branch of industry that it might or should be; but I am very glad to inform you that GLEANINGS and the A B C have commenced a work that will revolutionize the whole subject at no distant date. Till lately, bees hereabout received little or no attention—no expenditure was incurred on their account, and if they did well, their owner was benefited; if not, he had no loss, and the bees were the worse for it themselves. People are now beginning to open their eyes, and wonder how they could have ever kept them closed so long.

As a rule, our seasons are poor and short; but this is partially compensated by a higher price for our produce. The past season has been a very bad one, and honey in every shape is dear; 1-lb. sections are being sold to consumers at about 3 shillings each.

I wish the vexed questions about wintering were settled; but, as far as I can gather, we are no nearer the solution of the problem at the end of this year than we were at the beginning of it. I do not see that your contributors have proved that queens reared artificially are inferior in any way to those reared "under the swarming impulse."

Apiaries were devastated in our country by hundreds last winter, where queens of the former description were never heard of. My own impression is, that bees in actual want of a queen would treat the larvæ far more tenderly than those rearing one against the possible contingency of swarming.

Neither can I indorse your ideas about ventilation. The weakest hive that I had last winter was a third swarm in a straw skep that I purchased. When taken off the railway it weighed 18 lbs., including hive, bees, honey, floor, bag that it was in, and rope, etc. I put the skep in a wooden box $\frac{3}{4}$ inches thick, made a tunnel from the outside of the box to the inside of the hive, allowing ingress and egress of one bee at a time; packed the box full of straw, and nailed on the lid, in which there was a half-inch ven-

tilation-hole. There might have been four inches of straw above and around the hive inside the box. When I took out that hive in the spring I found only 5 dead bees—one of them being a queen. They were black bees. This hive proved the most valuable in my apiary. My others are Simplificity, double-walled (each wall $\frac{1}{4}$ in. thick), with $\frac{1}{4}$ in. dead-air space between. A chaff cushion 4 in. thick, made of sack-cloth, goes on the top of the duck, and entrances are all contracted so as to allow passage of one bee at a time. All came through satisfactorily. Now, alongside of this a neighbor keeps his bees in straw skeps with no protection, and entrances of the usual size. His also came through satisfactorily, and swarmed early. Now, what do you make of that? Simply what has been remarked often in GLEANINGS, that sometimes protection seems to succeed, and at other times success is achieved without protection.

There is another thing I wish to notice. It seems to be assumed in GLEANINGS and in the A B C, that if brood of the right stage is given to a queenless colony, it invariably commences to raise a queen. Now, that I can't agree to. This spring I got an imported Italian queen, and when the swarming season arrived I intended to Italianize. One fine day I moved one of my best hives from its stand, and put one full of combs in its place. Next day I gave the bees about 2 square inches of Italian brood. This the bees fed, sealed up, and hatched out, producing all workers, and they did not attempt a queen-cell at all. A week after, I gave them a whole frame of Italian brood in all stages, from the egg upward. This was all hatched out too, and no queen-cell was ever started. The colony was beginning to decrease in numbers, so about ten days after this I gave it two frames of black brood in all stages, all of which was hatched out, and the bees never made an effort to supply themselves with a queen. I even put a newly laid egg into an old queen-cell that happened to be on one frame, but the bees threw out the egg at once. They gathered honey and pollen enough, defended themselves from robbers, and nothing unusual was observed in their conduct. All this, you will say, is the result of the presence of a fertile worker. But, no! Not a single egg was ever laid; and when the brood I gave the colony was hatched out, none remained. The bees did not seem to mind the loss of a queen, but went on with the pollen and honey gathering. I could not have been deceived by honey being stored above the eggs or brood, as I used the extractor freely, and was very thorough in my investigation. The result was, I did not Italianize; but after that colony had remained about three weeks with no brood, I gave it a black queen I got from a neighbor, which they gave a right loyal welcome to. Next day I saw her attending to her duties, and she reigns supreme in the hive to-day. If nothing similar to this has ever cropped up before, it is very strange. I confess the like never occurred in my own experience, and I can not account for it in any way, though I can prove it to be true.

JOHN H. FRASER.

The School House, Dyce, Aberdeenshire, Scotland, Dec. 5, 1881.

Many thanks for your kind and cheering words, friend Fraser, and I am very glad indeed to know that your people are being waked up in our favorite industry. Perhaps the A B C should state, if it does not, that once in a while we find a colony that will

not rear a queen like the one you mention, although I confess I have never met one that so persistently refused to start cells. While reading your account, I was at first satisfied that the hive had some sort of a wingless or imperfect queen; but after you said they received the black queen, I was rather inclined to give up that position; but still, they may have had such a queen, and, finding her "no good," gladly took up with a fertile queen when presented to them. Cases like yours are so rare I hardly think we should consider them to spoil the general rule, that, when no cells are started, we are to presume a queen of some kind is present.

FRIEND ALLEY'S EXPLANATION.

I REGRET very much to be obliged to appear in print in defense of myself; but as Mr. Neads, of Canada, did me great injustice by making the statement he did in the December number of GLEANINGS, I feel compelled to make some reply.

The facts in the case are these: Mr. Neads, it seems, ordered a queen through a friend. She was sent him, but died in the mail. I think it was rather too late in the season to replace her. Mr. Corneil, the person who ordered the queen, demanded the \$1.50 returned to him. I replied that I did not advertise to send queens and money too, and think I offered to send him 75 cents or send him another queen in the spring. I wrote Mr. Root that I would remit half the amount sent me, and am quite sure that he thought I was right, and should not do more. Well, I heard nothing more about the affair till some time last September, when Mr. Neads stated the case to me, and I promptly mailed him a queen. I think he must have had his queen in the 7 days from the time he penned his postal to me. Now, it takes 6 or 7 days to get a reply from Canada in all cases. Now, friend Neads, are not the above facts? And further, did you notify me before September that there was a queen due you? I do not send out queens in such cases till the parties notify me they are ready for them; then I will fill all such orders as promptly as the thing can be done. I will say here, that if any person has any claim on me for queens, either for impurity or dead ones, when received, I will send them queens till they are well satisfied, and get what they pay for, if it takes \$100 to fill the bill. All I ask, is for such ones to notify me in May, or at any time they are in need of queens.

Now, friend Root, give all such parties a chance to show me up in GLEANINGS. If all is not made satisfactory, don't blame me for it, for I am ready to do more than my part. I have been doing this business for 20 years, and never have cheated or swindled any man, so far as I know. Some complain because I do not reply to their letters promptly. Friends, it is impossible for me to do so. I have more than one man can do from May to October. I do not do much in the bee business from October to January. I am away from home much of the time during these months, as I get no chance to go during the warm weather.

About 75 queens were stolen from the mails that I had shipped; that caused some trouble, and was very annoying to me; \$25.00 in queens or cash will settle any account against me. If those who would rather have half the amount in cash than another

queen, let them say so, and they won't find it necessary to write Mr. Root about the matter.

Wenham, Mass., Dec., 1881.

H. ALLEY.

I hope, friends, this matter may be dropped now, even if something does still remain to be said. Friend Alley agrees to make all claims on him good; and if he does this, is not that enough? As I have before said, it is my opinion, where a queen-rearer has lost a queen in the mails, he should have the privilege of making it good by sending another. If his customer demand the money back instead of letting him try again, I should say, as a general rule, he should be entitled to no more than half of it. This is, of course, subject to conditions, and a reasonable degree of promptness should be one of them.

TIN BOXES FOR RETAILING HONEY

IN SMALL "DOSES."

AT the convention, friend Jones exhibited tin cans, or boxes, for honey, for not only 1 lb., but also for 1/2, 1/4, and 1/8 of a pound. I believe they were to be retailed for 25, 15, 10, and 5 cts. respectively. If I am correct, friend Jones sold 40,000 lbs. of honey this season, put up in these packages. You carry to your grocer the tin boxes and nice labels, and let him fill them himself from cans of honey sold him in the bulk. Or he can sell for a commission, as you find most agreeable. The little boxes can be used for a lunch, and this serves to give people a sample and a taste for the honey. We are making arrangements for making them all at the following prices:—

TIN BOXES FOR SMALL SAMPLES OF HONEY.

Capacity	Pr. of 1	Pr. of 10	Pr. of 100	Pr. of 1000	Labels, per 1000, Blue, Bronzed Letters.
1/8 lb.	1 c.	9 c	85 c.	\$8.00	\$2.00
1/4 lb.	1 1/2	14	1.25	12.00	2.50
1/2 lb.	2	18	1.75	16.00	3.00
1 lb.	3	28	2.75	25.00	3.50
Nest of 4	7 1/2	68	6.50	61.00	4.00

White labels in one color, one-half the above prices. Names and address can not be put on the labels, unless 500 or more are taken at one time. These labels are to go round the can, and cover the joint where the cover goes on. A nest of all four, neatly labeled, as samples, will be furnished for 10c.; if wanted by mail, 20 cents.

Now, there are almost always two sides to every question, and our good practical friend Muth has just sent in the objections to this manner of selling honey:—

I have had a very good honey trade this fall and winter. My sales during 2 weeks in October were about 22,000 lbs. of extracted honey; about 15,000 lbs. of it, 28 barrels, were sold by the barrel, and almost all the remainder in our 1-lb. square jars. All of these 1-lb. jars were sold to my city customers, partly in shipping order, and partly in open crates for city trade. Only about 10 gross were shipped to neighboring cities. These one-pound jars of honey have become quite an article of trade. You can see them in every one of our business houses doing business in that line. Our clover crop having been short, we had to bottle darker honey than our customers were in the habit of getting. But, consum-

es accepted the position, and no objections were raised. "The honey is pure, and the clover crop was short," seemed to be a satisfactory excuse. I see, from several quarters, tin boxes recommended for the retail trade, to hold 1 or 2 lbs. of honey, but I am of the opinion that their great similarity to salve-boxes, in spite of fine labels, will be for ever a preventive to their successful introduction. I do not suppose that I should have succeeded in establishing a demand for 1-lb. packages of extracted honey, if these packages had been tin boxes. Tin buckets answer splendidly for 5, 10, or 25 lb. packages of honey, and I have as good a trade for these in proportion, as I have for one-pound jars. My principal reason for adopting square glass jars was that adulterators in New York and Chicago were offering their glucose honey in round bottles. It appears that I have made no mistake in this matter, as nobody suspects honey in square glass 1-lb. jars in our city, while no square nor round jars of extracted honey can be sold any more in Chicago or New York.

Offering you my best wishes of the season, I am

Yours truly, CHAS. F. MUTH.

Cincinnati, O., Dec. 24, 1881.

As the honey in these tin boxes is supposed to be candied solid, I supposed the candying would be considered a proof of purity. Does your honey now sell readily in those jars, friend Muth, when in a candied state, or do you take any pains to keep it liquid?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, JAN. 1, 1882.

Great peace have they which love thy law.—PSALM 119: 165.

FRIEND LECHLER sends us an article explanatory of his great yield, which will be given in our next.

OUR 75-cent telephones will work nicely for half a mile; and if the rooms are very still, and the wire is drawn *very tight*, a mile will not be difficult.

We have to-day, Dec. 29th, 2791 subscribers, for which we are especially grateful; the more so, as a large number of them are from two to five years. Truly, GLEANINGS has found friends, and of the substantial kind too.

OUR friend Nellis has, it seems, sold out the *Exchange* to Messrs. Houck & Peet. Friend Peet is well known to most of us by the queen-cage now so generally in use. The new firm sends out a 20-page price list, well gotten up, and of much general interest.

A VERY large number indeed have expressed themselves in favor of Our Homes during the last month, while, so far as I can recollect, only one has suggested that GLEANINGS better be entirely bees and honey. If I am faithful in the field in which I seem to have been called, I am sure I shall never lack support.

MAY I suggest to friend Newman, that glucose contains a little larger per cent of dextrine than does grape sugar, to preserve it in a liquid state, instead of "chemicals" being added to the latter to make it solid? We shall get at the truth after awhile, if we are only patient.

FRIEND BURCH has shipped quite a number of colonies of bees during the fall, and although some of the friends are far from being satisfied with bees in October instead of in June, I believe all feel better than if they had received nothing. As we learn that Mr. B. has been purchasing bees considerably, we trust all orders will be filled satisfactorily in the spring.

THE December *Magazine* in speaking of extractors at fairs, speaks of one of ours as having been gotten up expressly for the occasion. Our extractors are all made exactly alike, and we have never, to our knowledge, made one any better, or different in finish, because it was to be used at a fair. We sell extractors for so much money, to all alike, and the purchaser can make whatever use of it he chooses. Would it not have been better, friend King, to have been sure you were right, before having put the above into print?

A GREAT boom has come from that offer of a watch for five subscribers, and the question comes up, "Must we send the five names all at once, or how long can we have to work?" Let me tell you how it will help you, and the clerks here too. Send \$5.00 for GLEANINGS to yourself for five years, get your watch, and have the matter all settled; and then when you get a subscriber, send a postal and order your time shortened a year, to pay for him. When you have the whole list, why, just do the same thing over again. Of course, this great offer is solely to increase the size of our list, and therefore we can hardly afford it, unless the names are new ones. Well, to help you all we can we will allow you to get names anywhere, providing they are new ones, and not renewals. In December we used one gross of watches in five days.

FOUL BROOD.

A FRIEND who bought a half-pound of bees and a queen of us, insists that he thereby got foul brood into his apiary. As a proof, he has sent a piece of comb to friend Muth, who pronounces it foul brood of the worst type. I have no doubt but that he has foul brood, and I am very sorry indeed for the destruction of his apiary; but I have assured him over and over that we have no such thing about here, and never had. Our whole apiaries are constantly open to the inspection of visitors, and if any one can find a cell of foul brood in them we should be glad to see it. By the way, is not the new way of buying and selling bees by the pound a great improvement over sending out combs and brood, as a preventive of the spread of this great malady? From what I can gather, bees kept a week on sugar and water, in a cage, would be much less likely to carry contagion than where combs with brood were sent with them.

GRAPE SUGAR.

WHILE I have had no good reason to change my mind in regard to the future of the grape-sugar industry, I have, for reasons already given, discontinued keeping it for sale. In view of the fact that grape sugar's near neighbor, glucose, is being used so much for the adulteration of syrups, I would at

present advise our readers to use only granulated sugar for feeding. Dr. Kellogg, in his very able address at the Michigan convention, told us that the successful adulteration of granulated sugar by any of these substances is an impossibility. When asked in regard to the difference between grape sugar and glucose, he said although he was unacquainted with the two substances as they appear in commerce, he supposed glucose contained a larger per cent of dextrine, which so effectually prevents it from becoming a solid at any temperature. This agrees exactly with what you were told in GLEANINGS several years ago.

ALTHOUGH the Waterbury watches are having a sale never before perhaps known in timepieces, our friends should bear in mind that watches subjected to the rough usage of the mail-bags are quite often received out of order, no matter how carefully they have been carried and tested by us. A Waterbury watch in order has no more business stopping than any other watch; but if you get one that *does* stop, don't be cross and say you do not believe any of them go, nor need you write a long letter about it. Just say, on a postal card, "it stops," and send it back. One man says, when he moved the minute-hand, the hour-hand "just stood still;" but had he read the little book we send with each watch, he would have known that nothing was broken. Will you not bear in mind how small an amount of money you paid for it, and make our task of keeping them all going as light a one as you can? If the watch has had unfair usage, or you have had it over 30 days, send it to the factory, and *not to us*, for they all go to the factory eventually.

TO OUR CONTRIBUTORS.

It seems, dear friends, GLEANINGS is to have a boom this year, and I have been already devising ways and means to make it more pleasing and valuable to you all, in return for your kind words and—dollars. At the convention it was suggested we have the matter arranged in a more orderly manner, using more small-cap heads to the different thoughts expressed. Now, will those who write for it please head their letters with a caption, then stick to your text till you wish to talk about something else, then take a new head, say all on that subject, and so on. Some of you do this already; but there are others, who write for print, too, whose letters can not be straightened out, without altering the wording to such an extent it would be really saying something they did not say. I think it would pay all round if some of you would re-write it for us. If you are short of paper, I will send you some stationery. Nice paper to write on, with ink or the Automatic pencil, will be furnished in strips 7x27 inches, at 15c per lb. Automatic pencils, 3 for 50c.

FORNCROOK'S PATENT ONE-PIECE SECTIONS.

OUT of respect for friend Forncrook we have permitted the advertisement to go in as you see it, although it does seem as if he were getting very close to our friend Mitchell, in claiming all section boxes made of one piece of wood. I have pointed him to a letter in GLEANINGS, describing one-piece sections, made and used several years ago; but his reply was to the effect, that sections made of strawberry-box stuff are quite another thing. This amounts to saying, as I see it, that a *rough* box is not patented; but if you plane it, or sandpaper it, you are infringing. Do you say that a patent has been granted him? Very

likely; but so has a patent been granted on the *fdn.* we are using; or putting it on to wires; on division-boards for bee-hives, and also on the very tin separators we are using, and have been using for years. The Patent-Office supposed all these things were new, and are doubtless honest; but, friends, is it in any way likely they have a man in the whole Patent-Office corps who has an idea of modern bee culture? A proposal was started, at the convention, to raise a fund for mutual protection, if any of our number should be subjected to expense; but I trust nothing of this kind may be ever necessary. Mr. Forncrook proposes to make all bee-keepers pay \$6.00 per thousand, instead of the established price of \$4.50.

SOME GOOD BOOKS.

I DO not know but that some of the friends at Battle Creek were a little amused at the almost childish wonder with which I gazed (very likely with open mouth) at those wonderful structures, the Sanitarium and Tabernacle. When I passed through them I was still more astonished, and especially was I pleased with that great printing-office. Boys and girls as neat and clean-looking as our own at home, did the work; and when I was told that no tobacco or swearing was allowed inside the walls, I felt a great feeling of thankfulness that I stood not quite alone in what has so often been thought one of my eccentricities. I won't hurt anybody's feelings, will I, to say this latter institution also showed their good sense in having a *woman* handle all the money of the establishment? Well, you know I couldn't rest without knowing something of what kind of books they make, so I kept "kind o' peeking" into things, and pretty soon I opened a book and read about one page of it.

"Look here, friend S., I want that book, and I do not care what it costs."

"Why, that is Dr. Kellogg's new book, *Pain Facts about Common Things*, and here is his new doctor book."

I read a page in the doctor book, and told him I wanted that too, and now I am happy. No, I'm not happy, either, for I wish every one of our readers who loves good health and God's laws could have these books. Dr. Kellogg's especial forte seems to be the study of the causes of crime; and his strong earnest talks seem to supplement the Home Papers of this number in a way that is truly wonderful. These books will not only save doctors' bills and give life here, but they may be the means of giving eternal life to the innocent children who are now growing up in our homes, and going out into the world. May God's blessings rest upon the labors of Dr. Kellogg!

MARRIAGES.

ONE of our office girls, whom a great many of you will remember as "Bess," has "gone and got married." Here are the particulars:—

MARRIED.—In Medina, Thursday, Dec. 15, 1881, Miss Bess Johnston and Mr. R. H. Zimmerman, of Washington, D. C., by the Rev. Jas. Stowden, of Huron, O.

And here are some of the parting adieus from a few of the clerks:—

Our good Queen Bess has left us,
In another hive to reign;
O Bob! you have bereft us
Of our pleasure and our pain. —LU.

As a last loving token,
We ask for both this boon:
Be their happiness unbroken
In a lifelong honeymoon. —CARRIE.

The archer-boy drove from Bess' mind
The thought of England's virgin queen,
And, like a changing, ruthless wind,
In haste she changed her name, I ween. —TEN.

For men will court, and maidens will trust,
"Tho' the harbor bar be moaning." —ELLEN M.

May he who has had the good fortune to win "our Bess," love, prize, and cherish her, as she was loved and prized in the Home of the Honey-Bees! "BOSS."

HEADQUARTERS FOR EARLY ITALIAN and CYPRIAN BEES and QUEENS!

TWO, THREE, & FOUR-FRAME NUCLEI

-AND-

TESTED QUEENS A SPECIALTY!

DOLLAR QUEENS FURNISHED WHEN REQUESTED. THREE RACES OF BEES FOR SALE BY THE POUND.

I shall take especial pains to furnish very full stocks early in the season.

EXPRESS CHARGES PAID PART WAY!

Basswood-Trees, Black Locust, and Sourwoods, young and thrifty, at reasonable rates. Send your orders early, and get served early.

Send for Circulars, and see how well I will use you. Address

A. W. CHENEY, KANAWHA FALLS, FAYETTE CO., WEST VA.

BROTHER BEE - KEEPERS,

I am about to lose my place, 10 1/4 acres, of the James Geore 640-acre survey, worth \$2000.00. \$550.00 will release it, and pay all taxes due. Will give ten per cent on the above amount for two years, with vendor's lease on land, which is as good as bank check. In high state of cultivation; made 65 bushels oats per acre, 1880. H. A. Halbert, Esq., of Corsicana, Texas, will fix up all papers at my cost. Speak quickly, as I have only thirty more days.

B. F. CARROLL, DRESDEN, - - NAVARRO CO., - - TEXAS.



1882. QUEENS! 1882.

I am now booking orders for warranted Italian Queens; each, \$1.00; six, \$5.00. Tested, after June, \$1.50 Cyprians, unwarranted, \$1.00; six, \$5.00. Send for circular giving description and recommendations from P. M. and county officers. Money-Order office, Versailles, Ky. 1tfd J. T. WILSON, Mortonsville, Woodford Co., Ky.

BEE-KEEPERS

All buy Dodge's Summer and Winter Top and Entrance Feeder, and Upward Ventilator. It feeds Candy, Syrup, Sugar Candy, and extracted honey, or any suitable bee food, in a temperature corresponding with the interior of the Hive. A perfect upward ventilator, without loss of heat. Needs no testimental; I sample captures every bee-keeper. Sample, by mail, 30c. Per doz., via express, \$2.00.

U. E. DODGE, Fredonia, N. Y.

Inventor and Sole Manufacturer, and manufacturer and dealer in all kinds of Apian Stores. 1-3d

IMPORTED QUEENS.

In April, - - - - - 11 frames in Gold.
May and June, - - - - - 10 " "
July and August, - - - - - 9 " "
September and October, - - - - - 7 " "

Queens which die in transit will be replaced only if sent back in a letter. 1-6d CHARLES BIANCONCINI & CO., Bologna, Italy.

FOR SALE cheap, a 10-inch Dunham Foundation Machine. Used but one season. A. B. WEED, 75 Bagg St., Detroit, Mich.

TI TEGROF T'NOD! THE BEE - KEEPERS' EXCHANGE!

This Journal begins its fourth year with A NEW DRESS, and has BEEN INCREASED IN SIZE TO 32 PAGES.

- IT IS A LIVE -

PROGRESSIVE MONTHLY!

Is edited by PRACTICAL BEE-KEEPERS, and richly worth the SUBSCRIPTION PRICE, which is \$1.00 PER ANNUM postpaid; or, THREE MONTHS ON TRIAL 25 cents.-

SAMPLE COPY FREE!

OUR PRICE LIST OF

APIARIAN SUPPLIES!

is now ready, and you will consult your best Interests by securing a copy before you buy.

Address HOUCK & PEET, 1d CANAJOHARIE, N. Y.

FOUNDATION!

WHOLESALE

-AND-

RETAIL.

Dealers in Bee Supplies will do well to send for our wholesale prices of foundation. We now have the most extensive manufactory of foundation in the country. We send to all parts of the U. S. We make all standard styles, and our wax is nowhere to be equalled for cleanliness, purity, and beauty. Extra thin and bright for sections. All shapes and all sizes. Samples free on request.

CHAS. DADANT & SON, 1tfd HAMILTON, HANCOCK CO., ILL.

Apple-Trees by the Car-Load.

\$80.00 Per 1000. Good varieties, fall and winter. Other nursery stock cheap. 1 Address J. B. MURRAY, Ada, Hardin Co., O.

I. R. GOOD, Nappanee, Elkhart Co., Indiana, Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land aparies, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

HEADQUARTERS in the South for the manufacture and sale of

Apiarian Supplies!

Send for Illustrated Catalogue. Will be ready to fill orders for Hives, Frames, Sections, &c., January 15th. Address PAUL L. VIALLO, 1d BAYOU GOULA, IBERVILLE PAR., LA.

FOR SALE!

A Barnes hand-power Rip-Saw, almost new. A bargain! S. C. & J. P. WATTS, 1d Lumber City, Clearfield Co., Pa.

FREE! A sample copy of the NEW ENGLAND BEE JOURNAL. H. POOLE, Mechanic Falls, Me.

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WANTED.—WAX.—Address VON DORN, 820 South Ave., Omaha, Neb.

A GOOD GIRL, 12 to 14 years old, can have a permanent home. Address, with references, 2d VON DORN, 820 S. Avenue, Omaha, Neb.

FOR SALE!

BRONZE TURKEYS, or will exchange for Italian Bees or Queens. E. B. VINCENT, [Maple Lawn Apiary.] Sunman, Tipton Co., Ind.

FOR SALE!

A GREAT BARGAIN.

I will sell 30 strong healthy stocks of Italian and Hybrid Bees, on the Langstroth frame, in Simplicity Hives, together with all the fixtures for a modern apiary. The whole, or in lots to suit. Complete list on application to W. G. SALTFOED, 2d 61 Deland St., Poughkeepsie, Dutchess Co., N. Y.

FOR SALE, or exchange for bees, an Excelsior Extractor; been used but two years, and used but very little. As good as new.

MATTHEW DODDS, Warsaw, Wyoming Co., N. Y.

IMPORTED FERRETS FOR SALE.—For hunting rabbits and rats. Shipped by express anywhere. Safe arrival guaranteed. Price \$6.00 per pair.

W. ADDENBROOK, North Prairie, Waukesha Co., Wis.

THE

British Bee Journal.

The British Bee Journal is now mailed to our address in packages, each month. In order to dispose of them, we offer them at present at \$1.00 per year, postage paid, beginning Jan., 1882. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

Headquarters in the South

FOR THE MANUFACTURE AND SALE OF

Bee-keepers' Supplies

SIMPLICITY

AND V. D. NELLIS HIVES AND FRAMES.

THE ALL-IN-ONE-PIECE SECTIONS,
Made on a machine purchased from A. I. Root.

Comb Foundation.

Having purchased Mrs. Frances Dunham's whole outfit to manufacture foundation by steam power, I can furnish foundation in any quantity, and in sheets as large as 14 inches wide and 7 feet long.

ITALIAN BEES and QUEENS.

All bred from imported mothers of my own importation. Dollar queens in April, \$1.25; in May, \$1.10; in June and after, \$1.00. Tested queens from March 1st to July 1st, \$2.50; after, \$2.00. Full colonies of Italian bees in any quantity. Early 4-frame nucleus, with tested queens, \$5.00. This is more advantageous to those wishing bees by the pound. Send for illustrated catalogue for further particulars. Address

PAUL L. VIALLO, N,
Bayou Goula, Iberville Par., La.

GREAT BARGAIN

A RARE CHANCE!

I offer for sale my supply business, consisting of one 10-horse boiler and engine, in perfect order; been used but little. Saw-tables, belting, shafting, pulleys, etc.; also one heavy wood saw-table, and one Steam-evaporator, for cider, jelly, or sorghum. Dunham rdn. machine, and other implements too numerous to mention. Business well established. Price \$1000; or, 50 colonies of pure Italian Bees with same, for \$1400.

HIRAM ROOP, Carson City, Mich.

HIVES. HIVES.

I am now prepared to manufacture **HIVES AND SECTION BOXES** at wholesale and retail. Send for prices.

E. W. LOWE,
2 Sebawa, Ionia Co., Mich.

Farm for Sale.

Just outside the corporation of Ithaca, consisting of 44 acres; good strong soil, well adapted to gardening or farm crops. One of the best fruit farms in Tompkins county; 16 acres already in fruit. A good location for parents who would like to send their sons or daughters to Ithaca High School or Cornell University. Price \$8,000. Half the purchase money may remain on mortgage. Also 34 swarms of bees in Simplicity hives.

JOSEPH SINTON, Ithaca, N. Y.

WANTED.

Steam-Engine, 4-horse, upright, in good condition. Write, stating particulars, and the lowest cash price, to JOHN DYSON, Coatesville, Chester Co., Penn.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. Itf
- *Paul L. Viallon, Bayou Goula, La. Itfd
- *S. F. Newman, Norwalk, Huron Co., O. Itfd
- *Wm. Ballantine, Sago, Musk. Co., O. Itfd
- C. H. Deane, Sr., Mortonville, Woodford Co., Ky. Itfd
- *J. O. Facey, New Hamburg, Ont., Can. 2-7

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. Itfd
- S. F. Newman, Norwalk, Huron Co., O. Itfd
- J. F. Hart, Union Point, Greene Co., Ga. 4-3
- M. S. West, Flint, Gen. Co., Mich. 2-7

C. OLM'S COMB FOUNDATION MACHINE.

SEND FOR SAMPLE AND CIRCULAR.

5tfd C. OLM, Fond du Lac, Wis.

STOP! LISTEN!

The new Deane System for Comb Honey.

The N. A. B. K. A. says it surpasses any thing of the kind, combining all the necessary arrangements, simple and complete. One full set for 50 ets. Weight, 4 to 5 lbs. Sent by freight or express as you direct. Send money by P. O. money-order to Versailles, Woodford Co., Ky., at my risk. Send for price list. Will send by mail, exact measurement of each piece of the Star Chaff Hive, and the new Deane System, for 30 one-cent stamps. Don't fail to put your name and P. O. address. C. H. DEANE, 12-5d Mortonville, Woodford Co., Ky.

HEADQUARTERS FOR

Early Italian & Cyprian Queens.

Imported and home-bred; nuclei and full colonies. For quality and purity, my stock of bees can not be excelled in the United States. I make a specialty of manufacturing the Dunham foundation. Try it. If you wish to purchase Bees or Supplies, send for my new Circular, containing directions for introducing queens, remarks on the new races of Bees, &c. Address Itfd DR. J. P. H. BROWN, Augusta, Ga.

HIVES! HIVES!

I am now prepared to manufacture bee-hives, whole-sale and retail at the very lowest prices. Send one dollar, to get one of D. A. Jones' celebrated hives. Catalogue furnished on application. 9tfd JOHN M. KINZIE, Doon, Ont., Can.

ESSEX PIGS A SPECIALTY!

75 to 100 Pedigree Pigs for delivery in June, six weeks to two months old. Write for prices.

Also Brown Leghorn (prize winners) EGGS, @ \$1 per doz., and B. B. R. G. Bantam Eggs for Hatching (imported), @ \$1.50 per doz., in new baskets. Safe arrival guaranteed. C. W. CANFIELD, 5-4d Athens, Bradford Co., Pa.

MUTH'S

HONEY EXTRACTOR, SQUARE GLASS HONEY JARS, TIN BUCKETS, BEE HIVES, HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.
P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." Itfd

READ THIS:

FIFTY YEARS AN APIARIAN.

We are the oldest breeders of Italian Bees, and manufacturers of APIARIAN SUPPLIES in New England.

Our experience dates back to the first experiments of Mr. Langstroth in the movable-comb system. Send for our Price List of Bees, Queens, and Supplies, before making your purchases for 1882.

Address WM. W. CARY & SON,
Itfd Colerain, Franklin Co., Mass.

FOR SALE.—One Foot-power Saw (Barnes'), in good order; used but little. Write for terms. 1-5d J. F. MICHAEL, German, Darke Co., Ohio.

HEADQUARTERS FOR

EARLY ITALIAN and CYPRIAN BEES and QUEENS!

TWO, THREE, & FOUR FRAME NUCLEI

—AND—

TESTED QUEENS A SPECIALTY!

DOLLAR QUEENS FURNISHED WHEN REQUESTED. THREE RACES OF BEES FOR SALE BY THE POUND.

I shall take especial pains to furnish very full stocks early in the season.

EXPRESS CHARGES PAID PART WAY!

Basswood-Trees, Black Locust, and Sourwoods, young and thrifty, at reasonable rates. Send your orders early, and get served early.

Send for Circulars, and see how well I will use you. Address

A. W. CHENEY,
KANAWHA FALLS, FAYETTE CO., WEST VA.

BEE-KEEPERS

All buy Dodge's Summer and Winter Top and Entrance Feeder, and Upward Ventilator. It feeds Candy, Syrup, Sugar Candy, and extracted honey, or any suitable bee food, in a temperature corresponding with the interior of the hive. A perfect upward ventilator, without loss of heat. Needs no testimonials; I sample captures every bee-keeper. Sample, by mail, 30c. Per doz., via express, \$2.00.

U. E. DODGE, Fredonia, N. Y.
Inventor and Sole Manufacturer, and manufacturer and dealer in all kinds of Apiarian Stores. 1-3d

KIND WORDS FROM OUR CUSTOMERS.

The dictionary is a gem; I can read it without glasses, and I am 71 next Monday.
Belfast, Ia., Jan. 20, 1881. J. W. BARLOW.

GLEANINGS is such a favorite with us that we can not get along without it.
Hobart, Lake Co., Ind., Dec. 26, 1881. J. BLACKHALL.

Your A B C saved me from losing over \$50 00 this year. It is a book that no bee-keeper should be without.
Rapidan Station, Va., Dec. 6, 1881. R. R. CUYLER.

Circulars you printed came to hand in due time. They are very neat and tasty.
Cambridge, Henry Co., Ill., Jan. 9, 1882. J. V. CALDWELL.

Glass-cutters received. I tried them and am satisfied. Accept thanks for premium on subscription.
Fond du Lac, Wis., Nov. 21, 1881. A. W. SCHULTZE.

Inclosed find 25 cents, for which please send four charm knives. It seems as if all the girls in Helena will have one before they are satisfied.
Helena, Karnes Co., Tex. MRS. S. A. CONWAY.

My little Granddaughter was so well pleased with her 15-ct. knife and fork, she wants three sets more so she can have a party.
Davenport, Iowa, Dec. 1, 1881. PHILIP EHART.

The glass was received O. K. Money sent on the 5th, goods came on the 9th; quick work. Thanks for your promptness.
Spring Dale, Miss., Dec. 12, 1881. O. C. SHIPP.

I have read the A B C with interest, pleasure, and I hope, profit. The book is much larger and nicer than I expected, and worth double your price.
Tallahassee, Fla., Dec. 23, 1881. O. A. MILLER.

The Waterbury watch is received; it is a beauty, and I am well pleased. Thanks. Inclosed find money order for one more watch. I have another boy.
Bourbon, Ind., Dec. 27, 1881. H. STINEBACH.

Accept thanks for watch, which came all right, and gives good satisfaction. The only "fault" I find is, that it is 58 cents cheaper than I thought it would be.
Washington, Wash. Co., Utah, Jan. 6, 1882. JONATHAN HEATON.

THE STAR SAW-SET.
I have just received the Star saw-set, and tried it. It lays all other saw-sets in the shade, of my notion.
Chillicothe, Wapello Co., Iowa, Nov. 15, 1881. JOSEPH BALL.

I did not think of taking GLEANINGS this year, but my wife thinks she can not get along without it, for every one of the Home Papers is so good. I inclose one dollar for 1882.
Omaha, Neb., Dec. 22, 1881. P. M. PECKHAM.

Inclosed find \$1.00 for the A B C book, which you will please forward by mail. I have received a dollar's worth of information from the sample copy of GLEANINGS, so I shall have the book free.
Oxmoor, Ala., Nov. 24, 1881. B. F. WARD.

The watch came to hand in good order, and it was worth twice the money to see the happy face of my boy on receiving so nice a present.
Lineville, Wayne Co., Ia., Dec. 31, 1881. SARAH E. DUNCAN.

The goods were received on the 5th inst., for which accept thanks. The dictionary is fully worth 50 cts. I would not take \$1.00 for it (if I could not get another), and it cost only 20 cts., postage and all. All the articles are well worth the money.
Brooklyn, Ia., Jan. 7, 1882. H. C. KERSTEN.

I can buy L. hives here (second hand) now from 25 to 50 cents, all the hives I want; but give me your metal-cornered hives; they are perfect; and the smoker, that is worth \$5.00. I am very well pleased with every thing that I got from you.
Flaglers, Marion Co., Ia., Dec. 20, 1881. B. F. BARR.

GLEANINGS has got to be bread and butter here. Do not fail to mail it to me. There is no department known showing the progress and improvement that bee culture does.
Schodack Landing, N. Y., Dec. 29, 1881. G. A. LEGGETT.

The watch which you mailed me came all safe. It is a perfect beauty; it keeps time with our new Seth Thomas clock, only it gains a little on the clock in a week.
Goshen, Ind., Jan. 5, 1882. SAMUEL LEATHERMAN.

Sister and I will hold up our hands as substantial friends of GLEANINGS; and as long as God sends us the dollar it will be a welcome visitor to our humble but happy home.
New Haven, Ct., Jan. 9, 1882. LENA & BURTON SAGE.

I received your premium watch all right; it is running, and keeping first-rate time. We are well pleased, but can't see how such a piece of machinery can be put together for the price.
Knightstown, Ind., Jan. 6, 1882. J. H. DEEM.

Sent two more Waterbury watches, and two of your polished steel chains. I wish to give them as presents to my two boys. My own watch is still keeping good time, and is as right as when you sent it to me.
Saxonburgh, Pa., Dec. 30, 1881. JOHN BAKER.

The watch and smoker came last night. The watch is a marvel of beauty, and I set it with my clock last night, and there is not a minute's difference yet. Your kindness and fair dealing are highly appreciated.
Durango, Dubuque Co., Ia., Jan. 13, 1881. JOHN HOHMANN.

I subscribe for GLEANINGS for three reasons. 1. For its instruction in bee-keeping; 2. For its Home reading, which we all very highly prize; and 3. To encourage and help sustain an institution managed and carried on so near my own idea of doing business with our fellow-men. May God bless you and aid you.
Plymouth, Ind., Jan. 3, 1882. R. M. MORRILL.

The goods are splendid for so small an amount of money. My little girl is delighted with her scissors and knives and forks; she keeps asking her papa, "Did Mr. Root send them?" My husband thinks his fan, excellent; he says he would not take \$2.00 for the 50-cent plane you sent him, if he could not get another. We take GLEANINGS, and we all like to read it, especially Our Homes and Merrybanks.
Owego, N. Y., Dec. 23, 1881. MRS. MAY MOSS.

The Waterbury is all right; it is the best time-piece I ever owned. I can not understand how they can be made for that amount of money. I must give you an idea of the extent of my small apiary. I commenced the winter with 22 stands, all in Root's chaff hives, of my own make. They are all Italians but 2, and they will be as soon as I can raise queens for them. No blacks for me. I raised 20 queens (Italian) last season; only two of that number proved to be mated.
Lectonia, Ohio, Dec., 1881. E. P. ALDRIDGE.

I was sitting enjoying myself finely over the contents of Dec. No. of GLEANINGS. When I came to the Growley and read the "oration" of J. P. B., I must say (though I am sorry for it now) that I was quite spunky; but, after thinking a moment, I sat back and had a good laugh, just to see how he set up things in general, and A. I. Root in particular. Better laugh than be spunky, had I not? Well, if we did not have the bitter we should not appreciate the sweet, should we? Keep a "stiff upper lip." You have a host of friends.
Brooks, Marion Co., Ore., Dec., 1881. E. S. BROOKS.

HURRAH FOR THE "WATERBURYS."
One year ago the 12th of this month I received and started 11 Waterbury watches I ordered of you. The one I retained for my own use is running as well as ever, as far as I can tell. During the past week I have been testing it with a \$20.00 watch, and during that time the two watches did not vary more than a quarter of a minute. I consider the Waterbury watch a marvel of simplicity, accuracy, and cheapness. Three cheers and a "tiger" for the Waterbury watch.
Moravia, Iowa, Jan. 21, 1882. I. W. DETWILER.

The goods ordered of you Dec. 3d were received Jan. 3d in good order, with freight charges amounting to \$3.70—very reasonable on 550 lbs. I unpacked them the 4th inst., and found every thing ordered all in good shape. I don't wonder that you have a large trade, sending out so nice goods as well packed, and as promptly as you do. GEO. F. SPENCER.
Payson, Ill., Jan. 5, 1882.

The goods bought of you heretofore have been all very good for so small a price, and even more than I expected, for I have sent to a good many different places for little things and different things, and always aim to send money enough, or a little more, to be sure to get the goods, but you are the first man who ever gave me credit for more than enough.
Prairieville, Ark., Jan. 4, '82. W. D. WESNER.

I have been a subscriber to GLEANINGS ever since its first advent as a quarterly, when wind was your motive power. We have followed your fortunes with profit and interest; and although the musical hum of the bees no longer enlivens the gardens of our Acadian home, yet we love the subject you advocate, and long for the time when we can restock our deserted apiary. Twelve papers and magazines visit us regularly. We thought less might do. Well, which one shall we stop? is the question of the family in council. We have no bees. GLEANINGS very naturally looks like the one to go. We think of the pleasant hours spent in poring over its interesting pages, and soon decide. It is too old a friend; and we can not let it go. Well, we inclose \$5.00, and want you to book us for two years, and I will find new subscribers for the other three copies. So you mail me 4 copies for 1882, and one for 1883. This we think will not materially affect your terms for securing a Waterbury watch. G. C. MILLER.
Middleton, Annapolis Co., Nova Scotia, Dec. 23, '81.

Please send me the names of those persons who wanted the Home Papers stopped in GLEANINGS. If they can not afford to pay for them, let you and I pay for them. I will pay one-half and you the other half, for I think GLEANINGS is a good journal without Our Homes in it; but with the Home Papers it is without a rival, for I consider that you have God in partnership with you, and don't you dissolve that partnership. JOHN W. ROSS.
Velasco, Brazoria Co., Tex., Jan., 1882.

[God bless you for your kind offer, friend R! I have already several times proposed to send GLEANINGS to the end of the year to those who objected to the Home Papers, and then leave it to them what amount they should pay; but I believe they always paid the full dollar. Since the new year, I do not remember to have seen more than three who objected. I will give their names if they wish I should. When Our Homes was started, I supposed I should lose subscribers by it; but of late, since it has transpired that they are to be a source of income to me, I am in great danger of becoming proud, and forgetting how it was that I reached so many hearts. It is now, dear friends, while God seems to think fit to give me means and influence, that I need your prayers more than I ever did before, that my Savior may not only be a partner in business, but first in all things.]

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CHICAGO.—Honey.—Since my last quotation, the market on extracted honey has strengthened, and I am now paying 8@10c on arrival. Comb honey is not as plentiful on the market, and inquiries for it are more frequent, as compared with last year. It sells on commission at 17@22c for choice white. I am paying 18@22c for beeswax, cash on arrival.
Chicago, Jan. 25, 1882. A. H. NEWMAN.

DETROIT.—Honey.—Good comb honey is scarce, and in fair demand, and is worth about 20c. Beeswax is worth from 20 to 22c. A. B. WEED.
Detroit, Jan. 26, 1882.

CLEVELAND.—Honey.—The honey market is quite active again on No. 1 white sections, which sell, according to looks and order, 20 to 22c for 1 lb., and 20 for best 2 lb. Buckwheat honey continues very dull at 17 to 18c. Extracted, 11 to 12c, rather slow. Beeswax scarce; 22 to 25c. A. C. KENDEL.
Cleveland, O., Jan. 21, 1882.

We have 4000 lbs. of choice white extracted honey in 50-lb. tin cans, for which we will take 12c per lb., cans thrown in. Delivered on board cars at Enon, Pa., or Youngstown, O. WM. BARTH & BRO.
Petersburg, Mahoning Co., O., Jan. 18, 1882.

WANTED.—1, 2, or 3 barrels extracted honey, for which I will pay 8c for dark, or 10c for light, delivered at my depot in Homer, Calhoun Co., Mich. Correspondence solicited. M. G. HAKES.
Homer, Mich., Jan. 11, 1882.

Recent Additions to the COUNTER STORE.

THREE-CENT COUNTER.

3 | Egg Cup, glass, a little beauty.....	28 | 2 50
2 | Memorandum books, 64 pages, 2 for 5c	20 | 1 50
3 | Paper of Pins, 3 sizes, a little smaller than 5c ones.....	23 | 2 70
3 | Screw caps, 1½ inch, zinc, to solder on honey cans.....	28 | 2 50

FIVE-CENT COUNTER.

2 | Combs, pocket, folding, horn.....	43 | 4 00
3 | Erasers, rubber, good.....	38 | 3 50
3 | Teething rings, pure rubber.....	40 | 3 75

TEN-CENT COUNTER.

GLASSWARE.

| Berry dish, 9x6½, beautiful pattern..	90 | 8 50
Lamp, on foot, no burner or chimney	95 9 00

FIFTEEN-CENT COUNTER.

Magnet, horse shoe 3½ inches.....	1 40 13 50
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Twenty-Five Cent Counter.

6 Shears, 7-inch, nickel-plated, Solid steel blades. A wonder for 25c.....	2 25 21 00
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GLASSWARE.

Bread Plate, Snowflake, 11 in.; "A good mother makes a happy home"	2 10 20 00
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Thirty-Five Cent Counter.

3 Pocket Compass, 2 in., nickel-plated With cover, a good reliable article; beautifully finished. The same, with ring, no cover, same price.	3 00 28 00
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FIFTY-CENT COUNTER.

Grindstones, Family, a little beauty, for such a small sum of money.....	4 00 35 00
--------------------------------------------------------------------------	--------------

FOR \$1.50.

A Nickel Lever Clock. This is among clocks what the Waterbury is among watches. It runs in any position, and is an excellent timepiece; all are carefully tested and regulated here in our office. Requires no key, and is all cased in metal. With alarm, \$2.00. By mail, 25c extra.
A. I. ROOT, MEDINA, OHIO.

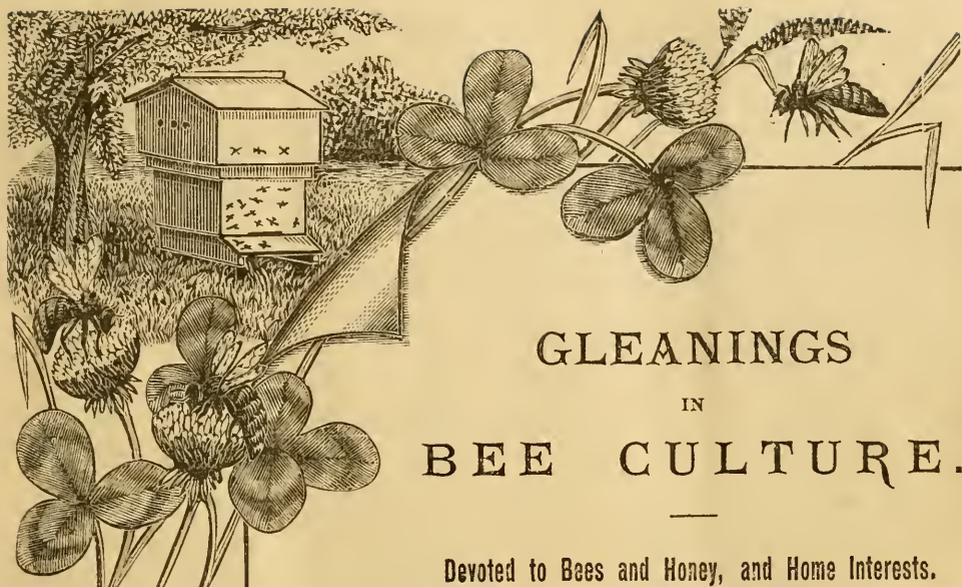
SUPPLIES FOR THE APIARY.

Purchase your Hives, Crates, and Sections, from where pine lumber can be bought cheap. Special attention given to large orders.

2d HIRAM ROOP, Carson City, Mich.

D. A. Pike, Box 19, Smithsburg, Wash. Co., Md.

Breeder of those Beautiful Albino and Italian Queens and Bees which gave universal satisfaction last season. Send for Circular. 3-1d



GLEANINGS IN BEE CULTURE.

Devoted to Bees and Honey, and Home Interests.

Vol. X.

FEB. 1, 1882.

No. 2.

A. I. ROOT,
Publisher and Proprietor,
 Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

No. 27.

PREPARE FOR ANOTHER SEASON.

HAVE you decided yet upon a plan of operations, or management, for the coming season? If you have decided, let me ask if, in making your decision, you took into consideration the honey resources of your locality; their character, duration, and reliability? did you consider your markets; their distance, character, etc.? did you consider your facilities for sending and receiving mail, express, and freight? yes, and did you consider *yourself*? Did you comprehend your own education or your ignorance, your abilities, or disabilities, your advantages or disadvantages, your ways, habits, methods, peculiarities, etc.? If you have considered all these, have read, re-read, and studied the plans and methods of the most successful apiarists, and have had two or three years of practical experience, there are good reasons for thinking that you have made a wise choice. And now if you have decided, and know whether you are going to raise comb or extracted honey, or rear bees or queens for sale, and know exactly how you are going to conduct some one of these branches of bee-culture, leave not a stone unturned to make your plan a success. Commence making preparations *now*. Get a paper and pencil, and take a complete inventory of your bee-keeping stock. Count every swarm, every empty hive, comb, and section box; every sheet of foundation, your honey-extractor, knife, smoker; in fact, *every thing*. Then make a

careful estimate of every thing you will need the coming season. Be sure to get enough of every thing, but don't be extravagant. If you are going to make your own hives, etc., get your lumber, nails, and paint, and go to work at them. The work of making and painting hives in a nice warm shop will be all the more pleasant, if the snow is flying out of doors. Do not forget to make a list of the articles that it will be necessary to order from some dealer in apiarian supplies; and, if it is possible to do so, these articles should be ordered at once, and they should be sent all at one time *by freight*. Ordering in this manner not only saves all hurry and worry, but also heavy express charges. If mistakes are made there is plenty of time in which to rectify them. If you are going to raise comb honey, and you have children, perhaps they would enjoy putting together the section boxes and putting in the starters. As fast as they get the sections put together, let them pile them up in fantastic shapes: houses, castles, etc. By taking a little pains, work can often be made to seem like play to children.

Perhaps some of this advice, about having every thing in readiness, may seem almost too simple to mention; but I believe that the experience of supply dealers will bear me out in saying, that not more than one-half of the bee-keepers order their supplies until they are ready to use them; while many wait until they actually have swarms hanging on the bushes.

Do you say that you are going to wait and see how your bees "come through," before you buy any supplies? Well, that is the only reasonable excuse that I can see for your waiting. For this very reason, I once waited until the first of May; then I sent

an order to a dealer who had *always* been prompt, and it was May 27th before the goods came. Don't you see, almost every bee-keeper had done just exactly as I did, and the orders came down in such a heap upon the dealer, that it was some little time before the poor man could "dig out." Even if you do lose some of your bees, isn't it better to keep supplies over one or even two years, than to not have them on hand when they are needed? The interest on \$100 worth of supplies would not be more than \$10 a year, while one might easily lose \$100 by not having supplies on hand at the proper time. Last season, right in the basswood-honey harvest, I had a slight attack of diphtheria, and for a week could "just crawl around;" but I had a great "stack" of hives filled with empty combs all ready for use, and so I "crawled" out and set, on these upper stories full of combs. As the result, not a pound of honey was lost for want of room in which to store it; but do you see what I would have lost had not the hives and combs been in readiness? One more point: if a bee-keeper has his supplies on hand, and then unfortunately loses his bees, and is unable to buy more, it quite frequently happens that he has more fortunate bee-keeping neighbors, who will gladly take the supplies off his hands.

LARGE INCREASE OF STOCK.

Friend Hasty, of all the good things that you have written, none have stirred me up more than did those "Unrealized Possibilities," given in January GLEANINGS. You tried to make forty colonies from one, in one season! Why, friend H., if you were not crazy, I certainly was for a few minutes after reading your article. Here I have kept bees five years, and have never tried to see how many colonies I could make from one, in one season. I am not much given to telling what I am going to do, but I believe I will do so just this once. Next spring I am going to select three good colonies, and see what I can do in the way of increasing them. If they are furnished with empty combs, and queens, and fed when not much honey is coming in, do you think that they can be built up to fifty good strong colonies? I am going to try for it. Now, who can tell which way to manage this business? Shall I divide them into weak colonies, and then allow them to build up, and then divide again, etc.? I am inclined to think that the better way would be to keep them all moderately strong, making a new swarm as often as the old ones are strong enough to spare enough frames of bees, brood, and honey to fill another hive. Oh! I'm glad I'm in this army of — bee-keepers, before which there are yet so many "unrealized possibilities."

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

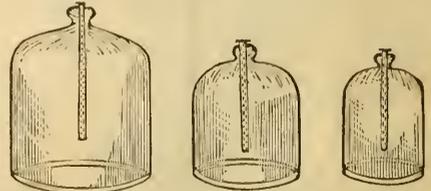
HONEY STORED IN GLASS JARS AND BELL-GLASSES

THE *Apiary; or, Bees, Bee-hives, and Bee Culture*, is the title of a book by Alfred Neighbour, of the firm of Neighbour & Sons, London, England. The book is beautifully printed on fine paper, and illustrated with some very fine engravings. The copperplate pictures of the queen, worker, and drone, finished in colors, is perhaps the finest work of any thing made in the line anywhere on the face of the earth. The book contains over 350 pp., and, were it not for the recent inconvenient fashion of charg-

ing duties on books sent by mail, we might offer it at the same price as the A B C. As it is, we can not have it mailed to you for less than about \$1.75. Well, although this book is hardly up to the times as we do things here in America, being published in 1878, it has many good things in it; and among them is a rather shallow circular glass dish, filled with comb honey. The following extracts are from pp. 262—264:—

BELL-GLASSES.

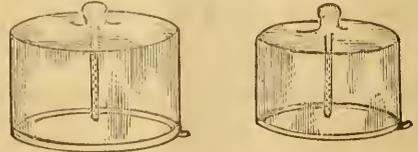
Of the stouter bell-form rounded at the top, we have three sizes:—



To contain 10 lbs., 10 inches high, 7 inches wide.
To contain 6 lbs., 7 inches high, 5 inches wide.
To contain 3 lbs., 5 inches high, 4 inches wide.

These bell-glasses are used in the hives before described. The largest is for Nutt's hive; the middle-sized is for our improved cottage hive; the smallest glass is so very small that it is not often used, and we do not recommend it. Bees will generally fill a middle-sized glass quite as soon as one so small as this.

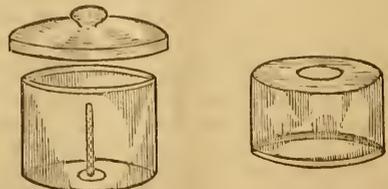
The next figures exhibit what are known as "Taylor's Glasses." They were introduced by Mr. Tay-



lor, and are recommended as preferable to deep narrow glasses. The drawings will show that they are straight at the sides, flat at the top, with a knob above to take hold by, through which is a half-inch opening to admit a ventilating tube. The larger, to contain perhaps twenty pounds, is six inches deep and thirteen inches wide; the smaller, five inches deep and nine and a half inches wide.

The late Mr. J. H. Payne, of Bury St. Edmunds, author of the "Bee-keeper's Guide," introduced another glass, called "Payne's Glass," accordingly. It has a three-inch hole in the center, the purpose of which is to tempt bees to produce additional and larger stores of honey. It is to be used as follows: When a bell-glass (which must be smaller in diameter than Payne's) is half or quite filled, raise it, and place Payne's glass over the hole of the stock hive, with the filled glass on it, over the three-inch hole. The bees will bring their combs through, and thus Mr. Payne found that they would store more honey than if the bell-glass were removed and another empty one put in its place.

The "Flat-topped Glass" is a super to be placed



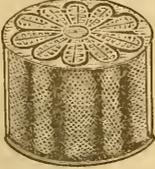
on the hive in a similar way to the bell glasses already alluded to. It has the advantages of being straight at the sides, flat at top, and without a knob; so that when filled it may be brought on to the breakfast table, inverted, on a plate. The glass lid shown in the figure forms a cover, and fits over outside so

as not to interfere with the combs within. There is a ventilating tube as above. Dimensions, six and three-quarter inches in diameter, and five in height.

Turning back, we find something more on the same subject on pp. 181—183:—

Guide-combs can also be used with glasses. These may be filled, with great regularity, by adopting the following directions, which, we believe, have never before appeared in print:—

Procure a piece of clean, new, empty, worker honey-comb, which has not had honey in it (because honey will prevent adhesion to the glass); cut it into pieces of about three-quarters of an inch square. Gently warm the exterior of the glass (this we find is best done by holding the glass horizontally for a short time over the flame of a candle); then apply one of the pieces of empty comb inside at the part warmed, taking care, in fixing it, that the pitch or inclination of the cells is upward—in fact, place the guide-comb in the same relative position that it occupied in the hive or glass from which it was taken. There is some danger of making the glass too warm, which will cause the wax to melt and run down the side, leaving an unsightly appearance on the glass; but a little experience will enable the operator to determine the degree of warmth sufficient to make the comb adhere without any of it being melted. It is hardly necessary to state, that only the whitest combs ought to be used. A short time should be allowed before changing the position of the glass, so that it may cool sufficiently to hold the comb in its place. Six or eight pieces may thus be fixed, so that, when the glass is filled, it will present a star shape, all the combs radiating from the center. The annexed illustration shows the appearance of a glass as worked by the bees, in which guide-combs were fixed in the manner described above. The drawing was taken from a glass of our own, filled after being thus furnished. In the Old Museum at the Royal Gardens, Kew, may be seen a Taylor's glass, presented by us, some of the combs in which are elongated on the outside to the breadth of six inches.



We believe that not only does a glass present a much handsomer appearance when thus worked—and will, on that account, most fully reward the trouble of fixing guide-comb—but that more honey is stored in the same space and in less time than if the glass be merely placed on the hive in a naked condition for the bees to follow their own course. This mode of fixing guide-comb does not solely apply to the above-shaped glass, but is equally useful for all kinds of glasses. It is introduced in connection with this glass because, from its having a flat top and no knob, the regularity is more clearly apparent.

The working of bees in the bell-glasses illustrates how tractable their disposition really is if only scope is allowed for the due exercise of their natural instinct. They have no secrets in their economy, and they do not shrink from our constant observation as they daily pursue their simple policy of continuous thrift and persevering accumulation. Yet it is only owing to the labors of successive inventors that we are now enabled to watch "the very pulse of the machine" of the bee commonwealth.

Long from the eye of man and face of day,
Involved in darkness all their customs lay,
Until a sage, well versed in Nature's lore,
A genius formed all science to explore,
Hives well contrived in crystal frames disposed,
And there the busy citizens disclosed.

—MURDIN'S VANTER.

Now, friends, I know we have tried bell-glasses, and discarded them; and so far as producing honey in this shape, to be sent to distant points, is concerned, I do not believe we want to do it; but could not a good many such be sold to advantage in your nearest town, and at a price, too, that would pay? Tying one glass above another is, without doubt, quite an advance over the old way; and just imagine the sight of a pyramid of round glasses of honey like these, exhibited at some of our fairs! If the glasses are purchased in nests, I do not believe they will

prove to be very expensive, and I will at once see about having some made.

ALSIKE CLOVER.

SOME REASONABLE HINTS.

AS I am often asked, "How do you raise alsike clover? when do you sow the seed?" etc., I thought I would answer through GLEANINGS. The time to sow depends on the season and the condition of the ground you wish to sow. I have sown it all the way from the first of March to the 15th of May, with good results. I have sown it with wheat in the fall, and received a good crop of honey the next September; but if the winter is not favorable, it is apt to winter kill. It is like other clover—if sown in the spring, the earlier you get it started the better. It will grow on any land that is well cultivated and mellow. Does best on low, black, or sandy land; it does well on any land that will grow good red-top; it will bloom about one week earlier than white clover, and remain in bloom longer. It is the best honey plant I know of; will produce about two tons of very fine hay per acre; it is not as dusty as red clover. If mown early, about the first week in June, the second crop will yield honey all through July and part of August. The seed must be saved from the first crop; thrashed with a common clover-huller with timothy sieves. If you are not very careful you will blow the seed out with the chaff. It will pay to run the chaff through a fanning-mill, rigged to clean timothy seed. Three or four pounds of seed are enough per acre; but if sown with oats or spring wheat, without any other grass seed, I sow 5 or 6 lbs. It is best not to sow timothy with it, if you wish to save the seed. Never harrow the ground after the seed is sown. The seed is so fine it buries it too deep.

If timothy and alsike seed are mixed they can be separated by wind, or a wind blast.

H. B. HARRINGTON.

Medina, Ohio, Jan. 24, 1882.

BEE-KEEPING IN A HOT-HOUSE.

AS there have been various experiments in this line, and as this is the season to try it, possibly my experience will help some in the development of a system of management by which bees can be profitably manipulated during the winter months.

I have succeeded in getting the bees to fly freely without darting against the glass, or worrying upon it, and also in having them return readily to the hive. The room that I used last winter is 8x12, and 7 feet high at the sides, and the ceiling is slanting with the roof. It is lathed and plastered, and has, in the south slope of the roof and at one end, a large skylight. These are the only windows.

I placed a barrel on a box in a corner under the window, and a hive of bees on the barrel so that the entrance at the top of the hive would come near the window. A stove and the door were in the opposite end of the room. I spread a sheet over the window to keep the bees from darting against the glass. Whitewashing the window inside would probably do. I kept the temperature at about 70°. The bees would sally forth in large numbers, and every bee

that had any business to live any longer returned to the hive at night.

My object was to cure dysentery, which was caused, I think, by long confinement and suffocation. They voided freely, and I think the cure would have been permanent if I could have left them there all the time; but I was obliged to carry one back to make room for others; and as the weather was very severe, the disease soon reappeared.

OLIVER FOSTER.

Mt. Vernon, Iowa, Jan. 22, 1882.

I hardly need say, friends, that when we get where we can build up colonies at pleasure, regardless of the season of the year or the temperature outside, we are practically through with the troubles in wintering. Late experiments, and facts furnished, seem to point strongly to imperfect ventilation as the main cause of all our troubles; and as the sub-earth plan enables us to bring in any amount of pure air, without having it cold either, we are pretty near success in that direction. Our friend George Grimm, on another page, seems to have a pretty clear head in regard to the need of pure air, no matter where bees are kept.

A \$25.00 BEE-HIVE.

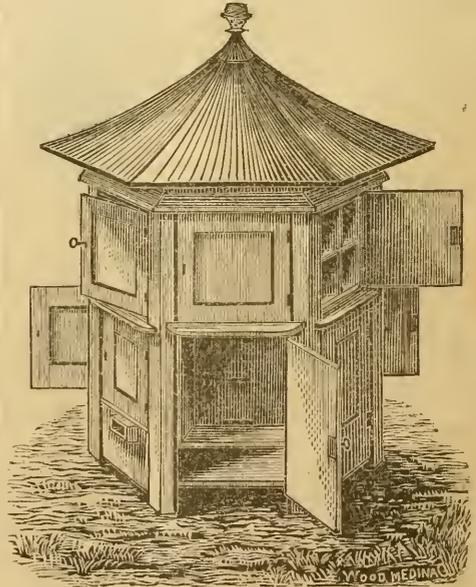
SOMETHING THAT COMBINES THE ORNAMENTAL WITH THE USEFUL.

NOT many days ago a gentleman of pleasing address was hunting the proprietor of the bee-hive establishment. If he was not disappointed in the looks of the man, I rather think he was somewhat in his manners, when he found him very averse to even stopping to examine into the merits of a hive gotten up to embrace all good things known about hives, and some not already known. However, as our friend seemed to be a man of means, and energy as well, he soon had the combined brains of the establishment, including square and compass, paper, pencils, old bee-books, back volumes of bee journals, etc., all at his command. Mr. Gray drew squares and circles, and planned hexagons and other geometrical figures, while your humble servant ransacked his books and brain. Soon the "edifice" began to take shape, and in a week or two, under his daily supervision, Mr. St. John, of Willoughby, O., had the pleasure of beholding the hive you see on next column, as the creation of his own brain.

The hive is a two-story one, and has ten frames above and ten below. Both stories are just alike, and yet the lower frames will lift out through the upper story, so you see the old chaff-hive problem is solved — after a fashion. The fashion is in having frames of five different sizes, for the hive is hexagonal in shape, inside as well as outside. If you will turn back to p. 306 of the June No., and look at that cheese-box bee-hive, you will see just how the frames hang. By drawing out one of the two central frames first, and moving it toward the middle, the top-bar passes through easily, and after this frame is out, it is very easy indeed to lift out the others, even if you do not take all out of the upper story.

There are 12 doors to the hive, each with a lock and key. In the winter time, each lit-

tle closet, as it were, contains a chaff cushion; and one is also put under that imposing cover, which is made of tin, after a sort of oriental pattern. Well, in the summer time each little closet contains 8 Simplicity sections. Over the sections, to keep the bees from building against the door, is a light of glass. Thus you see our friend can take visitors out on his lawn, toward the close of the day, and, opening these twelve doors one after another, display to their astonished and admiring gaze bees working the snowy comb in every one of them. I told him that, if he had a good Italian queen, one equal to the task of filling those ten combs with brood, his hundred, or hundred and twenty-five 1-lb. sections would not be enough for all the bees to work in. At this he gave me a scathing lecture on the cruelty and inhumanity of taxing these little friends of ours to such an extent as to drain their very life blood out of them, in letting them make 200 lbs. to the hive, or even 100 lbs. I had to give up the task of trying to convince him it didn't "hurt 'em" to make two or three hundred pounds in a season, so you can try your hand with him if you choose.



ST. JOHN'S HEXAGONAL BEE-HIVE.

You will notice he has a space under the bottom-board, as well as at the sides and on top, and he claims this space is needed to give them plenty of pure air, and I am sure I do not know but that he is right. The bees go into the hive by going first into this "cellar kitchen," and then crawling up through holes in the ceiling. I suppose the drones, or any other dissatisfied members of the hive, will always come down here to grumble, instead of standing around in the way, among the women folks and children upstairs. The cover is stoutly hinged, so it is a much easier matter to get at the contents than you might suppose. If you want to know any more about it, or want such a hive, write to friend St. John.

BEE MATTERS.

D. GLEANINGS:—I read with interest what Mr. David E. Rose had to say in Nov. GLEANINGS in reference to H. A. Burch & Co. I feel it a duty I owe to bee-keepers, to give my experience in dealing with the above firm. Last spring I ordered 10 five-frame nuclei of them, sending them \$30.00. They acknowledged the receipt of order and money, saying they would ship the bees in a short time. I waited until into June, when I wrote them I was anxious to have no further delay, and unless they could fill the order at once, to return the money. They replied they were filling orders as fast as possible, and would reach my order in a few days. I waited a "good many days," and then wrote them again to send the bees at once or return the money. After some 10 or 12 days they replied they would ship in two or three days. But again they went back on their promise. I did not write them again until August, and then wrote them that, unless they shipped the bees at once, or returned the money, I should be under the necessity of taking steps to collect it. They replied, if I would receive the bees they would ship at once. I replied, "Send them along;" but again they went back on their word. About the first of October, I wrote them, if they would send me 6 good strong colonies I would settle the matter. They answered, if I would take 5 colonies they would "ship at once." I answered, "Send the bees along;" and, sure enough, in 3 or 4 days the bees arrived. But as soon as I lifted the bees I saw it was a *regular swindle*. I opened them, and the bees looked very well. But there could not have been more than from one to two pounds of bees to a hive. They were in 8-frame Langstroth hives; but about one-half the combs were old and entirely empty. I shall have to double them up and feed them, or they will starve.

In July, 1880, I ordered a one-frame nucleus of A. I. Root. I put them into an old-fashioned square Langstroth hive, and gave them 3 or 4 old combs, and in the fall the hive was "chuck" full of bees and honey; so you can see, in all probability, what I have lost in not getting the 10 nuclei colonies as promised. Mr. Rose tells us, when he visited South Haven he counted 243 colonies in Mr. Burch's yard. He does not give the date, but says, "Mr. Burch was shipping off bees, extracting honey, hiving swarms, etc." Can Mr. Rose tell why Burch & Co. could not find time to ship me my bees, or send me my money? I now have 4 full strong colonies from the one-frame nucleus bought of Mr. Root in 1880, and would not give any two of them for the five colonies sent by Burch & Co. I have waited for others to reply to D. E. Rose; but as none see fit to respond, I have. I consider it an *outrage* for Mr. Rose to attack the publishers of GLEANINGS and A. B. J. in the way he does—men who for years have been noted for their honesty, uprightness, promptness, and fair dealing.

F. L. MERRICK.

Kankakee, Ill., Dec. 12, 1881.

I thank you, friend M., for so warmly taking the part of the publishers; but may I not ask of you a little charity for friend Burch? You finally agreed to take five colonies, and he sent them. Now, even if they are not so strong in bees, nor so full of stores as they might have been, shall we not call it settled? Lest some may complain that I have published your letters, and rejected

theirs, I would explain that I want to publish all cases in which Mr. Burch has done something toward a settlement, and thus narrow up the differences between himself and his customers. Is there not another?

DEVELOPING THE CLOVERS.

I THINK it is long enough since I talked clover to the readers of GLEANINGS, so that I can venture to make another report without serious danger of boring them. This season, my third season in the clover experiment, has been remarkably successful (bearing in mind, of course, what slow work developing plants must necessarily be). I will speak concerning my ten samples, in regular order.

No. 1 is one of the most unprogressive of the whole lot; and I have decided to drop it, make a new No. 1 by dividing No. 2 into two samples. The old No. 1 was very much like No. 2, except that it was longer tubed, and less inclined to yield to treatment. The new No. 1 varies from the sample it sprung from by having a more abundant supply of honey in its tubes and by having tubes of greater diameter.

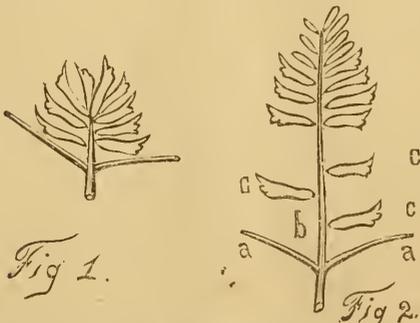
No. 2 is one of the shortest tubed in my collection, and, being also one of the most variable ones, I value it highly. Concerning this sample, as well as most of the others, I should say that their tubes were not this season measured in August and September, when the best figures may be expected; press of work, and sickness, prevented. The best recorded tube length of this sample was in July, 1880—26-hundredths of an inch. My impression is, that this year's seedlings, none of them, went quite so low as that. That is, in fact, within 2-hundredths of being short enough. The most interesting sport or variant occurring among this year's seedlings I have chosen as the founder of a new sample as mentioned above.

No. 3 is dropped, and a promising seedling of No. 4 is constituted a new No. 3. The fact is, I got beat on No. 3. It was a white-flowered one, and I failed to get a white-flowered seedling from it. Every young plant gave red flowers.

No. 4 is also white flowered, and is my favorite sample of all. I didn't get beat on that, although I narrowly escaped failure. About 500 seedlings were raised and brought to bloom, and all were red but one. From that lucky one I had 36 seeds as my stock in trade to begin this season's operations. Although I expected the third generation to be less obstinate than the second, I felt a little dubious. In due time 14 plants came to bloom as the result of this sowing, and four of them were white—28 per cent, in place of one-fifth of one per cent the generation previous. I was happy. If any of you have had a sweet lady say yes to you, after having said no a great many times, you know how it is yourselves. This is not all. Sample No. 4 had never previously been short tubed. It was rather longer than the average. It was its beauty and vigor that made me feel in my bones that I must conquer it. I supposed that I should have to wait till the preliminary difficulty of color was settled before I could shorten the tubes much. Well, it turns out that one of my four white seedlings has produced some of the shortest flower-tubes that I have obtained at all, only 24-hundredths long. Bully! Delightful! Why, I'm just "in clover"! Imagine me tossing my hat, and hopping up and down. But, will there not be some little thorn

among the roses? Many seedlings of this sample have ordinary colored seed instead of white ones. Will my chosen plant be correct on this point? Seeds ripened, and they were white — good enough for one year. I have a fine pot of plants of the fourth generation; but, as may be imagined, could not get them large enough to bloom this year. I wished also to propagate from another one of the four white seedlings, a very rank one with large heads and large flower-tubes. It looked, in fact, as if sometime in past ages there had been an inter-marriage with *Trifolium repens*, and this plant was just faintly remembering it.

No. 5 had another surprise in store for me. The original plant was chosen for its elongated head, slightly resembling the Italian clover; and the tubes at the top of the head would be only half grown when those at the base were in full bloom. It occurred to me at the time, that a slight tendency to change to a raceme probably caused this unusual inflorescence; but I did not think that so radical a change could be pushed to any great length in one man's lifetime. This season, No. 5 has convinced me that racemes of flowers, as unmistakable as those of the melilotus, can be developed on the common clover. What's the use? say you. Let me just tell you. A clover-head is a floral fortification, designed to protect the drops of honey from borers and nibblers. The massing of the tubes in a head is one element of defense; and the length of the tubes is another. The collar in which Sir Clover's neckless head sits, like a boy's head driven down into his shoulders, completes the defense. Changing to a raceme is abandoning the fortification plan. The plan once abandoned, all three of the defensive schemes are likely to subside together. That is, develop a clover with racemes instead of heads, and the tubes will shorten down without any special effort to make them do so. The flowers which surprised me this season were not only arranged in an elongated head as before, but there was a neck about an inch long between the collar and the head; and on this one inch were three or four solitary hairs, precisely as if an inch from a raceme had been put under the head. With the editor's permission I will give a diagram.



HASTY'S DEVELOPMENT OF THE CLOVERS.

In Fig. 2, *aa* represent the stems of the small pair of leaves which support the collar; *b* is the unusual neck, or extension of rachis; and *ccc* the solitary flowers, but none were produced. There were but two heads of this character; and the flowers which were not solitary, few of them had seed; and of the few seed, only one came up. Other heads on the same plant, which were normal except at the tip,

gave plenty of seed. I have constituted this sport a new sample as No. 11.

As to Nos. 6 and 7, I am delayed one year. Either I gathered no seed from them last season, or the seed was lost. I have some late-sown plants, of this year's seed, to go on with next year.

Of No. 8 and No. 10, several rows of nice seedlings were raised. They bloomed freely during the latter part of the summer, but — but — I shall have to wait till they bloom again next summer ere I tell you what progress they made. It is a big job to compare carefully several hundred seedlings, and decide which are the best ones; and poor I didn't get the time. The regular routine work with a sample, you understand, is to raise a great lot of plants; and then when they bloom, to examine, condemn, and pull up all but one.

No. 9, if you chance to remember, is the one I have previously mentioned as likely to be the first to yield a satisfactory bee clover. This year it is jealous, or something — determined that No. 4, that "t'other dear charmer," shall not win me entirely away. In the first place, it has produced some very marked sports with yellow foliage, which I have adopted as No. 12. It has also done what it never did before, — produced a seedling with flowers of the same beautiful tint as the original plant. Then it threw in a "tiger" by producing one nearly white, with just a slight tinge of the original color. Both these seedlings are very short tubed. I think I shall insist on the color in future; experience with No. 4 indicating that tube length can be shortened faster that way than by planting seed from plants with reverted colors. One of the wisest things I got off in my first clover article (GLEANINGS, Aug., 1879) was, "If a habit of sporting and variation can be set up, the variations we desire will be pretty sure to come, sooner or later." It is this consideration that makes me value my yellow-leaved sample No. 12. Not that yellow leaves themselves are any improvement; but seeds of such a sport are likely to be more variable than others; and the next curious sport that turns up may be something valuable. E. E. HASTY.

Richards, Lucas Co., O., Jan., 1882.

POLLEN A NECESSITY FOR BROOD-REARING.

MUCH is being said of late in regard to pollen being detrimental for wintering bees; and out of this there seems to have grown the idea that pollen, although detrimental for wintering, is an absolute necessity for brood-rearing. Hence we find these words: "We are interested about pollen, because bees can not rear brood without either it or some substitute for it;" also, "They (the bees) had no pollen, and of course no brood-rearing could go on without it," and many other similar expressions. I have been waiting for some time to see if these statements would not call out something in GLEANINGS from the other side of the question; but as nobody seems to disagree, I hope I shall be excused for bringing forth a little proof, going to show that a mistake has been made. First, I will give my own experiments, and then the statements of others to substantiate the same thing.

Quite late in the fall of 1872 I ascertained that a farmer, living a mile or more from me, had two (third) swarms of bees which he was going to brimstone the next day. I went to see him, and ascer-

tained that he was willing any one should have the bees if he could have the honey. Accordingly the next day I went and drove out the bees and put both swarms together, as the two would not make more than one good swarm. I gave these bees six frames of new clean comb, without pollen, and fed them \$3.00 worth of coffee sugar made into a very thick syrup. As the weather was cool they sealed but little of it, and I had some misgivings about their wintering, as it was claimed by some that bees would get the dysentery if there were unsealed stores in the hive. In about two weeks they were placed in the cellar with the rest of the bees, having flown but once or twice after I brought them home; and as several severe frosts had occurred before this, no pollen was obtained, of course, as we never have pollen gathered here after the 20th of October. As this was an experimental colony, I began stimulating them in the fore part of March by occasionally rousing them up, causing them to fill themselves, and thus feed the queen. About the middle of March we had a fine day for bees to fly, and, being anxious to know how they were getting along, I set them out. They flew nicely, not even spotting the snow, as far as I could see; and after they had become somewhat quiet I opened the hive and found brood in two combs, each having a space as large as my hand filled with eggs, larvae, and sealed brood. They were set back again in the cellar at night. About April 15th they were set out for good, and I shall always remember how pleased I was to see the white fuzzy fellows playing at the entrance, and circling away in the warm sunshine, for they gave promise of "gain" at no distant day. That season they gave me two nice swarms, and I sold \$30.80 worth of honey from them. I told the neighbor of my fortune, and explained to him how I had worked with them; but as he had kept bees in box hives for many years, and was getting old, I could not persuade him to use the movable-frame hive. From other experiments, I have reason to believe bees can rear brood without pollen, but prefer to give some from other parties, as "in the mouth of two or three witnesses every word may be established."

In the *Bee-Keepers' Journal* for October, 1870, E. Gallup, whose opinions I value very highly, gives a case where a swarm of bees were wintered "without a particle of pollen." He then goes on to tell how he began to stimulate his little swarm with their three small pieces of comb the first of February, and says: "The queen commenced breeding, and by the time the bees first flew out in the spring, they had doubled their numbers." Thus here is proof "second" of many bees being reared "without a particle of pollen." Next we find on page 265, of *Bee-Keepers' Magazine* for 1880, these words from Prof. Hasbrouck: "They are certainly wrong who say that pollen is indispensable to the raising of young bees, . . . because I have had, as an experiment, abundant brood raised by bees shut up on new combs, and fed on refined-sugar syrup when they could not possibly get a grain of pollen from any source." As this comes from an apiarist of close observation, it can be relied on, and I will jot it down as proof "third." Next we find C. J. Robinson saying, on page 201 of *A. B. J.* for 1881, "Pollen, if they have it, forms a useful condiment for both mature bees and larvae, but both can do without it." He then goes on to tell how plenty of brood has been reared when the bees had nothing but sugar syrup.

As Mr. Robinson is perhaps the oldest bee-keeper in the United States, his words are entitled to some consideration more than would be given to those of little experience. Thus we have four persons testifying to the possibility of brood-rearing, to quite an extent at least, when the bees have no access to pollen.

From many observations made during past years, I am of the opinion that the state of the surroundings, such as warm and cool weather, plenty of honey being secreted in the flowers, or no honey at all; a desire to keep up a rapidly diminishing colony, or a perfectly healthy one, has more to do with brood-rearing than plenty of pollen. That the "scramble" for pollen in early spring excites brood-rearing, no one will deny, while pollen may come in quite as freely the fore part of October, and no brood-rearing at all be the result. Much depends upon whether the bees desire brood or not. If they do, they will rear it without pollen, so our experience proves. If they don't desire brood, a hive full of pollen has no effect upon them. Any thing exciting to activity has a tendency toward brood-rearing; while that tending to quietude gives a reverse result.

G. M. DOOLITTLE.

Borodino, N. Y., Jan. 17, 1882.

Very likely we have carried the matter a little too far, friend D., and perhaps bees can get along after a fashion, for a spell at least, without pollen, just as you or I might live quite a while on pure sugar if we could not get any thing else. It is also possible, I suppose, or at least we will try to think so, that we are entirely wrong, and bees can raise brood just as well without pollen as with. You made your experiment almost ten years ago; and is it not possible there was a little pollen in those combs, which you did not notice? Our bees gather pollen, to a limited extent, after frosts, and some seasons even into November. The cases cited by Gallup and Robinson do not seem to me to be by any means as direct as the one cited by Prof. Hasbrouck; and even that does not compare with my experiments in the matter, with which friend D., if not the most of the rest of you, are perfectly familiar. I kept several colonies in a greenhouse for four or five months, and during this time produced brood, and then prevented its production, many different times, by flour feeding, and then withdrawing the flour feed. Brood would be raised a little time after the pollen was exhausted from the hives; but after it ceased, no amount of sugar feeding would start it up again until meal was also given. After this I tried in early spring to get brood reared in stocks that had exhausted their pollen, and failed. After giving the same stock a comb well filled with pollen, whole sheets of brood sprung into existence at once, while the pollen disappeared so quickly as to be astonishing. It should be borne in mind, that we have a locality where pollen is never obtained in such excess as to be a hindrance, as in some places in York State. The idea, that pollen might be the cause of dysentery, I suggested in *GLEANINGS* several years ago. It is much easier to write articles on the subject than to go to the expense of experimenting in a greenhouse; but for all that, I think accounts of recent experiments

in the matter will help us more than long articles on the subject.

SOME NEW TOOLS,

FROM A FRIEND IN MISSISSIPPI.

REPORTS from this neighborhood are not very jubilant. Many bee-keepers have lost stocks in midsummer, with only the unsatisfactory reason—moths—to give as explanation. I sold down to eight last year, and have had six swarms, one of which took to the woods while I was visiting the sick. However, a volunteer colony came to my apiary from the woods a few days afterward, so I am even. Have taken only about 400 lbs. surplus section honey, part of it goldenrod, that smells so unpleasantly I can hardly tolerate it on the table. I am now Italianizing, and it is amusing to see Mrs. M., who has always been afraid of bees, forgetting her fear in the ardor of queen-hunting, and plunging her fingers among the workers to secure a specimen of black royalty. She is always first to see the queen.

SEPARATING THE UPPER FRAMES FROM THE LOWER.

I began this letter especially to describe to you two new tools (new to me) for the apiary. You know how troublesome it is to avoid doing mischief when the bottom-bar of a frame becomes fastened to the top-bar of the one beneath it. To separate them I use a prying chisel like this:



RIGHT-ANGLED CHISEL AND SCRAPER.

It is made of a piece of iron $\frac{3}{8}$ of an inch thick, $\frac{3}{4}$ wide, and 13 in. long, with the edge at a quite sharp, and the distance from *a* to *b* only $\frac{3}{8}$ of an inch. Let the *inner* angle be quite square. Slip the bit *a* gently down between the combs near one end-bar, with the sharp edge next to the "stuck" frame. Insert the sharp edge between the bottom-bar and the top-bar, to which it is stuck; swing the lever over toward the center of the frame, and, presto! that end of the frame is bound to rise without disturbing the frame below it. Repeat the performance at the other end of the frame, and it is ready to be lifted out.

The other implement is even more handy than this. Do all your frames hang plumb? Mine miss it sometimes, and the bottom-bars get stuck fast to each other. Then, too, my bees will propolize section boxes to the separators. Take a piece of $\frac{1}{4}$ -inch iron rod 14 inches long. On one end put a handle, and on the other weld a lozenge of steel, beveled to a sharp edge on one face, making a tool like this:



TOOL FOR SEPARATING FRAMES STUCK AT THE BOTTOM.

Insert the flat blade between the adhering surfaces, give the handle a twist, and "there you are." Then the blade is such a nice comb-plow to clear the tops of frames for mats or upper stories. Just put the point, bevel side down, on one end of space between frames; slide it along to the other end, and pick up your shaving of wax. I have used these tools all summer, and have often thought of sending you a description, but disliked to add to your overgrown correspondence. The fraternity have done

so much to lighten each other's burdens, that emulation to contribute my mite prevails. Try the tools, and you will like them.

Being neither in Blasted Hopes nor the Smilery, I am yours dubiously,— H. A. MOODY, M. D.
Longtown, Panola Co., Miss., Nov. 4, 1881.

Thanks, friend M.; but may I suggest, that both tools be combined in one, say by having the latter on the opposite end of the former tool containing the right-angled chisel? I have sometimes experienced the difficulty you mention, of getting out the first frame from an upper story; but by holding the lower-frame down with a thin strip of wood (say a comb-guide for instance), I have always got one out readily, and after that it was easy to get out the others. If the upper story is to be taken off, loosen all the upper combs that are attached to the lower ones, and then it will come off quietly. In putting it back, be sure to drive the bees from the tops of the lower combs before replacing, to avoid killing any.

SPRING DWINDLING.

WITH SOME OTHER MATTERS FROM FRIEND TOWNLEY.

FRIEND ROOT:—In referring to the past in relation to bees, we are apt to forget that, until within the last eighteen or twenty years, we knew but very little about what was taking place in the "bee world" outside of our own immediate vicinity. We are apt to forget that we had no such valuable works on bee-keeping as those of the honored "Fathers in Israel," Mr. Langstroth, and the much-lamented Mr. Quinby. We are apt to forget that, previous to 1866,* we had no bee *periodicals* making us their weekly and monthly visits, filled with the rich, ripe experience of thorough, practical apiarists from nearly all parts of the civilized world. We are apt to forget that, previous to the publication of these works and periodicals, a large percentage of the bees in the United States might have been lost from some cause, or causes, without our knowledge. In GLEANINGS, Vol. IX., No. 2, page 68, you are asked, by friend Doolittle, why bees did not spring dwindle prior to 1870. Now, I think a more pertinent question would be, "Did not bees spring dwindle prior to 1870?" As evidence that they did not, he refers to a few bees kept in his locality previous to 1870, without loss from this cause; and yet there might have been thousands of colonies lost by it in other parts of the United States without his knowledge. Why, we have now, in 1882, bee-keepers who have never had, and perhaps have never known, a case of what you, friend Root, understand as spring dwindling; viz., a gradual loss (it may be slow or fast) of both the old and young bees in a hive during the spring months, except as they have learned it through the bee jour—periodicals.

My first case of spring dwindling was in the spring of 1843. The winter had been very severe, commencing about the 17th of November, and continuing cold, no weather warm enough for bees to fly until the first week in April. My second loss from this cause was about 1860. I then lost 8 out of 14 colonies.

*The American Bee Journal was first published in 1861. It was soon discontinued; but its publication was again resumed by Samuel Wagner in 1866.

They were in box hives, and were wintered outdoors, on their summer stands, without protection.

TEMPERATURE OF CELLARS FOR WINTERING BEES.

Between the years 1861 and 1870 I wintered a few colonies of bees in a bin in one corner of my granary. They were in box hives, and when they were put in, the hives were inverted. For four or five winters the bin was nearly full of hives. The heat from the bees kept the temperature in the bin above the freezing-point during the coldest weather; when it was too warm outside to freeze, the bees in the bin would be all over the outside of the hives; and when it was warm enough outside for them to fly, they would hang on the underside of the boards, covering the bin in clusters as large as a half-bushel basket. During the seven or eight winters that I kept them there I did not lose a colony or queen, and they wintered with but a trifling loss of bees. I have never attempted to winter bees in a cellar; but after my success in wintering them in this warm bin I would like to ask the readers of GLEANINGS who have had experience in wintering bees in cellars, why they find it necessary to keep the temperature of the cellar down to from 35 to 45 degrees (Mr. Axteel, I think, says from 35 to 38 degrees), while, from my "standpoint," I can see no real benefit resulting from keeping the cellar so cool. I think I can see how it might be the cause of serious loss by condensing the moisture thrown off by the cluster of bees on the outside combs; making the honey thin, watery, and, as I think, poisonous to bees, producing dysentery, and its twin, spring dwindling; unless the hives were made so small (by taking out part of the combs and using a division-board) that the bees would fill the entire space, and with their own heat expel all moisture from the hive.

Jackson, Mich.

J. H. TOWNLEY.

I believe it has been shown, in past volumes, that bees have always died, more or less, the way they do now; but as there were no large apiaries in years back as there are now, it made less of a sensation when a man lost all he had. If I am correct, plenty of fresh air is more essential in cellar wintering, than any precise temperature. Good results have been obtained all the way from 30 to 50°, and bad results have been obtained from the same temperature, with bad air or bad food.

BUCKWHEAT.

ITS CULTIVATION AND VALUE.

BUCKWHEAT is a crop which costs but little, either for manure, labor, or seed, and it is a very convenient crop wherewith to occupy land that could not be planted with any spring crop in proper season, on account of the hurry of spring work, unfavorable weather, or want of help. Besides, the grain can always be readily marketed, and at prices generally much more remunerative than those of the corn crop, when the extra labor of cultivating the latter is taken into consideration. It has been remarked, that buckwheat "favors slack husbandry, being proverbially the lazy man's crop." This may be true to some extent, as fall crops are sometimes grown on quite inferior or worn soils, and with but very little preparation. In fact, the

opinion appears to prevail among many farmers, that this crop will do well on land hastily and imperfectly plowed, at any time when most convenient, and put in in a slovenly, ship-shod manner, without the ordinary care and labor bestowed on other and perhaps less important crops. It deserves good cultivation, however, and I think my bee-keeping friends will find that the increased yield will amply repay for all extra labor performed.

My own practice is to plow as soon as possible after corn-planting—usually about June first—and then harrow occasionally to get the land clean and fine by sowing time. This is very important in dry seasons, the mellow surface retaining the moisture, as was clearly proven during the extreme drought of last summer, where yields treated in this way came up finely and produced air crops, while neighboring fields, turned over just before sowing, scarcely sprouted at all, and the crop was an entire failure. Buckwheat thrives well on a wide range of soils, and will give a tolerable crop, in some cases, on fields which would scarcely produce any thing else of much value. If manure is to be applied, it is best put on the previous year; yet fair crops may be grown on very light and quite inferior soils without manure. Bringing the soil into fine tilth, and rolling the land after sowing the seed, especially on light, dry soils, will improve the growth of the crop, and increase the average product. It is a cleansing crop, of the nature of a fallow, subduing or choking out troublesome weeds. Instances have come under our observation where dock, sorrel, charlock, and even quack-grass and Canada thistle, have been pretty well subdued by crops of buckwheat. One reason why this crop kills out or subdues weeds and grass is, that the land for growing it is plowed and harrowed in midsummer, by which process the roots of the weeds and grass are exposed to the scorching rays of the sun; and then, after the seed is sown, it grows so rapidly that it gets the start of all other vegetation, overshadowing and smothering every thing that springs up.

Besides furnishing food for man, buckwheat is an excellent food for almost all domestic animals, and has been highly recommended by experienced farmers for feeding purposes. It is also valuable for bee pasturage, being in blossom at a season when honey-producing plants are scarce—not so much on account of the quality of its honey, but for the fact that it keeps the bees breeding late in the season, putting them in better condition for successful wintering. I have sometimes thought, that being near to a considerable area of this crop, has had much to do with my success in wintering, when others, in less fortunate localities, have lost heavily.

Buckwheat may be sown from the middle of June to the middle of July in latitude north of forty degrees. It runs the risk of being injured by early frost, if sown much after the 4th of July. It is usually cut with the cradle, and, to avoid loss of grain by shelling when very ripe, it may be cut when damp, as in the morning or at evening. Being slow to dry out, it should never be stacked or mowed away in large quantities together. A better way is to thrash it as it is drawn in, on a dry warm day. The average yield is from fifteen to thirty bushels per acre. Under favorable circumstances, and in favorable seasons, from thirty to forty-five, and even fifty bushels, have been obtained.

L. M. ROGERS.

Oneida Valley, Madison Co., N. Y., Dec. 15, 1881.

Juvenile Department.

Every girl or boy, under 12 years of age, who writes a letter for this department will receive one of David Cook's excellent 5-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50.

MY little friends, some of the older ones have been saying hard things about us. They say we take up too much room, and tell the same thing over again. I think they had "better look to home" on that last matter a little; and about the other, I fear we *are* a little at fault. Now I will tell you: You write short letters, and try to have them different from any of the other little letters; and when they are too long, or tell something somebody else has already told, I will cross out some. In fact, I do not know but I shall have to do this with a good many of the older ones too, or we shall never have room to hear from you all. How do you like this, for instance?—

I shall write you a short letter, as other little girls have done. I am 10. Pa has six stands of bees, his own; some others on shares. He bought 3 Italian queens from you in the summer, and introduced them, and they did well. **BLANCHE GILMOR.**

Jackson, Jackson Co., O., Jan., 1882.

I am a boy 11 years old. I have two miles to go to school, and a dreadful muddy road. I do not get to go to Sabbath-school very often, because it is so far. Pa has fixed his bees for wintering, by leaving the upper story on and filling it with forest leaves. This is the third year pa has taken GLEANINGS.

DILLWORTH COUDON.

Clinton, Henry Co., Mo., Dec. 29, 1881.

Papa has been keeping bees for 27 years, and had very good luck until last winter, when he saved only 13 out of 130. Papa wrote you a letter last month. I like the counter store and Our Homes very much. Papa has the picture of Blue Eyes. Mamma says she likes GLEANINGS as well as *Arthur's Magazine*.

HUGH WHITE, JR.

Broad Run Station, Va., Dec. 27, 1881.

I am a little girl too. I am 12 years old, but I am not very large. My pa has bees too; he had 4 stands last spring, but he has 12 now. He got 21 gallons of honey last year. I help pa look at them sometimes. I hardly ever get stung unless they get in my hair. I like to hold the smoker, so I can smoke them away when they get mad. They call me Babe, but my name is Nancy Emily.

NANCY E. CRAPMAN.

Smoky Valley, Carter Co., Ky., Jan. 9, 1882.

My pa keeps bees too. We lost 5 out of 50 last winter. We got 1000 lbs. extracted, and 1200 lbs. of comb honey. We sold the extracted at 10 to 15 cts.; comb, 15 to 22 cts. per lb. We now have the Italian, Cyprian, and Holy-Land bees; 73 good stocks. We sold 20 stocks. We take GLEANINGS, and I read some of it; and when I can read better, then I want to read all of it. I go to school. We have a mile to go. This is the second winter that I have been to school. I am crippled in my legs, and can not walk very well. I am 10 years old.

JOSEPH YODER.

Middlebury, Elkhart Co., Ind., Dec. 24, 1881.

I am a girl 12 years old. I have one hive of bees; they are Italians. They made about 36 lbs. of honey this year. My father has 12 hives of bees. He has taken GLEANINGS three years, and can't do without it. I want to get one of your 75-cent telephones. I want it to reach three-quarters of a mile. Please let me know if 75 cents and postage will be enough for a telephone that length.

MARY J. HANSON.

Lockridge, Iowa., Jan. 12, 1882.

No; it would cost 50 c. for the telephone, and about \$4.00 for the wire, Mary.

Pa has 3 hives of bees this winter. He had only two in the spring, and one hive of bees died. I like the bees' honey very well, but I do not like the bees, for they sting me. Pa has the bees put on the south side of the house, and has them packed around with chaff, leaving only enough room to give them air. I have only two brothers and two sisters going to school now, and I have to stay home to help pa work. I am 11 years old.

GEORGE E. HUSBAND.

Zimmerman, Ont., Can., Jan. 3, 1882.

My pa has kept bees for about 12 years, and he gave me a colony of Italian bees, and I sold honey amounting to about \$14.00 the first year. The colony swarmed twice, but both swarms died the following winter; but since then I have had bad luck. The old colony died also, the next year. My pa gave me another colony that died too; then he gave me another that is living. I am 11 years old.

FREDDIE GREEN.

Independence, O., Jan. 2, 1882.

I think your pa must be pretty clever, Freddie.

I am a little boy 10 years old. I go to school at Guilderland Center. I read in the Fourth Reader, I have a little brother 3 years old. I live with my uncle. He keeps bees. He had 25 last spring, and now he has got 48, and he took 1500 lbs. comb honey in sections. He winters his bees in the cellar. He takes GLEANINGS, and has got one of your A B C books. I like to look at the picture of your building. I would like to be there. When I get older I am going to be a bee-keeper too.

NEWTON J. FERGUSON.

Guilderland Center, Albany Co., N. Y., Dec., 1881.

I have been reading "Mr. Merrybanks and His Neighbor," and am very well pleased with it. I think John was a smart boy. I would like to go to his "hotel." Pa's bees all died last winter; then he got some more, but he did not get them until after the honey and swarming time. He got little square pans, made out of tin, and put them in the tops of the hives, and filled them with syrup and sugar, and the bees carried it down and put it into the combs. This fall he made one end of the old bee-house into a new house; it has an 8-inch wall; it has two walls filled with sawdust. He thinks the bees are doing very well now. I would like to see Blue Eyes.

FLORENCE J. MARLIN.

Bloomington, Monroe Co., Ind., Jan. 13, 1882.

My father takes GLEANINGS, and likes it very much. I am 11 years old, and last summer I hived 2 swarms of bees. One of them father hived three times, and they did not stay. But one Saturday afternoon, while he was at the city, they came out again, and I hived them, and that time they stayed. The best part of GLEANINGS, I think, is the Juvenile

Department, and Merrybanks and his Neighbor. My father got a Waterbury watch in connection with GLEANINGS, and he said that if I would go through my practical arithmetic this winter he would give it to me, and I am trying hard to get it.

JOHN B. ROGERS.

Grand Rapids, Mich., Jan. 9, 1882.
Stick to the arithmetic, John.

I THOUGHT I WOULD PRINT A FEW LINES TO YOU. I AM A LITTLE BOY SIX YEARS OLD. I GO TO SCHOOL EVERY DAY, BUT I HAVE NOT GONE THESE LAST FEW DAYS, AS I HAVE BEEN SICK WITH THE CHICKEN-POX. MY FATHER HAS 38 HIVES OF BEES, AND I AM NOT A BIT AFRAID OF THEM. I GOT FIVE CENTS FOR EVERY SWARM I SAW THIS SUMMER, AND I HELPED MY FATHER TO EXTRACT; BUT OUR BEES ARE NOW PACKED IN A CHAFF BIN, AND THEY ARE IN GOOD SHAPE. MY FATHER TAKES THE A. B. J., THE A. B. C., AND GLEANINGS.

ALFRED RUSSELL.

MILLBROOK, ONT., CANADA, NOV. 21, 1881.

Well done, Alfred! Here is your book.

I like my book very well. I like to read it better than any book I ever saw. I think the "Giant-Killer" a good story. That picture of pa and the bee-hive was nice, but ma says he is better looking than the picture. I send you 5 cents for a book for Eddie (my elder brother), as he is too old to write for one. I think that was a funny mill you had, to grind all night by itself. Our mill runs by steam, and it would not do much if there was no one to attend to it. Pa is out looking at his bees, and Georgie is at the window calling him. Georgie can eat more honey than any person I ever saw. It saved his life once. I think honey a good medicine, but I don't like bee-stings.

JOHN G. SITES.

Spring Station, Ind., Jan. 9, 1882.

Tell your ma, John, that she and my wife think exactly alike—about their husbands.

I will soon be 11 years old. I like to read the letters from the young people, but I do not like to work with bees, for they sting me awfully, and I have no rheumatism to cure. I go to school to mamma at home. I study astronomy, geography, history, arithmetic, dictionary, grammar, reading, and writing. And then I help to cook with mamma. I can make excellent bread and coffee, and can kill a chicken, clean it, and fry it, or make it into a pie as nicely as any one. Besides, I can make preserves and jelly. I have two sisters and one brother, and he is fond of helping about the bees. We all go to Sunday-school, and every three months we get one of David Cook's books as a prize. I wish you all a happy new year.

LEM FAW.

Plantersville, Texas, Dec. 15, 1881.

Pretty good, Lem, and I think your mother must be a rare teacher, not only in "astronomy," but in some things closer to our homes. Are you sure you could make a chicken-pie for me, if I should some day pop into your house to see your bees and pay you a visit?

I am a little girl 11 years old. I have 4 sisters and 4 brothers. My eldest sister is married, and has left home. We live 3 miles from the city, on a farm; but we attended Sunday-school this summer at our district schoolhouse, which has just closed for the season, and myself and sister were rewarded by our

teacher with a present for Christmas. Our house is surrounded on the north and west by a thick grove of timber; to the south and east is our farm land. On a sloping ground on the south side of the grove, father keeps his bees. He has 10 in the cellar, and 8 out in the apiary, packed in tenement hives, and chaff cushions on top; those in cellar have cushions also. I like to help him work with the bees better than to wash dishes. I like the Italians better than the blacks. The blacks do not keep the moth out of their hives. Father took about 400 lbs. of honey last summer; about half of it was nice comb honey. We are all so fond of GLEANINGS, I do not know that we could keep bees without it. We have kept bees only two years now.

LIZZIE BRICKNER.

Decorah, Iowa, Dec. 26, 1881.

I am 11 years old. My father has got 5 hives of bees; they did not carry up any honey for two years. My brother has two hives. He has been feeding them. I have a brother Herman, who had a hive, and it did not lay up any honey, and he forgot to feed them, and they died. My brother put straw around his hive. He has been feeding his bees syrup, made of sugar and water, by putting it into a can and putting a cloth over it, and turning it upside-down in the upper part of the hive, where they could carry it down into the combs. He has not been feeding it for a week or two. I want to get a swarm as soon as I can. I had a swarm once, but they died. Father had a swarm of bees go off, and my brother, about 12 years old, followed them to a tree, and sawed off the limb, and carried them home on his shoulder, and all the people turned out of the road, for they were afraid of getting stung; but they did not sting my brother. Once there was a swarm alighted in a tree near by, and we did not see them, and they started to go off; but my father took the looking-glass and fetched them down to a little tree, and my brother sawed off the limb. Some of them fell off to the ground, and my brother picked them up and they did not sting him, and hived them. I go to church.

CLARENCE GREEN.

Independence, O., Jan. 7, 1882.

I am only 7 years old, but I thought I would see if I could print you a little letter for GLEANINGS. I can't write, but I can print a little. Well, I will tell you about my papa's bees. He had 20 stands last year, and he has 52 now; he didn't get much honey. His bees are all yellow. I help him work with them sometimes. Papa was at your home about six weeks ago; he said he didn't get to talk to you but a minute, because your father was dying. He has just been reading in your paper about your father's death. I am glad my father isn't dead. He said your boys and girls were good to him when he was there; he said he never saw your little Blue Eyes, but he saw *big* Blue Eyes (Bess). My eyes are not blue, but my little sister Anna's are. They are blue as a bluebird. Papa says you like little girls who go to Sunday-school. Well, I live within 50 steps of the church, and I go to Sunday-school every Sunday. Well, Christmas is over, and I have got a lot of presents. We are going to have a Christmas-tree to-night, and I will get some more presents. Papa says you don't like men who use tobacco, and you give them presents to quit. You won't have to give my papa presents, for he don't use the nasty stuff, nor drink whisky either; but he won't go to Sunday-school with us all the time. He would rather watch the bees. Well, Mr. Root, this letter is so long I am

afraid you won't like it. If it is too long, throw it away. Papa told me how to spell the big words.

Poseyville, Ind., Dec. 26, 1881. VIOLA RIGHT.

Well, that is a real good let'er, Viola, and I think more of your papa than I ever did before, since I have found out he has a little girl who tries to be good. I do love little girls (and boys too) who go to Sunday-school. I am very glad indeed to know that your papa won't have to have a smoker to get him to stop using tobacco; but I do wish he would go to Sunday-school every Sabbath. I know the bees would look prettier to him after he got home. You tell him to try it, and see if it is not so. It was very right and honest of you, Viola, to tell us that you could not spell all those big words without your papa's help. May God bless both you and your pa!

DYSENTERY.

ALSO SOME GOOD EARNEST WORDS ON VENTILATION.

GLEANINGS and its able editor obtain, without me, abundantly the well-merited praise; my tribute is to its contributors for their efforts to promote the science and solve the mysteries of bee-keeping; and none, I believe, deserve more credit for their work than Mr. Heddon. His lessons, based on practical experience, have been unexceptionally good, and, I believe, correct, while his new and sometimes surprising theories have at least been productive of much investigation. Unwilling though we may be to believe them, it is harder to disprove them. His latest theory, that the consumption of bee-bread will cause dysentery, I am inclined to believe, but not without a qualification. For my part, I think we commit an error when we seek for any one cause as the basis of this disease. Disease in the human race does not in all cases necessarily originate from the same source. If foul brood among bees may result, and does result, from various causes, may not dysentery? It may result from the consumption of fermenting honey; it may result from the consumption of bee-bread, or it may result from too long confinement, even though fed on healthful honey alone. If, "in our common ignorance, all have a right to guess," I shall guess that dysentery results from these and other causes. And it is more than a guess,—I believe it. Assume any one, and there will be instances that it can not cover.

There is, however, one element of importance that has generally been overlooked in the consideration of this question. It is the condition of the air surrounding the bees; and it is its effect on the food of the bees, be that honey or bee-bread, or on the bees themselves, or both, that most frequently leads to the disease. If bacteria are the result of the decomposition or fermentation of the honey or honey-moistened bee-bread, and if the bacteria theory is that dysentery is caused by the consumption of this decomposed or fermented matter containing bacteria, then I am a "bacteriaite." It is settled to the satisfaction of many, that the consumption of fermenting honey during long confinement will cause dysentery, and in the same way decomposing bee-bread may cause it. Wintering bees in a damp, poorly ventilated cellar, unless every other condition was very favorable, has always produced the disease, especially during long confinement; while

in well-ventilated cellars, where the temperature, and even the atmosphere, is partly under control, bees in the poorest condition as to honey have wintered well, and when in good condition never failed to. In the fall of 1880, my bees had probably as poor honey to winter on as bees ever had. Four large cider-mills, within a radius of one mile, supplied them with juice till late in the fall. I had witnessed the result of cider diet some half-dozen years ago, the loss of the greater part of an apiary, and my forebodings were not of the pleasantest kind. Still, my loss was small for that winter—less than 10 per cent. The reason was that my cellar was at all times supplied with pure air. Even in the coldest weather, when all ventilators except the chimney had to be closed, I would let in pure air from a heated room adjoining. Thus the thin unsealed honey would thicken and ripen rather by evaporation, than sour. This year again I feared, but for the last time, and never again will I trouble to remove unsealed honey by extracting, or fear late feeding. I fed to the very day when they were removed from the cellar, and the weather had been damp and rainy for six weeks; still to-day, January 19th, every one of my 610 colonies is in nice condition, and the air in the cellar apparently pure enough for a sleeping room. Yesterday it was two months since they were put in. The temperature has ranged from 43 to 46 in one cellar, and from 47 to 50 in another. Of the third I kept no record. And as to outdoor wintering, the theory of the influence of the atmosphere on the food holds equally good. It is the moisture generated by the bees by invisible perspiration, as well as the natural moisture contained in the air, that often causes visible fermentation of the honey. If it is not true that the condition of the atmosphere cuts a figure as a cause of dysentery, then let us discard our moisture absorbents in the shape of chaff cushions, and do away with upward ventilation and cellar ventilation.

Pure air is necessary to sustain life. Why not that of bees as well as that of man and beast? Pure, healthful food is also necessary to sustain life, but impure air will corrupt the best food, and unhealthy food will destroy, not nourish, life. Now, I do not know whether bee-bread is the natural food of a mature bee or not, nor do I know whether they ever taste it except to feed the larvae; but I do know that good honey is its natural food; and feeding on impure or fermenting honey will, in my opinion, as surely cause disease and death to the bee, unless counteracted, as unwholesome food will to man.

Though I am convinced that I am right in this, I can not deny that I think it more than likely that the manipulation, and consumption, if such there be, of bee-bread in breeding during confinement, will also cause the dysentery; and again, I am convinced that healthful honey under other adverse circumstances will do the same. A variable temperature and long confinement is all that is necessary.

I may be wrong—bee-bread may be the only cause, or something else may be; but while we are in ignorance of the cause, and can not remove it, let us do as prudence dictates—use such means to prevent its appearance as have so far proved most effectual: Good colonies, good honey, good air, and an even temperature, trusting meanwhile that some one will soon win fame by unraveling the mystery.

Jefferson, Wis., Jan. 19, 1882.

GEO. GRIMM.

FRAMES THAT CAN BE USED EITHER SIDE UP.

SOME INGENIOUS METHODS FOR MAKING SUCH FRAMES.

IN some of our former volumes it was suggested that the bees could be made to fill every frame clear, down, and build the combs tight to the bottom-bar, by placing the frame upside-down a few days, during a yield of honey. It is true, a few cautious ones tried to make out that it would injure the brood by so doing; but others, of larger experience in transferring from various kinds of hives, soon dispelled that notion. With ordinary hives it is a rather difficult matter to put suspended frames bottom-bar upward; but in the chaff hive we can do this in the upper story without trouble, and this is the way I often get fractured combs mended, by fastening the comb back in place, close up to the top-bar, and then letting it remain resting on one of the lower frames, in an inverted position. Well, our friend below has a very ingenious plan of making frames so they can be inverted at any time, and still hang on the rabbet either side up.

Friend Root:—At the convention recently held in Battle Creek, Mich., L. C. Whiting read a paper about the coming hive with reversible frames, etc., originated by VanDeusen, of Sprout Brook, N. Y. It may interest some to know that, a year ago, I made frames reversible, and have experienced the benefits enumerated in his paper. I inclose to you by mail my method of doing it, and, as you see, it can be applied to any frame with comb in, if desired. I have my material cut for frames for next year, and all are to use the metal arm. I use the L. frame with wires; for the support in the center, I use a strip $\frac{3}{8}$ wide, of picture-back stuff—and by its use secure openings by its side through the cards for winter passages. I have always pressed the wires into the wax by the use of an "excavator" (everybody will know what that is, if they have ever been to a dentist), bending the point to an angle of 45 degrees, and on that foot cutting a slot to ride on the wire. Your button-hook arrangement is the same.

One great advantage of the reversible frame is to secure the comb well drawn out, and attached to both top and bottom bar.

I will suggest, that with my frame there is little chance for the bees to stick them down—a metal arm resting on a metal rabbet. Again, it will always hang perpendicularly, there being but one place of contact; and if desirable to raise the frames from the bottom-board for winter, it is easily done by placing blocks under the lower arm. I send you one end of the frame.



BURGESS' DEVICE FOR A REVERSIBLE FRAME.

By turning one arm under the bottom-bar, the other is secured fixed for hanging on the rabbet, and *vice versa*.

Weather is fine; bees are flying to-day, and every few days so far. I am wintering 58 colonies. They were in fine order when put into winter quarters,

and are on summer stands, in double-walled hives, the inner walls made of plaster $\frac{1}{2}$ inch thick, and filled between with shavings or fine chips. My hive, like your chaff hive, is to remain the same summer and winter. Of course, it is "the best hive made." None for sale.

And now I wish you a merry Christmas, and success in all your undertakings. In regard to the frame, if it looks foolish to you, throw it away and say nothing about it. I am not sensitive, but I like the frame that I can turn over. F. W. BURGESS.

Huntington, Long Island, Dec., 1881.

The above idea is extremely ingenious, but I can not quite agree with our friend in saying it will cause the frame to hang straight down. Supporting frames by a single nail or wire is quite an old device, and the matter has been discussed several times in our back volumes. Should the bees store more honey or pollen in one side of the comb than the other, it hangs any thing but straight, and sometimes causes much trouble. Any comb that swings on pivots, as it were, must have some kind of a stop at the bottom. If the bottom is free, we want two arms at the top, and the further apart these are, the truer the frame hangs. Now, although frames can be reversed, and with the effect of getting the combs built clear down to the bottom-bar, shall we ever need to reverse them more, after we once get them so built? If not, why should we go to much expense just for this one occasion? You can, if you desire, set all your frames bottom up, on the bottom-board of the Simplicity hive, and then slip the hive over them. If the bottoms are not spaced true, fasten them by wedges, and after about three days, or even less, during a honey yield, they will be done, and can ever afterward "stand on their feet." In other words, just turn your hive upside down a few days, to make the bees finish the bottoms of their combs.

FOUL BROOD.

DOES IT EVER ORIGINATE FROM CHILLED BROOD?

FRRIEND ROOT:—A bee-keeper living near Northall, Los Angeles Co., says that foul brood is not heard of lately, but that a few years back there were apiaries that were bothered with it. He was correct in that assertion; but when he says that the claim, that diseased honey being fed to bees was not the cause of the first appearance of foul brood in Ventura Co., he is decidedly "off." I claim to be the bee-keeper who imported the disease to this county, but disclaim any "honor"—on the contrary, it was a sad misfortune. It was brought about by a dry season, the particulars of which I gave to the Los Angeles Bee-Keepers' Association in 1878, and which was copied by the *American Bee Journal* and many leading agricultural papers, to which article I refer Mr. Lechler. His further remarks, about foul brood being only in apiaries where artificial swarming was practiced, are not verified in any particular case that has been reported to the Ventura Bee-Keepers' Association.

I have consulted all the parties who made the claim, that diseased honey was the direct cause of the appearance of the disease, and none of them, so far as I can ascertain, have ever met Mr. Lechler at

for a number of years, he will find good bee-keepers who use all sizes and shapes of hives, and who manage bees in all the different ways imaginable, and successfully too. He will also find some who manage bees in his ideal way, who are not successful. With all these different styles of hives, and different ways of managing bees before us, should we not have a broad charity for all?
J. G. COREY.
Santa Paula, Cal., Dec. 31, 1881.

Yes, we should all exercise charity, friend C.; and while I am about it I would say, that I talked with Prof. Cook recently, while he was with us at our Farmers' Institute, in Medina, and he said that it is utterly impossible that foul brood should originate from chilled brood, or brood that died from a natural cause.

FROM THE BOX-ELDERS.

IT had been some time since we had paid our friend a visit at the Box-Elders; and so one bright starlight evening, just before Christmas, we gave him a call. As we entered the sitting-room we found Mr. Duster seated at a table covered with books, magazines, newspapers, etc., while on the other side sat his wife busily engaged in some mysteries of female handiwork. (Ghosts, and these female mysteries, never appear, except *at night*. So says Mr. Duster.) At one end of the room was a bay-window filled with plants. A strong and thrifty ivy had been trained up on either side of the window, and so along the upper sides of three walls of the room — its trailing, drooping branches, over and down among the pictures hanging on the wall, gave a pleasant effect; while over all, the mellow light of a lamp suspended from the ceiling in the center of the room revealed every object distinctly.

As we scated ourself, the revelation came to us why Mr. Duster was not seen down town evenings. He had what every man in ordinary circumstances *can and should* have, and good sense to know and appreciate too — a *home*. Home! I can hardly leave this subject, as the very word fills my mind with so many pleasant recollections and scenes of the past; but I must pass on. Suffice it, Mr. Duster neither chews nor smokes tobacco, and he would as soon think of coming into this room with his face and hands unwashed, his clothes befouled by the worst smell invented, as to come with a tobacco-pipe sticking in one side of his mouth, and a tobacco-cud in the other, into the presence of that woman sitting just across the table yonder, who, by the by, is the same one who sang out to Mr. Duster to "hold the fort" at the time the bees chased him into that little out-house. (See GLEANINGS, Feb., 1881.)

"Yes, I put my bees into the cellar nearly a month ago," said Mr. Duster, in answer to an inquiry of ours, "and I hardly know, although the weather has been very mild, whether it would have been better to have left them out until now or not. My practice has been to leave them out as long as I could in the fall, and keep them in the cellar as late as possible in the spring, and then not encourage breeding, to any extent, until settled warm weather comes.

"MY OPINION

upon this matter is, the quieter the bees are kept, from the time they are put into the cellar until the weather is pretty steadily warm, the better. Instead of stimulating our bees into activity for early breeding, I think the reverse process should be our study.

We should hear less of spring diseases and spring disasters; and when we open our hives we should not be met with an 'abomination of smells,' but rather with sweetness, brightness of comb, and neatness generally."

"What can you say about

DYSENTERY,

and what has been your experience with it?"

"My bees have had it at times, off and on, but I have never lost a swarm by that disease, that I can recollect. I have no particular *theory* in regard to it. I think there are many things or conditions that will develop it; and now for some hard facts."

Just here Mr. Duster stopped short. I looked up and saw him gazing at the fire, completely absorbed. Soon a smile came creeping out of each corner of his mouth, spreading over his chin, and then mounting up to his eyes until you could hardly see them; the wrinkles on his forehead moved and lifted; his very ears seemed to jerk up and down in sympathy. It came at last, and such a laugh!

"You will excuse my rudeness," said Mr. Duster, "when I tell you I was thinking of Heddon's (hobby) horse named 'Bacteria.' You see, he don't ride it himself, exactly; he's too sharp for that; so he put a fellow on by the name of 'Guess,' a sort of Yankee production, I reckon. Already two or three writers have stepped out to take a whack at that horse and rider. I can almost see the grin on Heddon's face; he has got them in just the position of 'heads, I win; tails, you lose.' Let me see," said Mr. Duster, resuming; "I was going to give a few cold facts.

"I have told you before how I prepare my bees for winter by using straw mats on top, and sometimes at the sides of the frames, and then filling the upper story with the fine, soft, silky leaves of the box-elder, taking as much pains in packing for the cellar as many do for outdoor wintering. I get *warmth* and *even temperature*. See? no dysentery. I never disturb my bees to give them a fly in winter. I'll keep still if they will. See? quiet; no dysentery. Now and then there is a stock that gets uneasy; I watch for them, for I know that, if not stopped at once, I have a case of dysentery, more or less severe, on my hands. I go into my cellar, and listen. I believe I can tell by the peculiar whine of a bee if it has the belly-ache," said Mr. Duster drily.

"Nine times out of ten I have succeeded in quieting them by giving water at the entrance on a sponge, *at once*, before they get much disturbed. I reason, that it was water they wanted, and if they did not get it they would gorge themselves, and then have dysentery. I do not suppose that water, or, rather, the want of it, is the *only* cause of this trouble, as I have said before; but I am strongly inclined to think, that in *first-class cellars* this uneasiness can be stopped in this way, if adopted soon enough. I recommended it to a gentleman last winter, whose bees had got uneasy, and had commenced spotting their hives. He tried it with success. The conclusion I come to is pretty much like Quinby's:—warmth, proper surroundings, and quiet. Get quiet, and you'll have no dysentery."

As I was about to leave, Mr. Duster said, in conclusion: "There are exceptions to all rules: I lay nothing down as positive. We must use our best judgment in this as in any other matter or business, making use of facts as they come to us. If I have had any success with bees, it has been by following these two conditions;—For wintering safely, even

their apiaries, nor in either our County or District Bee-Keepers' Association meetings, where all these points have been fully reported and discussed. In conclusion I would say, that if our bee-keeping friend would visit his bee-keeping neighbors, read all the bee literature he can find, and continue to keep bees temperature, warmth (comfort) and quiet. For honey, large stocks, with as little swarming as possible."

Although I have given a description of Mr. Duster's cellar elsewhere, I think the fact that, for a large number of years, he has not lost a swarm by disease, is a sufficient excuse for my doing so again. It is about 22 ft. wide by 28 long and 7 deep: cemented bottom and sides, and is frost-proof. There is a wide gangway with double doors leading into it from the outside, also a door from the sitting-room above. In this room (see description at the commencement of this article) is a hard-coal stove, burning day and night, to warm the rooms above. This, in my opinion, has a great deal to do in modifying the conditions of the cellar to the wants of the bees, and making it a first-class one.

R. H. MELLETT.

Amboy-on-Inlet, Ill., Jan. 3, 1882.

Friend M., Mr. Duster may be right about it, but I should hardly prescribe water for the kind of "ache" he speaks of; nevertheless, he may be right. It only corroborates friend Simpson's experiment, given in our back volumes, of the bees that wintered so well under the wet and dripping straw, and friend Boombrower, who wrote "Chapter I.," in the Sept. No., and has never as yet given us Chapter II., which we have been so patiently waiting for.

RAISING PLANTS EXPRESSLY FOR BEES.

SOMETHING ABOUT THE SIMPSON PLANTS AND ALSIKE CLOVER.

FRIEND ROOT:—I believe I promised to report on the success or failure of the honey-plant seeds I got of you in the spring of 1880; and as reports are in order, here goes.

First, Spider plant. From some cause the seed failed to germinate in the hot-bed. The Simpson seemed to all grow. I transplanted 500 plants from the hot-bed, in rows 4 ft. apart, plants 2 ft. in rows, and by the first of August they were 6 and 7 ft. high, and well covered with bloom. I could see the honey in the little pitcher-shaped blossom, but not a bee on them, although there was a steady stream of bees flying over them from morning till night, visiting the Alsike clover in my wheat-field. My wife commenced to laugh at me about my wonderful honey-plant, and the neighbors, as they would drop in for a call, would ask, "What are those tall weedy-looking things that you have there?" I was ashamed to call them honey-plants and not a bee on them, so I concluded I would pull them up some dark night, and throw them on the beach at high water, and let them go out with the tide, and thus be rid of them. One morning, two or three days later, my wife came running down where I was working in the garden, and said, "Come quickly and see the Simpsons!" I made a rush for the honey-patch, and such a sight! They had found it, surely enough. There were thousands of blossoms, and there appeared to be two or three bees to each blossom, pushing and crowding for the nectar, and such a humming and roaring one would think they were on a first-rate robbing expe-

dition. I call the Simpsons a decided success; nine weeks of steady work for the bees, when nearly all other bloom is dried up. I am satisfied that an acre of plants, as thrifty as those in my garden, would produce from 400 to 500 lbs. of honey, and I think a long way ahead of goldenrod or aster honey. The catnip—well, that is good for white-faced bumblebees. Hoarhound, the bees worked some on it; sunflower, not a bee touched it; melilot clover failed to grow (think the seed was old).

ALSIKE CLOVER.

I put the 6 lbs. on $1\frac{3}{4}$ acres of wheat; sowed it on a light fall of snow in February, and think I struck a "bonanza" when I tried Alsike. It didn't make much of a show until about the middle of June, when it "commenced to climb." July 20th I cut three small bundles in full bloom that measured 3 ft. 4 in. tall, and which I sent to the postoffices in my vicinity, to show the new clover. The result was, every farmer in the neighborhood came to see the famous clover growing, and of course all wanted seed. I let the wheat stand as long as I dared to, in order to ripen as much of the clover seed as possible, then cradled and bound it with the wheat, and thrashed it by hand, in order to save the chaff. I sold the chaff, 3 sacks, for \$1.00, and had 20 lbs. of clean seed in the fanning-mill; and, what is better, there are 10 acres sown within reach of my bees, and they seem to prefer it to white clover, and I can see no difference in the honey.

Now, this year, 1881, the clover was simply "immense." It commenced to bloom by the middle of May, and from that time till the 12th of July it was one continuous hum of Italians. I then cut one acre of it for hay. The lowest estimate was $3\frac{1}{2}$ tons per acre, and up to $4\frac{1}{2}$. The $\frac{3}{4}$ of an acre I cut for seed, thrashed it by hand, and sold \$83.50 worth of seed, and have 15 lbs. left for my own use. I think I can safely say, that Alsike clover and the Simpson honey-plant are a success here on Puget Sound.

H. A. MARCH.

Fidalgo, Whatcom Co., Wash. Ter., Dec., 1881.

Friend M., I do not think it was because the bees did not find the Simpson plants, but because they were too busy on something else to notice it. After the other forage failed, then all hands turned in for the sweet water in the little pitchers of the Simpson plant. While basswood yields, our bees never look at the Simpsons here; but just before and just after, it is roaring as you describe.

STRAY THOUGHTS ON BEES-NESS.

WHEN DOCTORS DISAGREE, WHO SHALL DECIDE?

IT is somewhat amusing to read in the different pages of GLEANINGS the varied experience of the different bee-keepers, scattered as they are all over this broad land, from Maine to California, and from New Orleans to some place in Canada. One builds a chaff hive, his bees winter splendidly; he naturally thinks he has found a bonanza; another builds a cellar, his bees come out in spring in a thriving condition; he immediately proclaims to the world that cellar wintering is the only correct principle. Another winter comes; my chaff-hive friend finds nearly all his stocks dead, while those of his neighbor in cellar come out all right. Hurrah for cellar! Another winter comes, and he of the chaff

is this time victorious, while those in the cellars are "gone up," and you find him in the predicament of our friend in May No. of GLEANINGS for 1881, "This Apiary for Sale."

One advocates chaff cushions, division-boards, blanketing bees during winter; others advocate "letting them sit on their summer stands," and all seem to advocate their way as the best. One man says you must take your bees out for a fly during a warm day in winter; another says, "The less you disturb them during winter, the better," etc., until your poor bewildered novice in bee-keeping, halting between the dozen or more opinions, finds himself in the position of the traveler who inquired which road he should take to reach a certain town to which he desired to go, and was told that it did not make any difference which one he took, for before he got half way through he would wish he had taken the other one. So it is with us. It makes no difference which way we winter our bees; in the spring we will wish we had taken the other way.

One man informs us that, in order to make bee-keeping pay, you must accustom your bees to frequent handling; another says, "If you want honey you must disturb your bees as little as possible." These different kinds of advice are given till the poor victim, after trying each one in a vain endeavor to get some profit out of his bees-ness, gets his hopes blasted, and, discouraged and sick at heart, he gets in the shape of my friend mentioned above, or else he gets mad and kicks the bee business higher than a kite, which I never do. If I had, perhaps I would have fewer losses. A. W. WILLMARTH.

Embarrass, Waupaca Co., Wis., Dec. 24, 1881.

I admit, friend W., that there is considerable truth in what you say; but, after all, there is another and brighter side to the "bees-ness." If you will look back over the reports of the past year, you will find that a great many are succeeding, and succeeding splendidly too, even though many of them be but beginners who have been guided solely by the journals you seem to think so inefficient as guides. Your points are good, and we without question need, most of us, to be careful about rushing to conclusions; but, while we get from 100 to 500 lbs. to a colony, and reports of over 100 lbs. are coming from almost all localities, need we be very much disheartened?

FRIEND MUTH TELLS US ABOUT FOUL BROOD.

ALSO SOMETHING ABOUT CANDIED HONEY.

IT does not often happen that I can write an article on bee culture; not because the subject has lost interest, but because other business prevents. I have occasionally no time to read a bee journal for weeks. This time, however, I looked over your January No. of GLEANINGS, on receipt of it, and think that a reply is necessary to several remarks from different friends, in regard to foul brood.

The remarks of friend Touchton, of California, p. 16, show that he is, perhaps, like myself, too busy to read our bee journals regularly, or he would not say that I stated to have had one hive of bees infected with foul brood. I have had a hundred hives or more infected with the malignant foul brood, which originated, however, from one hive purchased of a party

in Kentucky eight years ago. I have burned up perhaps 10 or 15 hives, colonies and combs. All the rest I have cured. Every season, almost, I have made a statement of my experience in that line at our yearly meeting, or in one or the other of the bee journals, in order to draw attention to the importance of the subject. I will mail to-day to friend Touchton a copy of my "Practical Hints," which will acquaint him with a sure cure for foul brood. But the treatment requires promptness, and a thorough disinfection of every thing that comes in contact with the diseased colony. Interested friends must look up former statements, as I can not afford to give details just now. As no beginner, making his first attempt, should expect to meet with the success of an experienced hand, he should not altogether contradict a theory based on experience. I do not here reflect on friend Touchton; but I can cure with salicylic acid a colony of bees affected with the worst kind of foul brood, and with the first attempt, and I am not afraid to prove it. Friend Jones may suggest a plan, and I will satisfy him. I would, before this, have satisfied him at his own apiary, had my business permitted a trip to Canada. Brother Savage and I used the starving process when the disease made its first appearance in our apiaries, and I am certain that he will tell Brother Jones, as I do, that it is an insufficient remedy. Brother Duncan had no foul brood, if turning the bees on to him remedied the disease. Such, at least, is my experience.

The friend you mentioned on page 48, sent me by mail a piece of comb containing unmistakable signs of the malignant foul brood, and I so told him. This piece of comb, placed within reach of bees, would infect with the disease the hive of every visiting bee; and if exposed, in spring or fall, when honey is scarce, would infect, eventually, every apiary in the neighborhood, visiting bees carrying the fungus home with them on their legs or feet. But if you, friend Root, have seen no foul brood yet in your apiary, our friend mentioned above must look for other quarters as to the origin of his case.

CANDIED HONEY IN JARS.

I have to say that, in years gone by, I have taken great pains to keep my friends supplied with the liquid honey. As their customers objected to granulation, we kept exchanging, whenever and wherever it was desirable. My own retail customers would object to granulation, and we therefore kept our shelves filled with liquid honey all the time. It was not a small nor a pleasant job to constantly reliquify, re-label, and re-box lots of honey, and often the same lot several times. But that time is past. Our customers, and dealers as well as customers, are posted. They know now that pure honey will granulate, and that it will granulate just as surely as it is pure. No exchanging of granulated honey has been necessary for the last two years, and you can see our shelves filled with honey, granulated just as solid as can be expected of the pure article. It is amusing and interesting to notice the change of opinion; as, viz., we have four shelves in the store, one above the other. The lower one is filled with half-pound tumblers; the second one with 1-lb. jars, and the third one with 2-lb. jars, all granulated solid. On the upper shelf stood 3-lb. jars, recently liquified (from the barrel). A customer was asking for a 3-lb. jar of honey a day or two ago. A young man was about to get down a jar, when our friend no-

tied the granulated honey below, and purchased 2 two-pound jars of it, because he *liked it best!* Such never happened a few years ago. It shows that the common sense of our people soon learns to discriminate. I venture the prediction, that in the near future, adulterators will turn their attention to the matter how to best granulate their vile stuff.

Cincinnati, O., Jan. 7, 1882. CHARLES F. MUTH.

THE WINTERING PROBLEM, ETC.

ALSO SOMETHING ABOUT "THAT WONDER," THREE-BANDED HYBRIDS.

An article in Oct. No., by G. M. Doolittle, on the subject, "Queens whose Daughters all Produce Three-banded Workers," no matter whether mated with a black or an Italian drone, seems to be a stunner to Mr. Jerome Wiltse. On reading Mr. D.'s article on the subject, I found nothing to surprise me, as I have often had queens whose daughters would never produce black bees, no matter what kind of a drone they had met. Being about the first to introduce the Italian bee into this State, I had good opportunities for observation. I have had Italian queens mate with black drones whose progeny, to ninety-nine observers out of a hundred, would appear pure; but I could detect an occasional bee that had a slightly suspicious look when no honey was in their sacks, and also by some suspicious actions on the part of the colony. And, indeed, the fact of part of the progeny of any queen showing the *fourth* band is pretty good evidence, to me, of impure blood. Now, while speaking of Mr. Wiltse I want to say he has written the best article yet produced on that most important subject, —

UPWARD VENTILATION.

As long as some succeed in wintering their bees where no upward ventilation is provided, just so long will we have advocates pro and con. I have just read an article in the *Bee-Keepers' Guide*, by F. H. Miner, of which the following is a quotation: "Upward ventilation is condemned by instinct; at variance with facts, and a denial of the wisdom and goodness of the Deity."

Well, let's see if that's all true. A few weeks since, I was riding out through the country, buying stock; and as I have made it a point to stop at all the places where I saw bee-hives on the premises, and subject the owner to a series of questions as to manner of preparing bees for winter, I got much useful information, and hope to benefit myself and others by it. I need scarcely say, the majority of the hives seen were beeless. One man had 5 last fall, and all lived, coming in strong in spring, and here is just the shape they were in all last winter, and are still in; hives all box, of ordinary size; *half-inch blocks under each corner; four and six inch holes open into surplus chamber, some chambers having empty boxes in them, and some no boxes; one with door to surplus chamber gone entirely.* Here was upward ventilation with a vengeance.

Another man had one colony which swarmed on the 28th of May—remarkably early for such a season. Hive, Langstroth, ten frames, 8 inches deep; honey-board having six $1\frac{1}{4}$ -inch holes, three front holes covered with an empty honey-box having corresponding holes, and three holes open into cap, which was not very tight. Entrance about full width of hive, $\frac{1}{2}$ inch wide, left open all the time.

Wintered outdoors without care, and no feeding at that.

Now, if these facts do not prove friend Miner's theory "bad medicine," I could cite plenty of similar cases to prove that upper ventilation is not contrary to reason, instinct, etc. We bee-keepers who have prepared our bees for winter with such care, packing them with quilts and cushions, closing off all upward ventilation, and losing nearly all our bees, and starting again by purchasing bees in box hives from "foggy" bee-keepers who have wintered summer stands unprotected, and upward ventilated, will do well to drop theorizing, and take a few practical lessons. I do not wish to be understood as claiming that there is no virtue in giving protection for winter; but I do claim, that if bees are packed with a view of saving the consumption of honey, and putting the colony into the best possible shape to withstand the most severe, long-protracted, cold winters, there must be means provided for thorough upward ventilation, in order that the material used for such protection will be at all times perfectly free from moisture.

REPORTS FOR THE SEASON.

Some friends have handed in reports of such large yields of honey as to surprise the natives. I have suspected this is brought about, often, by taking all the honey, and then resorting to feeding the bees for winter surplus. Mr. G. M. Doolittle once said, a brood department two-thirds the size of that of the Quinby hive would give better results in surplus honey, and that he uses a brood department no larger than will be fully occupied by average queens; and since all this brood department will, in the honey season, be filled with brood, the bees must store all their honey in the surplus boxes. Now, all of this is true enough, for it is plain, that, with such a small brood-nest, all the honey will be put in boxes, or combs above, to be extracted; and by this system nearly every pound of honey produced may be stored in a report for the season, and paraded before the public for the purpose, often, of making believe *I am the great bee-man* in the successful management of bees. But, the honey season gone and all the honey taken away, what are the bees to do for winter supplies? Colonies so managed are not self-supporting, and in the end are no more profit to the owner, if as much so, as when they have brood department large enough for storing sufficient honey for winter supplies besides the space occupied for brood.

Were I beginning bee-keeping, and wished to use a hive that would be at all times, in all kinds of seasons, self-sustaining, I would use a hive containing ten frames, same in every particular as the L. frame, only in depth, which would be two inches deeper. Such a frame would be perfection, in my opinion; and with ten such frames, not much tinkering would be needed, as there would always be plenty of stores and bees in such hives; and what honey they do make in boxes (and which would be as much as would be in any other hive) could be taken with safety, since the brood department would contain ample winter stores.

JOHN A. BUCHANAN.

Holliday's Cove, W. Va., Jan. 9, 1882.

I entirely agree with you about upper ventilation, friend B., and pretty nearly, too, on your last point; only I would suggest, that, if the bee-keeper makes money with his

bees year after year, we have hardly a right to find fault, even if he does make them put all the honey into the sections. Bees have a great many times wintered better on stores of pure sugar than on natural stores, or, to put it even stronger, they have wintered on sugar, while all that had their own stores, in place of sugar, died. In view of this, would it not be best to have a brood-chamber so small that all the honey go into the sections? Of course, there would be a great many, who, with such hives, would get all the honey, and then neglect the feeding part, or at least put it off until it was too late. If friend Doolittle would get along without the losses he sustains in wintering, so almost invariably, we should have still more faith in his peculiar plan of managing. It will be remembered, our friend George Grimm fed his bees last fall rather late; now we want to know if he comes out next spring with his usual good—guess “success” will be a better word to use than “luck.”

ITALIANS VERSUS BLACKS FOR WORKING COMB FOUNDATION.

IN looking over GLEANINGS I have not as yet seen the subject discussed, which race of bees is the best one to draw out fdn., the Italians or blacks. I have had a little experience in the matter. I placed 6 sheets in a colony of Italians in the month of June, and in just 16 hours it was all manufactured into beautiful comb. The fdn. was made on the Root machine. This result pleased me so much that I made up my mind to always use, in the future, fdn. in all of my young swarms of bees for the brood-nest. Well, I gave my Italians to my wife's mother, as she wished to get some bees very much, to get a start. Well, after a while I got somewhat lonesome, not having any of the little pets, so I bought some of the black bees by the pound—3 colonies of blacks, and one hybrid. I tried full sheets of fdn. in each one of those colonies, expecting the same results as with the Italians, but I was sadly disappointed; for instead of nice comb, as before, I found, upon examination, that they never drew out the fdn. at all, but built their comb right on it, leaving the fdn. as thick as ever it was in the center of the comb. This fdn. was advertised in GLEANINGS to be made on the Dunham machine. I purchased the same from Mr. R. Hyde, of Alderly, Wis. Some of this was very nice and light colored, and some was dark, the same running 6 sheets to the pound, the same as that tried by the Italians. Now, the question is this: Is it more natural for the Italians to draw out fdn. than it is for the blacks? There is one thing I am quite sure of; that is, the Italians are better honey-gatherers than the blacks, and are harder also, and are more gentle, which makes three strong points in favor of the Italians. I wish to say right here, that I am not interested in any way in any fdn. machine, but suppose there is perhaps some difference in them. G. PHILLIPS.

Romeo, Marathon Co., Wis., Jan., 1882.

I hardly think, friend P., your experiment, though a valuable one, settles the question. It settles one point, however, that, while, some stocks of bees thin out the bases of the cells, others only build new comb on the fdn. furnished them, and

this very point is what caused many unkind words when fdn. first came into use. I am inclined to think it was the difference in the season, and perhaps yield of honey in your case, friend P. Had you taken the same fdn., and put it into hives of both races of bees, at the same time, the case would have been far more correct. Have others had any similar experience with the two races of bees?

STARVATION AND DYSENTERY.

BY JAMES HEDDON.

THE wintering problem is now not only in our minds, but on our hands. Some of our folks have noticed signs and symptoms that cause them to think that starvation is a cause, or the cause of the disease. Some of us seem to be a little obscure as to what is meant by causes and effects. Some of our writers insist that there is every evidence that dysentery among bees is the effect of varied and numerous causes. I am among those who believe that so general and regular an effect as this dysentery has one direct cause. No doubt it is aided by other indirect causes that work upon this cause rather than the effect direct. To illustrate: What is the cause of diphtheria? Answer: Bacteria. But one says, “Catching cold;” another, “Cold weather;” and another, “Being exposed to the presence of those sick with it,” etc.

These last-named conditions aggravate it, or, as indirect influences, greatly assist the direct cause; yet, literally speaking, they, with their indirect influences, are not worthy of the title of “the cause.”

I wish to state two propositions that are generally conceded by our leading thinkers, that, if borne in mind by us, will aid us materially in unraveling this, as well as other knotty problems in our science.

First, so far as the mind can conceive, every cause *must* (of necessity) produce an effect: every effect *must* become the cause as to some other effect, and so on without end. Consequently, a first cause or last effect is unthinkable.

Second, I notice that some of our writers speak as though all that is natural tends toward success (as viewed from our standpoint); that the true instinct of the being never led it astray from its best interests, or chance of survival.

In all our debates, let us remember that such are false premises; that instinct is lower than reason, and that both fail totally in many instances, and that we must not be led into errors because *sometimes* the weaker sister, Instinct, directs aright where reason fails. Nature, with her wide-spread arms, embraces all of which the mind can conceive—failure, as well as success. Sickness and death are as natural as health and life. When we say, “That is not natural,” we use the term in its narrow sense (really a misconstrued sense), and it will not do so to use it when bringing it to bear upon reason, and instinct in their higher relations to each other and things.

From the first proposition, we see that, if heat produces the bacteria that ripens and destroys fruit, we might say, “Heat destroys fruit;” “the sun destroys fruit;” “nature destroys fruit;” and so on; and in one sense it would be true; but what

the chemist wishes to know is, what is the last effect next to the destruction, that we may properly call the direct cause of that destruction? He searched, as only the scientific search, and he found a living germ, so small it puzzled him to tell whether of animal or vegetable life.* Now that he had discovered the *direct* cause, he said, "I have further discovered that a degree of heat that boils water, will destroy this form of life; and now, if you wish to keep fruit all through the year, boil it, and, while hot, exclude the air, and you destroy the bacteria, and your object is accomplished." A knowledge of the cause *nearest* the effect is the one of most worth to us.

When I put up my bees for winter, I felt sure that *all* had plenty of honey. Yesterday I found a colony starved. I am of the opinion, that they were slowly and quietly robbed, after we left the apiary for the winter. I think there is more of this kind of robbing going on unnoticed than we know of or believe in, generally. But the point I wish to make is, that not one speck of dysentery was to be seen. Careful examination showed great scarcity of pollen in the combs. Had there been plenty of pollen, my opinion is, that the bees would, as a last resort, have taken to eating it, and then one might have seen signs of dysentery, and said, "Starvation is the cause." I get a great many private letters from experienced apiarists who do not write for publication, stating that their observation of the disease has convinced them of the truth of "the Pollen theory." Others believe, as stated by Messrs. Jones, Harrington, and others, that fermentation of the honey, before and after gathering, is the cause; others, that the fermentation of the pollen is the cause. Mr. Jones dwelt to some extent on dampness being the cause (through its fermenting influence on the honey or pollen, or both, I presume he meant), while Mr. Harrington, of your county, stated that a certain plant produces fermented honey that froths in the nectary, and, when gathered by the bees, "produces dysentery every time." Charles Dadant holds to the idea, that fermenting honey is the greatest cause, if I understand him correctly. As *all* fermentation (whether of pollen, honey, or any thing else) is bacteria, all these men agree with that theory. It may be that bacterious honey, or pollen either, produces the disease, and that *inert* vegetable matter, if taken into their systems in any considerable quantities, is also a cause. An over-amount may be taken from the pollen-cells under certain circumstances, or during certain seasons; or in all seasons, in some localities, in some varieties of blossoms, the nectar may contain sufficient quantities of *floating* pollen to produce the disease, where the bees are, from cold, forced to partake of large quantities of honey, without the opportunity of curing the disease as fast as it presents itself, by frequent chances to void the accumulations.

If it turns out that this disease has two causes or more, I believe that *one* cause will be found to be the main cause; and if bacteria is that cause, then, whether it exists in the pollen or honey, or both, the golden rule for winter will be, "Keep your colonies dry."

Mr. Della Torre says, "Keep your pollen dry;" but perhaps that does not cover quite enough ground. Dadant, Harrington, and others, would say, "No; keep your *honey* dry." Dampness (with a moderate

degree of warmth) is necessary to the development of bacteria. I think we are going to get at the true cause ere long. Let us resolve *now* to improve all the opportunities for careful observations that the next four months present to us. I have thrown out my honest opinions, forced upon me by my observation and reasoning; and surely, if they are of no aid to any one they can not hurt the feelings or opportunities of any good or intelligent bee-keeper.

Dowagiac, Mich., Jan. 7, 1882.

AN APIARY IN SICILY.

ALSO SOMETHING ABOUT PREMIUMS FOR SUBSCRIBERS.

W. MANN, Palermo, Sicily, Italy, has just been sent out by me to establish an apiary among the orange groves of Sicily. It is a purely commercial speculation by a mercantile gentleman, and *so far* is an outcome of GLEANINGS; will probably, within a year or two, be the largest apiary in Europe; intended to be run for extracted honey only. I could have had the above three copies sent to myself, and other two copies to make up a Waterbury-watch club. I shall likely have other names soon. But I cannot get over the meanness of the thing. You must either have made a great mistake in giving that offer, or you get your watches uncommonly cheap, or you are doing an injustice to all other subscribers. Anyhow, I want one of those watches mailed to me, and charged against me in the regular manner. After I see how the thing works, I may get a dozen or two for sale. W. L. RAITT.
Beccroft, Blairgowrie, Scotland, Dec. 20, 1881.

I am truly glad to hear you are to be the director of such an important enterprise, good friend Raitt; but I am a little surprised to find you have not a little more charity for your old friends over on this side of the water. Listen a minute, and see if I can not throw some light on the watch and subscriber business: It takes a good sum of money to advertise a journal to get it going. I think I have paid out as high as \$500 in a single year to get GLEANINGS before the people, when my whole receipts for it were not over \$2000. Well, after paying this large sum to newspapers, I decided it best to give it to my bee-friend subscribers, to induce them to show the journal around to their neighbors who kept bees. That they might afford to take time to do this, and do it well, I gave them 25 cents out of the dollar for the service. This worked very well, until subscription agents, noticing this margin, sent around to all my old subscribers, and offered GLEANINGS for 85 cents, or such a matter, which broke down the established price of \$1.00, and defeated my plan. To correct this, we were obliged to raise the price to 90 cents, and this cut off our bee friends again. Well, the Waterbury watch-factory started, and they were very anxious to get their watches into the hands of the people, exactly as I am anxious to get GLEANINGS into the hands of the people. They found out how GLEANINGS had made its way, even off into foreignlands, and into the hands of good kind people like yourself. Well, they too decided that, instead of

* It is now decided to be vegetable.

spending great sums of money in newspaper advertising, they would rather give the watch at a very low price to some one who would and could make known their good qualities, as I have done. And this would enable me to pay handsomely the friends who work among their neighbors for the up-building of our journal. Therefore I give a watch to everybody who sends me five new subscribers at a dollar each. You may say those who subscribe for five years don't extend our subscription list. Perhaps not; but in our business I am using borrowed capital, more or less, on which I pay sometimes as high as 8 per cent. Five dollars in advance would be equal to the use of that whole amount for 2½ years. If you will figure it up at compound interest, you will see that I get club price for the journal, and pay for the watch too, making a mutual saving to both our subscribers and myself, over the plan of subscribing every year. I might add, that the five-year plan was originated by one of the friends, and was not of my own getting up at all. Now, friend R., is there any thing wrong in employing our bee-men to introduce GLEANINGS, in place of newspaper advertising agents, who neither know nor care about bees or their owners?

CAN BEES HEAR, ETC.?

SOME GOOD IDEAS ON THE MATTER.

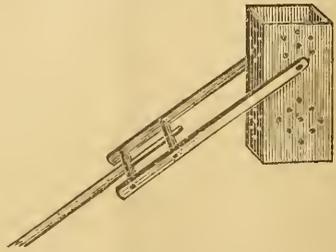
FRIEND ROOT:—Will you allow me to make a comment on an article in GLEANINGS some months ago about bees being dull in sight, and deaf? The following is from the *Library of Universal Knowledge*: "Bees, like other hymenopterous insects, are extremely well provided with organs of sight, and evidently possess that sense in very great perfection. In the front of the head they have two large eyes, the surface of each consisting of many hexagonal plates, which perhaps may not unaptly be likened to the object-glasses of so many telescopes; and the faculty which these insects certainly possess, of returning in a direct line to their hive or nest, from the utmost distances of their wanderings, has been, with greatest probability, ascribed to their power of sight. But besides these large eyes, they have, like the rest of the hymenopterous order, three small eyes on the very top of their heads, which are supposed to be intended to give a defensive vision upward from the cups of flowers. They are evidently, however, possessed of organs which enable them to guide their movements in the dark as well as in the light—at least in the nest or hive; and this power is generally ascribed to the antennæ which are sometimes supposed to be not merely delicate organs of touch, but organs of hearing, or of some special sense unknown to us. It is certain, that the social bees have some means of communicating with each other by means of their antennæ; and that they avail themselves of these organs, both for the ordinary operations of the affairs of the hive, and for recognition of each other. There can be no doubt that bees possess, in a very high degree, the sense of smell; and their possession of the sense of taste and hearing is almost equally unquestionable."

GEO. L. KING.

Berlin Center, Mahoning Co., O., Jan. 5, 1882.

AN IMPROVEMENT ON THE SHEPARD SWARMING-BOX.

FRIEND S., as you remember, puts a pole through the center, and then the box must be carried up the tree, if the bees are high, and this makes its use somewhat inconvenient. With my improvement, the bees may be removed while standing on the ground, and a ladder is not needed. Make the swarming-box according to friend Shepard's description; viz., 8x8x16, and then, instead of putting a hole through it, use a frame made as follows: Take two pieces of some light and firm wood, 24 inches long, 2 inches wide, and 1 inch thick; also two pieces 11 inches long and 3 wide, and mortise the ends of the one into the ends of the 24-inch pieces, and the other 9 inches from this toward the center. In the middle of the end-piece cut a square hole in the center for the pole (which will keep it from turning), and bore a hole in the second.



SHEPARD-JONES SWARMING-BOX.

Then fasten the swarming-box with two screws or small bolts at the other end of the frame (which will allow it to turn freely), about 6 inches from the top of the box. You can now raise this box as you please, and it will always be in the position needed in order to receive the bees when they are shaken down with another pole, to which a hook has been attached. It is a very convenient arrangement, especially for the lady bee-keepers.

REV. L. S. JONES.

Sonora, Muskingum Co., O., Dec. 14, 1881.

Very good, friend J.; but as I understand the matter, the Shepard swarming-box need not be kept right side up. Our bees will at once crawl right up into the holes in the box, and cluster inside, no matter which side up it is presented to the clustering swarm, and we therefore need never think of climbing trees when we have a pole long enough to reach them. What has been the experience of others in regard to swarming-boxes?

CALIFORNIA ITEMS BY GALLUP.

I HAVE just been on a trip to Ventura county, visiting the bee-keepers in that vicinity. I had not seen my bees since last June, and I found them in splendid condition; have sold out to Mr. James McIntyre, a young gentleman from Ontario, Canada, who is bound to try bee-keeping in California. Bees are in far better condition in Ventura county than they are in Los Angeles county, with but very few exceptions, so far as I know. I had the pleasure of meeting Mr. Given, of Hoopston, Ill. He is stopping in Los Angeles City among the orange

groves, and his friends will be pleased to learn that his health is improving. The bee-keepers in Ventura county wisely, I think, adopted a universal frame for the entire county, and nearly every bee-keeper vies with his neighbor in keeping up with the improvements of the age, while in Los Angeles county, as a rule they are far behind. They have all kinds of sized frames, and in many instances two or more sizes in the same apiary, and many of them take no care to Italianize or improve their bees whatever.

Poul brood exists in the county to quite an extent. Taken all together, it is not an inviting field for a careful and interested eastern bee-keeper to visit; at all events, his first impressions are not of a very favorable nature. Then we have had no rain to amount to any thing in this part of the State, and that makes the bee-keepers blue, blue. Some are hauling their bees down into the valleys, and some are letting them starve where they are, and some few have kept their bees in such a condition that they are all right for any emergency. Good for them! That corroborates what I have before said, that bees can be kept in such a condition that they will be self-supporting, even in our poorest seasons. Now, don't say that Gallup has sold his bees because he got frightened; not by any means. I have sold them, rather than to move them nearly a hundred miles. Mr. McIntyre wanted to purchase, and I wanted to sell; therefore we are both well suited.

DO BEES EVER VOID THEIR EXCREMENT IN A DRY STATE?

I had a copy of the *Rural New-Yorker* of Dec. 31st, given to me by a friend. On page 379, Prof. A. J. Cook says: "I have never found any support for the theory of the late Mr. Quinby, that bees excrete a dry powder in winter." Somewhere away back, I think in the *A. B. J.*, I corroborated that statement of Mr. Quinby's; and now for the facts: In Lower Canada, 65 miles north of Vermont, where I first commenced bee-keeping, bees went into winter quarters frequently as early as the 15th of October, and were confined to their hives constantly until the 15th of April, fully six months. The weather would be cold and dry continually. Sometimes we had a January thaw, and a regular Canada thaw used to be, in old times, a fall of about two feet of snow. The weather was constantly cold and dry, and the thermometer sometimes 40° below zero. Our bees were wintered on their summer stands, and I have frequently seen them, on their first flight, not even speck the snow. It was the mild open winters that gave us trouble in wintering, with dysentery. In the cold dry winters the comb cappings and dry powdery excrement would lie an inch high on the bottom-board, between each range of comb, in the spring. The bees would be small and very active at any time in winter, and never have their abdomens enlarged or distended with fecal matter as they do in Michigan, Ohio, or other mild climates. So you readily see, Mr. Editor, that Mr. Quinby's theory has support. Whether that support is worth any thing is for your readers to determine. I always found more or less brood in good strong stocks after the middle of January.

GALLUP'S IDEAS ON POLLEN.

Old stocks that contained lots of pollen wintered invariably the best in our cold winters. Young stocks with new comb, and but little pollen, if they wintered at all, came through weak. Now I am not

contradicting the theory that pollen causes dysentery in a mild climate. I have stated facts.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Jan. 9, 1882.

We see, friend Gallup, that you think Mr. Quinby was right, but I don't hardly see that you have proved it. I have often noticed these piles of dust, but I never could be quite satisfied that it was excrement that composed part of this dust. A part of it is capping; some, clippings from old brown combs and cocoons, with other dirt that drops down. Very likely a considerable part of it is dry excrement, but it has never been proven to my satisfaction. Did any one ever witness excrement passing from a bee, in the form of dry powder? I confess I should much prefer to have them *adopt* that way of doing, if I may be excused.

REVERSION, VARIATION, HEREDITY, ETC.

MR. ROOT:—You ask if you are right in drawing the conclusion, that I claim that the crossing of two races gives fresh vigor to the cross for only a few generations, and that, to reach the best results from crossing the black bee with the Italian, we must keep on importing fresh stock, and also preserve pure black bees to cross with. If we do not wish to do this, keep both races separate.

The increase in size and vigor is not apparent after one or two crosses have been made; but, on the other hand, we have decrease in size, and diversity in form and color, for several generations, until the two races have become blended, if bred *inter se*; or, if crossed continuously with blood of the same race, until the blood of the pure animal predominates sufficiently to produce uniformity. The probable cause of this is the latent tendency to revert back to the original type race, which, being doubled by uniting two races, predominates over all other tendencies. The tedious process of arriving, in most cases, at nothing better, if as good, as we had at first, should lead to extreme caution in crossing different races. The attainment of some desirable end, not likely to be reached by continuous breeding of one race, such as the lengthening of the tongue of the honey-bee, for instance, is most likely to be reached by variation, produced by crossing several races; and, once reached, can be permanently fixed by in-and-in breeding. Animals have a wonderful power of transmitting peculiarities of character and form to their offspring. I once purchased a heifer that had the habit of resting her head upon stumps and logs for several minutes at a time. This habit, so trifling and peculiar, was transmitted to her offspring for several generations. In-and-in breeding would doubtless have fixed this characteristic permanently.

To arrive at uniformity in color, form, and disposition, in-and-in breeding is resorted to by the most skillful breeders of stock in the country. An animal once mated to another not of the same race, is rejected as not fit to breed from, because rendered impure by inoculating and fetal circulation. Great skill, and refinement of judgment, are used in mating the animals, that the desired results may be reached. To overcome the bad effects of in-and-in breeding, they resort to the following process:

They divide their herds, and by change of food and surrounding conditions, and different treatment, constitutional changes are produced, obviating the necessity of adding blood of a different strain to maintain constitutional vigor. Mingling the blood of members of the same race, not of the same characteristics, results in injury of the same kind, though less in degree, as results from mingling the blood of two races; viz., diversity in color, disposition, and form. In-and-in breeding does not generate disease; it augments the good and bad qualities inherent in a race, and those inheriting undesirable qualities, should be removed. In a state of nature, such animals are removed by natural selection, and distinct races are formed by in-and-in breeding exclusively; therefore it is not necessary to import bees from a distant country to maintain constitutional vigor.

The utter impossibility of keeping a race of bees pure, when bees of another race are in proximity, is known to all apiarists. Many who have carefully tested the Dzierzon Theory, observing the results with unbiased minds, have been forced to conclude that, however true it may be in theory, it is false in practice. Acting upon this conclusion, and reasoning from analogy, let them adopt, as a guide, the rules that govern the conscientious stock-breeder; let them obtain queens of known purity, and possessed of all the desirable qualities common to the race; let them continue to introduce blood of the same strain, the nearer akin the better, if raised under dissimilar conditions of climate and surroundings; let them breed from their best stocks, in-and-in, if possessed of superior excellence, and remove such as are inferior, and they will not see their apiaries hopelessly stocked with hybrids, nor deteriorating in quality, but improving from day to day, as long as the system is continued.

DISSEMINATION OF ERROR; THE DZIERZON THEORY.

I have for years looked upon the dissemination and inculcation of the "Dzierzon Theory," by the bee journals, as approaching closely to criminality, and as justifiable only upon the ground of constitutional inadaptability to see the truth. When I wrote touching the subject, that part of the article would be suppressed or misunderstood. I drew the conclusion, that people sometimes form their opinions to agree with their moneyed interests, and that they will defend them with more pertinacity than any thing else. This does not hold true with stock-breeders. They have, from time out of mind, inculcated the doctrine of inoculation and fetal circulation; and the great Darwin has collected a summary of facts, to show their truth. Why should not the apiarist be as familiar with these truths as others? If the queen-breeder insists that the "Dzierzon Theory" holds true in practice, and the duped purchaser knows by experience that it does not, but remains silent on the subject, fearing that some one will be offended if the truth is told, the credulous still continuing to mingle the blood of the different races unwittingly, until the tainted blood is extensively disseminated, the task of eradicating it will become hopeless; and he who allows the error to prevail by default, will be as guilty as he who is actuated by mercenary motives.

JEROME WILTSE.

Falls City, Nebraska.

A little more charity, friend W. The Dzierzon Theory has stood so long and so well, and has been so fully corroborated by

the experience of many candid and careful observers. I think we editors are justified in feeling a little suspicious of one who runs full tilt against it. Especially is this the case since beginners so invariably say they don't believe it because it is "against reason," etc., only to take it all back when they get a little older. Of course, friend W., we can not put you with this class. When an old and scarred (?) veteran says he don't believe the Dzierzon Theory, he certainly ought to be entitled to a hearing. I presume friend Jones, on his islands, can pretty easily test the matter beyond mistake. Friend Jones, will you please stand up and tell us what you know from practical experience, about drones from queens impurely mated?

Here is a fact for you: We have a cat at our house, that springs up and turns the door-knobs with her paws. His mother has always done the same thing, yet the kitten was taken away before it was old enough to learn any thing, and never commenced the trick until well along in years. Does not his memory extend back, as it were, to events in his mother's life, before he was born?

DRONES; COLOR, ETC.

SOME HINTS FROM FRIEND ALLEY IN REGARD TO QUEEN-REARING.

WHAT influence has the drone upon the progeny of young queens? or, in other words, does the color of the male bee have any thing to do with the worker or royal progeny? I judge, by some remarks made by the editor in a late number of GLEANINGS, that he would say no. My experience with the Italians causes me to say yes. In selecting the colony for drones to fertilize my young queens, I am careful to get one that has a queen that produces beautifully colored drones. While all queens fertilized by well-marked drones do not produce all handsome queens and worker bees, they should be nevertheless selected with that purpose in view, provided one desires to keep up his stock to its highest standard of purity, as this desirable quality can not be maintained by helter-skelter breeding.

I have never made it a practice to use the drones from more than one hive at any one time. When I do this, and use the eggs from only one particular queen to raise queens from, then I know what I am sending out for queens. I find, so far as I have observed, that the peculiar characteristic of the male generally shows itself in the offspring of all animal life. I have had something to do with the raising of swine, pigeons, and fowls. Last year I raised a fine lot of pigs; the mother of them was as black as a coal, and the father was solid white. Out of a litter of eleven pigs, 9 were solid white, and 2 were black and white. In pigeons, I find that the young females are marked like the male bird, and the young males like the mother. My experience is, that if a dark queen is fertilized by a yellow drone, her royal progeny will be quite handsome, while the drones from such a queen will be quite dark. Hence the importance of selecting handsome drones for queen-rearing. Our young queen-raisers should bear this in mind, and make a note of it. Friend Root made this remark to a correspondent who inquired about

this very thing: "Never mind about the color of the drone;" we *must* mind about the color of the drones, or our pure and beautiful Italian bees will soon run out.

I took the precaution last fall to test several queens for drones to use the coming season; have always made it a point not to let the drones from any hive in my yard fertilize my young queens. I keep only those stocks at home, however, that I want to use for this purpose. All my queens are raised in one yard, but not fertilized in one yard by any means. Last season I ran 4 queen-yards, and found it a job of no small dimensions, to make all run right and keep them supplied with drones of the right stamp.

There is one point suggested in the above, that I will not touch upon. Probably some of your sharp readers will pick it up, and that will open up this subject still further.

During all my experience, I think I never had a queen that would produce handsome queens and drones too. How have other dealers found this? I have raised thousands of queens from one mother, and not 100 drones. Those that I did raise were poorly marked. I do not breed "in and in," and would not use the drones from the queen I am raising queens from, even should they be very handsome.

HENRY ALLEY.

Wenham, Essex Co., Mass., Jan. 4, 1882.

If you will excuse me, friend Alley, it was only in regard to testing the purity of queens that I said, "Pay no attention to the color of the drones." And, by the way, suppose we can get nicer-marked bees by having handsome drones; all we shall accomplish is color, which is of small moment compared with honey-gathering qualities; and I really don't know just now how we are going to tell good drones from lazy ones. They are mostly *all* lazy in "our parts." We can have them raised from queens whose bees are extra workers, it is true; and will not this be more desirable than color?

TAKING BEES OUT OF A TREE, ETC.

A NOVEL PLAN FOR DOING IT.

I AM going to tell you a little about my bee-keeping. In 1880 I found 2 swarms in the woods. I was afraid to cut the tree, for fear of getting in trouble; so I climbed it and sounded it in order to find out how far it was hollow. I stopped up the hole in the morning early, so as to get them all, then took a two-inch auger, and bored a hole at the upper end of the hollow of the tree. Then I took a pin, about 8 inches long, made it to fit the hole, and then drove it in the hole, and made an inch hole through this pin, so as to make a passage for the bees to come out. I took a light box, about a foot square, bored a hole in it with a two-inch auger, made an air-hole in the box to allow them air; bored another hole about the bottom of the hollow, then blew in smoke. The smoke crowded them to the top, and they went into it. One of them was up 30 feet. I took a line and drew the tools up with it. After the bees were in the box I lowered them down, then

slabbed out a piece, and took out the honey and comb; took them home, hived them, and increased them to 4 that summer. When I put them into winter quarters there were 2 good ones and 2 poor ones; the latter had their hive half filled with comb and honey, but they wintered safely, without any division-board or protection.

I winter my bees in the cellar; prefer it to outdoor wintering. In 1881 I increased those 4 to 13 natural swarms; sold about \$10.00 worth of honey, and used it for the table all through the summer. The 13 are in fair condition. If they come through safe I will allow them to swarm once only. The dollar queen I purchased of you is a good layer. She has her hive full of bees from top to bottom. She is the best layer in the lot, but not as large as some of my black queens. They are pure Italians, according to the descriptions of the A B C.

We are very thankful for the good you have done us, and wish you great success. If you ever come around here, come and see us.

PAUL SCHLAGEL.

Victor, Wright Co., Minn., Jan. 16, 1882.

Very good, friend S. So far as I know, your plan for drumming the bees out of a tree, through a hollow pin, into a box, is new.

DOOLITTLE'S NEIGHBOR.

INTRODUCTION, BY THE GENTLEMAN HIMSELF.

AS I am an entire stranger to you and yours, I think I may, with profit, use the above caption. I was 28 years old yesterday; have been a farmer for the last eight years, and for the last four kept bees in a small way. I have at present 12 full stocks and 2 nuclei which I am trying as an experiment to winter on four frames. My bees are all in the cellar. The first year, I bought 3 colonies. I let them do about as they chose, my people telling me if I did not stop handling them I would spoil them. Well, they increased to 9, and made me about 50 lbs. in sections, of the nicest basswood honey. But the winter carried me back below where I started. The dysentery killed all but one queen and about a quart of bees. Then how I did go for G. M. Doolittle and N. N. Betsinger with questions! By the way, my place is but 3 or 3½ miles from Mr. D., and he has always helped me all he could, as I believe he does every one.

Well, Mr. Doolittle gave me queen-cells from his *very best queen*, the one that gave him the largest yield. By using my old comb, I built up to four fair stocks, all having queens as above mentioned, and three out of the four mated all right. This time I put my bees in the cellar, and let them alone until soft maple was in blossom, and lost none. I believe they were stronger in spring than in fall. The next summer I increased to 6, and made considerable box honey, all the while keeping up my study with Mr. Doolittle. Last winter I lost one and doubled back to four, and made \$17.50 per colony, counting my increase (8 stocks) at \$4.00 per colony; my two nucleus stocks I won't call any thing, I guess, though they *may* winter. I did not double them, partly because each had a pure queen. But I guess this is sufficient for an introduction.

C. M. GOODSPEED.

Thorn Hill, Onondaga Co., N. Y., Jan., 1882.

Heads of Brain, From Different Fields.

HONEY FROM THE OAK.

I NOTICE that you would like to see or know something of live oak, or the honey it bears. Well, in the first place, live oak would not grow in your part of the country, for it is an evergreen tree, and at present in its glory, dark green, and Oyster Creek bottom, its native soil, it looks beautiful. About the little oak-balls that have the honey: I think they come on the leaf on almost all oaks, but I believe that only live-oak balls have honey. The balls are all dry now, but I will send you some next year, and also some acorns. But said tree is of slow growth; size, from a whipstock to 24 feet in circumference; may be more have balls on, but I have seen only the above. Weather is warm; bees are working on mustard and peach-blossoms. J. W. ROSS. Velasco, Brazoria Co., Texas, Dec. 12, 1881.

WAX SHEETS, OR SHEET WAX.

The next demand is going to be for beeswax in the sheet—fdn. in the flat. It is compact, solid, cheap freights, and safe transportation. Please state at what price you can furnish sheets of 10 and 7 square feet to the pound, boxed on ears at Medina. Please state price of wax and of sheeting, *separately*. We may get wax at less rates than you do, and prefer to supply the wax. JAS. HEDDON.

Dowagiac, Cass Co., Mich., Jan. 4, 1881.

I should say, about $3\frac{1}{2}$ cts. for sheets 7 sq. ft. per lb., and 5 cts. for 10 ft. per lb., or, as a general rule, $\frac{1}{2}$ as many cents per lb. as there are sq. ft. to the pound in the wax sheets. It will be observed, that our selling price for wax is 27 c., although we pay only from 21 to 23. I have left this margin because the wax, as it usually comes to us, is much of it not only unfit to sheet, but unfit to sell. I might return or refuse to pay for dirty wax; but as either course makes hard feelings we have put the price low, and then when we get a choice lot the owner never feels bad when we pay him a little more than we advertise. Those who buy wax of us seldom like to take such as comes from the market without being selected. The prices given include boxing, but not paper between the sheets. If it should break by shipping or handling in cold weather, I should not want to be held responsible.

COMPARATIVE LONGEVITY OF WORKER BEES, AGAIN.

We think that friend March has given us some facts in regard to the longevity of bees that can not be well over-estimated, and I would just say, in support of his theory, that our attention was called to this fact in 1878, by 2 colonies in our apiary, standing side by side. Queens were relatively prolific alike, yet one gave 30 lbs. and 1 colony; the other, 300 lbs., and also 1 colony. The one that gave 300 lbs. surplus had an unusual number of old bald-headed veterans going out to the fields. They were the remark of all bee-keepers who saw them. In that fall, two-thirds of our honey came from that strain of bees, although they number but one-third of our colonies. Again, this fall of 1881 our most

profitable colonies were those that had the largest number of sleek-headed bees. These old veterans are the glory of any apiary. E. T. FOGLE.

Hartsville, Ind., Jan. 7, 1882.

DOWN TO NOTHING, AND UP AGAIN.

I send you my first report. I commenced bee-keeping when I was 19 years of age, in 1878. In the fall of 1880 I had 112 swarms of bees. I had very bad luck with them, and also moved from Ohio up here to Michigan very late in the fall. I came out last spring without a live bee. I had good luck in finding a man here who had 10 swarms in old box hives, 5 of them very weak. I bought one small swarm, and engaged all the increase of the rest. From them I now have 40 swarms, and have taken from them 2000 lbs. of honey. The small swarm that I bought first gave me 3 swarms increase, and from it and its increase I took 355 lbs. of honey. The buckwheat flow was almost a failure from drought. My bees are all packed in chaff. JAY N. HARRIS.

St. Louis, Gratiot Co., Mich., Jan. 6, 1882.

CHAFF HIVES VS. CELLARS.

I guess I must tell you something about bees in this section. The past summer was a splendid one for bees. Those wintered in chaff hives have done well, though last winter was the coldest ever known in this country. The mercury stood for nearly a week at a time 36° below zero. I had 20 out in the chaff hives, and 18 in the cellar; lost none in the chaff; think I lost 7 that were wintered in the cellar after they were taken out. So you see I shall go in for the chaff. We are having very warm weather, and lots of rain. O. R. MUNSON.

Meredith, Delaware Co., N. Y., Dec. 29, 1881.

IN THE SUN OR IN THE SHADE FOR WINTER.

Mrs. D. A. Donnelly, on page 38, Jan. GLEANINGS, asks this question, and you, friend Root, ask for the experience of others. That strikes me I have it. I kept bees for four years under a shed in two rows, one row on south side facing south, and the one in the north side facing north, where the sun shined on them only a little while in the morning, and I noticed every winter that bees died worse on the north side than on the south. They spring-dwindled worse; they never gathered as much honey, nor built up as fast in summer, and finally, last winter, they were all dead before the south-siders thought about dying. Give me sunshine in "mine."

Allendale, Ill., Jan. 9, 1882.

J. COPELAND.

RAISING BROOD IN WINTER, ETC.

Our bees are wintering well so far. One colony is breeding a little. Went into winter in 1880 with 14; came out with same number, but 6 queenless; 5 of them from unknown cause. One was killed by a stray virgin queen. They made about 250 lbs. comb honey, and increased to 20 colonies, with stores enough to winter. We have only three basswood-trees within the flight of our bees. The clovers are our main hope for honey; fall pasturage not very good.

Nov. 8, 1881, a small colony of black bees came here from somewhere, and clustered on the garden fence. I got them into a box, and put them in with a queenless colony that was nearly gone, having been queenless since June 15th. I tried four times to get them to raise a queen, but they got lost every time. They are all right now, if there are

only bees enough to keep from freezing. They are the ones that are breeding now; but I don't know just how much brood they have.

GREEN R. SHIRER.

Adamsville, Musk'm Co., O., Dec. 31, 1881.

Keep them raising brood, friend S., by giving them candy made of granulated sugar, and it may prove the best stock you have. Although brood-rearing in winter seems sometimes to make trouble, it is by no means always the case, as many reports in our back volumes show.

RAPE AS A HONEY-PLANT.

The pound of rape seed I got of you came up very well. The weather was too dry for it to do as well as it might have done. I got from 15 to 20 lbs. of seed from the one pound. The bees were very busy on it while it was in bloom. What will you pay per pound for seed?

JOHN C. BOWMAN.

North Lima, Mahoning Co., O., Dec. 26, 1881.

We are glad to know that some of the rape seed we sent out last season grew. We are going to make our greenhouse tell us this season all about all the seeds we sell, so as to take no more such risks. The winter rape, mentioned in former numbers, is, at this date, looking beautifully rank and green, and we have great hopes now that we can raise winter rape here without trouble. At present, we could pay about 5 cts. per lb. for good clean fresh seed delivered here.

CELLARS VS. OUTDOOR WINTERING IN CANADA.

Bees did well in this vicinity, this season. Several apiarians wintered in cellars and bee-houses with but about five per cent loss. Those who wintered outdoors lost an average of 90 per cent. Above-mentioned cellars and houses are so constructed that an even temperature of 40 to 48° F. can be maintained, and have a complete change of air, free from malarial dampness, every six to nine hours. The honey flow lasted about six weeks, with best basswood flow known in many years. The increase is about an average of 100 per cent, with about an average of 100 lbs. of honey to the original stock, which, from fair to good prices, helped to balance losses of last winter. Bees are principally put away in cellars and houses for the present winter, and so far are doing well. As the new year is within about three hours "drive," we will wish you and your many readers a very happy new year.

J. E. FRITH.

Burgessville, Ont., Can., Dec. 31, 1881.

BEEES AND GRAPES. SEE P. 547, NOV. NO.

The bees do not injure the grapes, but they are a nuisance. It is often an inconvenience to have the fruit-rooms closed, and the grape-packers have to work almost in a swarm of bees. I think they are very patient to say as little as they do.

Brocton, N. Y., Jan. 5, 1882.

M. SIMONS.

Thanks, my friend. In such a case as you mention, I would by all means furnish wire cloth to cover the windows, and put it on too. It is a comparatively easy matter to keep the bees out of any kind of a covered structure, such as a cider-mill, or fruit-house of any kind, by the use of wire cloth. I believe the best establishments of the kind do use wire cloth to keep the flies out, to say

nothing of the bees. Who would want flies and fly-specks around fruit, or on the packages containing fruit to be sent to market? In regard to bees on the fruit while on the vines, the following from the *American Agriculturist* for Jan. would seem to imply that bees are certainly not the only enemy the grape-grower has to contend with:—

BIRDS AND GRAPES.—C. Lauppe, Champaign Co., Ohio, has much trouble with the birds, which destroy his grapes. The robin, the cat-bird, and the jay, do much mischief; but the oriole is the worst enemy, as it cuts a hole in the berry to get at the juice, and one will soon injure all the fruit on the vine, while the others take the whole berry and soon get their fill. Mr. L. has had the best success in the use of small steel traps, which he baits with some blue variety, such as the Ives. He does not care to catch the birds, as the snapping of the trap scares them away. Though Mr. L. has upward of 70 varieties, he says, if confined to a single variety, it would be the Concord.

Well, do you not think it likely that the bees would be accused of mischief, if they should happen to follow after the work of the birds, as described above?

TELLING OF GREAT HONEY YIELDS, ETC.

I see in the Jan. No. of GLEANINGS, page 33, Juno, La Porte, Iowa, says if he had a large yield of honey he would be afraid to tell of it. I don't see why he should be. I think one need not be afraid to tell the truth. I wish friend Juno had been in my apiary this summer, and seen me take off the boxes of honey, and my wife and daughter carrying them into the house. Perhaps he would have been as astonished as an old foggy visitor I had one day was when I took from the hives 54 boxes of 2 lbs. each, and 36 boxes of 1 lb. each, and extracted from one hive 126 lbs. Still, I think no one was more astonished at my crop than myself, and I too sometimes wondered if it didn't "rain honey."

H. NEWHAUS.

Burlington, Wis., Jan. 10, 1882.

You are right, I think, friend N.; for those who have read our journals do know that honey comes at times almost as if it rained down. Again, we are all on such friendly terms here in the journal, that I believe few, if any, are so uncharitable as to doubt what another communicates, without some very good reason.

INTRODUCING QUEENS BY LETTING THE BEES EAT THROUGH THE CANDY.

I bought 2 queens of you last summer. I have felt ever since that I ought to tell you how I introduced the first one. It had candy; no water in cage; bees clean and lively. Instead of taking out frames, spiking on combs to have them gnawed through, and the same to get the cage out again, I just slip the tin back enough to show a part of the candy in the hole; turn it down on the top of the frames, and let the bees work through the candy. The second queen, with bottles of water, was a little daubed.

F. GRAVES.

Onarga, Iroquois Co., Ill., Jan. 2, 1882.

MY REPORT FOR 1881.

Commenced the season with 28 swarms, 20 good and 8 light; increased to 70, and took 1500 lbs. honey—1150 lbs. comb, the rest extracted. Lost last winter 130 swarms, nicely packed with chaff, on summer stands. The 28 saved were in the cellar from about Nov. 15, 1880, to April 20, 1881. Chaff packing on summer stands will do in an open winter like the

present one, but won't do at all such as last in this section. An experience of 20 years has satisfied me that a cellar is the only *safe* place to winter bees in *this* climate. A good swarm in a proper cellar, packed with chaff above the brood-chamber, and raised from bottom-board on inch blocks, with temperature 40°, will winter 99 times in 100.

G. T. WHEELER.

Mexico, Oswego Co., N. Y., Jan. 11, 1882.

Now, are you sure they would not winter outside, friend W., with the large amount of ventilation you have mentioned in your concluding clause? Also, will they winter well in the cellar during an open winter like this? If not, I presume we had better put half in to the cellar, and the other half out, as has been suggested.

SKUNK CABBAGE, AGAIN.

Friend Doolittle, in his remarks about skunk cabbage, on page 587, GLEANINGS, does not do it justice. He says it has a tiny ball and produces only pollen. This is a mistake, or his kind of skunk cabbage is different from that in this country. The ball, or bloom-bud, is from 3 to 7 inches in length, and from 1 to 2 inches in diameter; and as the sheath opens wide, and is not in any way attached to the bud-stock, a bee can not roll around in it. I have seen as high as a dozen bees on one bloom at the same time, gathering honey and pollen. I have examined many bees from these blooms with well-filled sacks. I have also seen the bees gathering honey off these flowers without filling these baskets with pollen. The leaves of this plant are from 2 to 4 ft. long; often 4 or 5 blooms come up from one plant; one bud is in bloom about 2 weeks; when the bloom is shed it leaves a beautiful cone resembling a pine-apple, and retains its beauty about two months, when it ripens, and the seeds shell off, leaving a cob-like stem. It is a honey-plant, beyond question, and a good one.

W. E. MCWILLI.

Waldport, Benton Co., Oregon, Dec. 27, 1881.

ADULTERATION OF WHITE SUGAR, ETC.

I bought some white sugar from a respectable firm in Springfield, at 10 cts. per lb., and on examination I found it to taste and compare exactly with some A coffee and grape sugar, equal quantities, mixed by myself. What will come next? Are not some of those big yields of honey made in this way?

JOSEPH GARST.

Springfield, Clarke Co., O., Jan. 12, 1882.

If you bought the sugar from a respectable firm, friend C., by all means go back and inform them, that they may inform the parties from whom they bought, and have the fraud stopped at once. I do not believe any great yields of honey are made from such sugar; but still, it might perhaps be, if we have bee-men bad enough to undertake it. Buy only granulated sugar, and you are safe. While Prof. Cook was here he suggested a way of testing the sweetening powers of sugar. Those who drink coffee generally know how large a spoonful it takes to bring the degree of sweetness they prefer; well, let them try pure granulated; if they have not been used to sugar as good as this, they will probably get it too sweet. After they have determined how much it needs, try the cheaper sugars, and you can in this way tell which sugar is the cheapest to use. Again:

After having sweetened your coffee just right, put some maple molasses on your buckwheat cakes, and you will find your coffee has apparently lost its sweetness. Try samples of syrups of commerce, largely adulterated with glucose, and your coffee will not be injured at all, because glucose has so little sweetening power compared with cane sugar. If you try honey and maple molasses in the same way, you will find honey has not nearly the sweetening power of the molasses, and this shows why honey is not profitable for cooking purposes.

THE "LONG IDEA" HIVE; ONE FRIEND WHO STICKS TO IT STILL.

I am one of your oldest subscribers, and have read GLEANINGS from its infancy, and have tried to follow you perhaps a little too closely. I came near deserting last spring, however, and denouncing Mr. Townley for ever inventing chaff for bees, when we found it was not sufficient protection for such a cold winter. Our bees are mostly in the cellar now, and I wish they had been left on the summer stand, for we are having a very warm December (the mercury indicated 52° in the shade to-day), and it is some trouble to keep them quiet; so after all I believe you were about right when, on page 273, vol. 4, you gave us the first description of a chaff hive. But I must say, I can not learn to like the Langstroth frame, and I have tried hard. Bees winter just as well in them, I know from experience; but there is no hive that suits me as well as the long Standard or Adair hive you advocated a few years ago. We had the best part of our buildings burned the 4th of last May, and we were so pressed with work that some of our swarms were allowed to fill those long hives, and then a half-story, or tier of sections, was placed on top, and they fled them, and did not swarm. This is on the same principle as D. A. Jones's hive, only the entrance is in the side of his. If we do not want so much extracted honey, we can use side-storing sections, and then we will have the Doolittle system.

ILA MICHENER.

Low Banks, Ont., Can., Dec. 22, 1881.

MELTING WAX BY STEAM.

Will you please describe to us how you have your tank fixed for heating and keeping wax at the right temperature? We want to heat by steam, and would like your advice as to how to do so. How large should the tank be, so we could dip all day?

Kenton, O., Jan. 13, 1882.

SMITH & SMITH.

We use now nothing but our ordinary extractor-cans for both the dipping and melting boilers—the 17-inch tall cans, such as we use for Langstroth frames. The wax is kept hot by a coil of gas-pipe in the bottom of the tanks. This coil of pipe we made cheaply by taking a piece of gas-pipe, $\frac{1}{2}$ outside, and getting our blacksmith to coil it in a flat coil, by repeated heating. The coils are about an inch apart; and when placed in the can, one end rises from the center, and the other from the outside of the coil. After the pipe passes through both of the tin cans, or boilers, it goes outside the building, and blows the condensed steam out into the air. A globe valve regulates the amount of steam let on, so as to control the heat of the wax, to the fraction of a degree. The boiler in which the wax is melted has

two of the ordinary honey-gates in it. The usual one at the bottom is for drawing off the impurities that settle, while one about six inches higher up draws the clean wax into the dipping boiler, which sets right under this gate. The melting-can is right up against the wax-bin, so no wax is dropped on the floor in the almost constant replenishing needed. If your tinner and blacksmith can not make them for you we will furnish the whole outfit for \$25.00. The pipes must be tinned, or covered with tin, where submerged in the wax, or the wax will be colored by them.

HONEY FROM CORN.

Friend Oren says, "I do not believe that honey is ever gathered from the tassels, or the male organs, of corn." Now, that may be so; but who is it that has not seen grains of corn on the tassel? If there is not female bloom on the tassel, how can that be? I have seen bees gather honey from corn-tassel, and friend Root will not need his microscope if he gets out early (as he generally does) to see the bees gather honey from corn. I think it is secreted only at night, like the buckwheat. It is a fact not to be disputed, that corn-tassel *does yield honey*—some years more than others, and that there is female bloom on the tassel. "But," says one, "that is a freak of nature." Now I believe (others to the contrary notwithstanding), that there is female bloom on the tassel; but with undeveloped organs of generation; and only in case of freaks of nature do these organs become impregnated, and that said bloom yields honey, to a greater or less extent, as the case may be. I think yellow corn yields more honey than white corn; and in a dry year it seems to yield more than a wet year. I have good reason to believe that my bees, Italians, almost made a living from it this last dry spell, till Spanish needle came, for, on account of the dry weather, the corn was very irregular in sending up tassels, which seemed to be a providential circumstance. Now, if there is one kind of corn that will yield more honey than another, let's have it. Perhaps friend Oren is like one of my neighbors, who says, "The drones lay the eggs." Now I have been three years trying to convince him of his error, and I have failed.

GEO. W. STILES.

Spring Station, Spencer Co., Ind.

Gently, friend S. You think bees get honey from corn; but, if I am correct, you haven't actually seen honey on the corn, and that is the point friend Oren wants brought out. If there is honey in the corn, it should be seen and tasted, like the honey from clover and other plants; but I must confess, I have so far been unable to find any, although the bees were very busy when getting the pollen. The sweetest dried corn we have ever found comes from our Mammoth sweet corn; and as bees are always busy on it, it looks probable that they may get honey, or a very sweet pollen. How about the latter idea?

CHAFF HIVES; ANOTHER GOOD REPORT.

Last spring I had 4 stands of bees that I brought with me, packed in chaff, just as your book says. They took to swarming, and kept on till I had 20 new swarms and the 4 old ones, and one I caught in the woods made me 25 colonies. Now don't forget

that last winter was a hard one, and nearly everybody's bees froze to death. My success with bees was put into the papers, and people who had lost all their bees came to see me. They asked me how I saved them. I told them that I read GLEANINGS, and I would go right straight to my little drawer and hand them one, and tell them to take it home and read it, and keep it, and then they could tell more about bees than I could. I also sold between 50 and 100 lbs. of honey, at 20 cents. My bees are hybrids.

B. F. BARR.

Flaglers, Marion Co., Ia., Dec. 20, 1881.

NOT OUT OF THE WOODS YET.

I am not out of the woods yet by about 2 months, but I think I will "holler" a little anyway. I have 50 hives of bees, all in L. hives, on their summer stands, or, rather, in rows, with plank nailed closely together, and placed at the west side, leaving a space of 4 or 5 inches, which I have filled with dry sawdust, and covered nicely, save one.

NOISE AND DISTURBANCE IN WINTERING.

I built a hexagonal house, 12 ft. to the side and 22 ft. high. I use the lower room for a work-shop, and the upper for a band-room. There are 15 members, and we have 13 horns and 2 drums, so you see we can make quite a noise; well, I put one hive of bees, that weighed 46 lbs., into this room, with the entrance on the outside of the building, for an experiment. I had an idea the noise from the band would kill them, and so it has, or nearly so. After they had been there 60 days I examined them and found about 5 lbs. of honey, and about 1 pt. of bees. When it was warm enough for them to fly they would discharge their faces on the house so badly they would nearly ruin the white paint. On examining those put away first mentioned, I found them as nice and dry as I could wish for, and I don't think they had consumed over 5 lbs. of honey to the hive. I write this to show beginners the danger of making noise about bees in winter.

J. F. NIGHT.

Poseyville, Posey Co., Ind., Jan. 11, 1882.

Let us draw conclusions slowly, friend K. Although the noise has probably injured them, it is not really certain they would not have done just as badly in such a room if it had not been for the band.

"PROPOLIS DAUBERS."

I have a dollar queen (hybrid at that) from D. S. Given, that is wonderfully prolific. Her colony gave me the most honey last summer of any; but I never saw such persistent propolis daubers in my life. I am sure I earned every pound of honey I got from them. She would just suit your cheap hives (see your advice to friend Ballou, page 141, 1881).

GUM-TREES.

Can some of our Southern bee-keepers give me the value of the different species of gum-trees for honey, as compared with linn, quality of honey, etc.?

A. S. DAVISON.

Aullville, Lafayette Co., Mo., Jan. 12, 1882.

I too have noticed that certain colonies were inveterate "pollen daubers;" but as they were good workers, and wintered almost invariably well, why not keep such for extracted honey, and let them "daub"?—I do not think any gum tree, will compare with linden.

SCOTLAND, AND THE OCTAGONAL FRAME.

I regret to say bee-keeping was a failure in nearly every part of Scotland last season. However, bees bred well, and the heather gave them as much as keep the stocks. We all lost queens at mating time; the weather would be bright and clear for 30 minutes, and then a "plump" of rain four or five times a day. The octagon frame I sent you a drawing of [see p. 151, March No., 1881], has proved to be the best swarm in Fife and Perthshire this year. I will test it further this next season, if all is well.

Link's Schoolhouse, ANDREW PRATT.
Kirkcaldy, Scotland, Dec. 20, 1881.

APIS DORSATA.

It would seem from the following, that our friend Frank Benton has not finished his task yet. It is given by a special correspondent of the weekly (California) *Chronicle*. He writes from the Isle of Ceylon, under date of Oct. 14, 1881:—

EXTRAORDINARY HONEY PRODUCTION.

Honey is here very plentiful, there being several varieties of the honey-bee in Ceylon, one of which, the Bamera, resembles the hornet, being larger and even more ferocious than that pugnacious insect, the natives affirming that three simultaneous stings from them are fatal to human life. They are marvelous producers, however, and I have seen one of their nests composed of huge combs as large as (and about the shape of) the top of a single-horse buggy, hanging from the limbs of a gigantic tree, and containing several hundred pounds of honey.

As the writer is a newspaper man, he doubtless was honest in what he wrote; but he may have been a little excited when he looked.

THE LANGSTROTH FRAME FOR WINTERING.

I must differ in my opinion with Brother White, as to the L. frame being too shallow to winter on. I have always used the L. frame almost exclusively, and never lost a colony by wintering until last winter (see page 481, GLEANINGS). But I will try to give a more minute report of a single hive. I was caught by the cold weather with seven frames in top story, and bottom part full from side to side, of sealed honey, in a root chaff hive, and a very strong colony. Thinking I would soon have a pleasant day, I covered them snugly with 5 or 6 layers of carpet, over bottom frames, extending up and over all of the upper ones; but the warm day did not come for a long time, and when it did come I found the bees all dead — about half of them in the top, where they had consumed all the stores, and the remainder in top part of bottom frames, with plenty of honey directly under them, and all dead in a cluster. Now, if the upper frames had all been taken off, and the covering put down on the lower frames, their chances for wintering would have been better than any hive in my apiary. Bees can not leave their warm bed and go away down in the cold in their bare feet, and without any clothes on, to get their meals.

Oxford, O., Jan., 1882. D. A. McCORD.

ANOTHER "CRACKED-HIVE" REPORT.

I have handled bees for 30 years. The first 5 years in box hives, and since then in frame hives. I have never lost any since the first year. Then I had only 2 swarms, and I did not know any thing about bees, how to pack them, so I just let them sit out without packing of any kind, and I lost all of them but one. That one had cracks on the back side of it that you could run your hand up and down in, so that you

could see the bees, and they could come out there. By that I learned that bees want air to let that dampness escape, for this one was all dry and warm. The other two were all wet, and full of ice, and since then I have packed them all around and on top, and I never lost any since, till last winter. Then I had 47 swarms, and I lost all of them but two. The reason I lost them was because I had them run too weak, and extracted too much honey from them. But I have 31 swarms on hand at present, and they are all in good condition for winter.

Elmore, Ohio, Jan. 5, 1882. JULIUS FROSCHE.

SOME FACTS FROM ONE OF OUR VETERANS.

Fifty-three years ago I found a swarm of bees on the wing, and gave chase; brought them back, and in four years I had 22 good colonies. I have the same stock yet, and have had the constant care of them all that time with varied success. I once built a palace large enough to hold half a ton of honey, and introduced a heavy stock. So far as honey was concerned it was all that could be desired. I let them remain there 23 years; then believing them quite feeble, I killed them, and they had about a barrel of honey. Perhaps they had lost their queen. I have exhibited honey at the Ohio State Fair 8 times, and taken eight first premiums, including 5 lbs. extracted honey last year. The exhibitor from Columbus squirmed wonderfully about it, and spoke of entering a protest. THOMAS BUSHNELL.

Hayesville, Ashland Co., Ohio, Dec. 31, 1881.

COLORADO AS AN IDEAL SPOT FOR A BEE-KEEPER.

Place your finger on the map of the State where the western line of Pueblo County crosses the Arkansas River, and you have my location to a dot. The elevation above the sea as marked on my place, is 4947.26 feet. The valley is from half to three-fourths of a mile wide, and fenced in by perpendicular bluffs a hundred feet high. The weather in this valley is always mild, calm, and beautiful, with the sun shining with unobscured rays nearly every day in the year. Thus you see that it is one of those ideal spots that hundreds of bee-keepers have dreamed of, but few have seen. Where the lands get sufficient irrigation, cleome springs up and grows with great luxuriance. Other flowers and shrubs are plentiful. Cleome commences to bloom the last of May, and continues until the frost comes, and is at all times rich in nectar, making the best quality of honey. I got eight colonies of bees the last of June, and brought them 60 miles by railroad. They were caged three nights and two days. Out of the eight colonies I lost as many bees as would have made a good-sized swarm. The day I let them loose they rallied to their work with a will, that convinced me that they meant business, and they did too. Long before I was ready they were ready for their surplus-honey room; and as fast as I gave it to them they immediately occupied it and went to work. The result was from 75 to 125 lbs. of comb honey. About the middle of June I got a couple of handfuls of bees, and for each handful three combs 5x6 in. square. The first queen that was hatched was lost on her first flight; the second was wingless; both were failures. But I finally succeeded, and raised two good colonies from them by giving them each only one comb of brood from my other colonies. The two colonies, after filling their hive, made me 70 lbs. of comb honey. All have plenty to winter on. From the ten colonies I got 720 lbs. of salable

comb honey. I am of the opinion, that I could not use the extractor with any profit, the honey being so thick that it will scarcely run.

ELISHA BENNET.

Carlisle Springs, Col., Dec. 26, 1881.

I have often thought of and longed for a place for bees where I could have a fence, wall, or buildings, high enough to keep off all cold winds, and it seems you, friend B., have found it. It is my opinion, that we have none of us fully estimated the value of a spot free from the bad effects of strong winds, even if they are not cold; and in choosing a site for an apiary, I would make this one of the prime points.—I think your honey can be extracted without trouble, if done during a warm day. We have never failed, with our extractors.

A 300-COLONY APIARY IN MISSISSIPPI.

I use the Langstroth hive with portico. The Simplicity hives I purchased from you several years ago still work admirably. I winter on the summer stands without chaff, and cover the frames only with the ordinary sheet, which I find quite sufficient to protect our bees from the cold of this climate. I have almost abandoned comb honey for the market, and use the Langstroth frames in both the lower and upper stories of four-fifths of my hives. After thoroughly overhauling my apiary for the spring I expect to start with 300 full colonies, although I closed with 326; but some are rather weak, and others will probably be queenless, which, by being united, will bring all my colonies to a proper strength. I use only smoke in uniting; afterward simply shaking the bees from frames of alternate colonies, to be united in front of an empty hive, and selecting the best combs of brood to supply the colony. Sprinkling with sweet-scented water, or chloroforming, I consider of no practical value.

O. M. BLANTON.

Greenville, Wash. Co., Miss., Jan. 9, 1882.

UPWARD VENTILATION ALONE NOT ALWAYS A SUCCESS.

I have just been reading a letter of yours that I received in February, 1880. You said no protection for bees some winters would do well enough, but in a severe winter it would not. Last winter my bees had no protection but the bare hives. Some had the frames on top all winter, just as they were through the summer. They did not make any honey in 1880, and so I left them on, as I was very busy. They did not winter well, but I saved 15 out of 115, and I see that was better than you did, but I don't claim it is the right way. I only thought I would tell you about it. I can't brag. I never get any of those large yields of honey that I read about. I haven't faith to think I ever shall. Some of those large yields sound to a little bee-man like me a good deal like "fish" or "snake." Eh?

Huntsville, Pa., Jan., 1882.

A. J. HOOVER.

Many thanks for your very frank and honest report, friend H. If I understand it, you just tried letting your bees go without care, and very likely a large per cent of the hundred you lost died of starvation. Is it not so? Well, now you just hold on and keep what bees you do keep, strong and in nice order, and I know you will, sooner or later, have a rousing big yield to report. Has any

one ever kept bees in any locality ten years, and not had a good honey season in all that time? I mean, of course, given them good care all this time?

WHAT THE WOMEN DID WITH 6 COLONIES.

I send you a report of my wife and daughter's success in bee-keeping. Commenced last spring with 6 colonies of bees in chaff hives; increased to 27, and all in good shape for winter, with plenty of stores, and have taken 878 lbs. of surplus comb honey from the same, averaging 146 lbs. to each hive, besides the increase. I think that is very good for A B C scholars. I think I shall have to help them next summer, if they winter all of them. Friend Heddon's hive resembles those I make. I make two-story hives, cushion them on three sides, and cushion on the top.

H. I. WILLEY.

East Cobleskill, Schoharie Co., N. Y., Dec. 30, 1881.

Why, they did splendidly, friend W.; and as they were too modest to send us the report themselves, I am very much obliged to you indeed for doing it for them. I am very glad, too, to know they succeeded so well with a chaff hive during the severe weather of last winter. You see, we are getting the men to report for them, as I told you last month we would, if they did not report for themselves.

CHAFF HIVES, AND PLENTY OF AIR; LARGE ENTRANCES.

I am wintering 250 swarms — 215 in the cellar, and the remainder outside, mostly in chaff hives. So far they are all doing well. Last winter I wintered 7 in chaff hives, and my neighbors 15, all of which came through in fine condition, and were as strong in April as any colonies I ever saw at that season of the year. Neither was the brood-chamber nor the entrance of any of these contracted, but left full size all winter. Our trouble in wintering is *too little fresh air*. The entrance of your chaff hives is too small for summer, but just right for winter. I wish you could make it at least three times as large. It could easily be contracted for winter use. The past season was a fair one with us. We doubled our colonies, and obtained, on the average, about 50 lbs. of surplus from each old colony — the most of it comb honey. Our highest yield from one colony was over 200 lbs. of extracted honey. I have my own idea as to the best method of wintering, and, whether correct or not, I have been uniformly successful for 10 years.

S. F. NEWMAN.

Norwalk, O., Jan. 19, 1882.

Notes and Queries.

MY bees did very well the last summer; had only 44 winter through, and they were very weak in the spring. I now have over 80; got about 4000 lbs. of honey. Seem to be wintering all right so far, mostly in cellar.

J. L. GRAY.

Lee Center, Lee Co., Ill., Jan. 16, 1882.

Bees did well with us last season; began the season with 65 hives; increased to 117, and took 7500 lbs. honey, mostly extracted.

EDMOND ANDERSON.

Hopetown, Ont., Can., Jan. 13, 1882.

Seventy swarms of bees in excellent condition up to date; 4 years of success in wintering.

L. D. GALE.

Stedman, Chautauqua Co., N. Y., Jan. 10, 1882.

GIVEN IN CALIFORNIA.

I think I have improved some since I came here. I like this climate very well.

D. S. GIVEN.

Los Angeles, Cal., Dec. 10, 1881.

Bees have not done much this year -- not much over \$2.00 per hive in spring; 4 stolen, 8 brimstoned, and, say, 100 or more to be killed, if I can not sell them off somehow.

D. MCKENZIE.

Carrollton, New Orleans, La., Dec. 21, 1881.

[Won't somebody buy these bees at some price, and thus save them from such a fate?]

THE MAN WHO DID NOT SIGN HIS NAME.

Received GLEANINGS all right, and will take every thing back that I thought about you. Can't think how it happened, that I did not sign the letter. You will hear from me again soon.

WM. EBY.

Leamington, Ont., Can., Dec. 28, 1881.

You will please find inclosed —, for which send me one of the latest and best smokers. It is rather distressing that I neither smoke nor chew, and have to pay for it.

C. M. DAVIS.

Lemoore, Tulare Co., Cal., Dec. 20, 1881.

[It is a little sad, friend D.; but you know you can afford it better than those who smoke.]

A SINGULAR FACT.

I have found an excellent way to keep my bees from troubling the neighbors. Just put a 1-lb section on the Christmas-tree for each family in the neighborhood. My bees do not seem to be half so mischievous since I tried the above plan.

JAS. BOLIN.

West Lodi, Seneca Co., O., Dec. 21, 1881.

I have my bees all packed in chaff. I had 23 swarms in the spring, and got about 3000 lbs. of honey, and increased them to 54. Our great bee-man, Mr. O. O. Poppleton, from Williamstown, took one of his queens (got married), and started for Florida a few weeks ago. We wish him much happiness.

JOHN KRESS.

New Hampton, Chick. Co., Ia., Dec. 23, 1881.

"DUNNING" FOLKS TO MAKE THEM TAKE WHAT IS DUE THEM.

Friend Root, you have sent me a postal card for 3 or 4 years, to let me know that there was 25 cents placed to my credit on your book. And that last bit, see page 568, 1881, that settles it.

A. S. DAVISON.

Aullville, Lafayette Co., Mo., Jan. 12, 1882.

[Glad it did, friend D., begging your pardon.]

A GOOD REPORT FROM FRIEND HAYHURST.

I am well pleased with GLEANINGS; it has made me money. Last year I sent on to Mr. E. M. Hayhurst for one Cyprian queen, with a pound of bees, and some Italian queens with a pound of bees to each queen. What I got in June weighed this fall about 100 lbs. to the hive, and every queen proved to be pure.

F. H. BRANING.

Kent, Union Co., Iowa, Jan. 12, 1882.

I have 27 colonies of bees reposing quietly in the cellar. It is very cold here at present. After selling off my bees last spring I commenced the season with 9 weak swarms. I bought a choice queen, and increased to 27 good strong Italian swarms, with

plenty of honey in the hives, besides selling about \$75.00 worth of queens and honey. I didn't think it very bad, considering the season.

L. E. WELCH.

Linden, Genesee Co., Mich., Jan. 9, 1882.

HELP IN THE APIARY.

My daughter and I have extracted and done all the work in the apiary; began with 60 colonies, increased to about 100, and extracted about 7000 lbs. of very fine honey; besides, I attended and did all the work necessary on plantation (mechanical work), laborers doing the cultivation of land, and made 44 hogsheads of sugar, and over 90 barrels molasses.

B. MARIONNEAUX.

Plaquemine, Iberville Par., La., Dec. 24, 1881.

Bees have done well this season, but not nearly as well as at Borodino. Please ask Mr. Doolittle to tell us how he managed his bees to get such a yield of honey. There must be something wrong in my way of doing things, as I got only 1000 lbs. of comb honey from 30 swarms, while he got over 3000 lbs. from the same number. My bees were in good condition last spring. I lost only 4 out of 40 the last winter.

V. PAGE.

Kennedy, N. Y., Nov. 24, 1881.

[Read up friend Doolittle's articles in our back volumes, friend P., and you will see how he does it.]

MR. MERRYBANKS AND HIS NEIGHBOR.

The wilderness and the solitary place shall be glad for them; and the desert shall rejoice, and blossom as the rose.—ISA. 35:1.

I BELIEVE you have never had a near view of our friend Merrybanks. Well, perhaps I ought to apologize a little for bringing him before you with his hat and overcoat on; but you see, some of his experiments are working nicely just now, and I wanted you to see him when he was looking so bright and animated. It was on a bright sunny Saturday, just before Christmas, and he has been calling to his neighbor, through the new telephone they have just got put up and in working order. Mr. Jones made the heads of the telephone on his lathe I have just been telling you about. They are turned out of two-inch black-walnut plank, and something like an hour-glass with both ends open, only the end you speak in is much larger than the other. Across the small end is tacked a piece of very thin japanned sheet-iron, such as can be had of photograph artists. A sheet, 10 x 14, costs 15 cts. A wooden ring is put over the thin metal, to make it very firm, for it has to hold a very heavy strain, to get the wire as tight as it should be. The two houses are connected by No. 23 annealed brass wire. Brass is better than copper because it is tougher, and will stand a heavier pull, while it is much cheaper, as a smaller wire than copper will answer. No. 23 brass wire is worth about 40 cts. per lb., or, in small quantities, say 10 cts. per hundred feet. The wire at each end is put through a small hole in the thin metal disk, and twisted around a short thick wire, to prevent pulling out. At every one or two hundred feet the wire is supported by loops of leather string, not unlike a common leather shoe-string. The wire must

rest in the leather loop, and not be tied tight. When they first put it up, the voice had a harsh grating sound, which John said sounded like ducks quacking. Friend M. said they didn't want any "quacks" of any sort in that neighborhood, and so they looked over the line for the trouble. A loose end of wire was found that jarred; and when this was twisted down tight it did better; but still, the voice sounded harsh and wiry. The trouble was found in the wire being too loose, and they did not get a clear, natural tone, until it was drawn so tightly that it fairly made it "sing," as John expressed it. When a great many friends were in, and they wanted the telephone to make a sensation, friend M. used to sing "Only an Armor-bearer," with his powerful lungs, until the little folks over at his neighbor's fairly danced with delight. You know the house now stands on a stone foundation, so they could jump up and down all they pleased, without shaking the stove down, or making the dishes roll off the table.



MR. MERRYBANKS TALKING TO NEIGHBOR JONES.

Well, here is the picture. What do you suppose friend M. is listening to? From away off through the frosty air, and along that slender wire, from out of invisible space as it were, come the familiar tones of John's father's voice,—

"All right! we will be right over."

"And I am coming too," comes the younger voice of John.

"And so am I; ma says I may," comes in Mary's childish voice. It is this latter voice that brings that pleasant look on his face that you see, for friend M. loves children. Did I never tell you he was superintendent at the Sunday-school over at the church? Well, he is, and I guess he is the right man for the place too. Perhaps you would like to know why he wants them all to come over just now. I will tell you. No, I won't either. You may just come along and see for yourself. Friend M. meets us at the gate, and with the same knowing smile he ushers us into the house, and then points the way for us to follow him into the cellar. Strangely, he takes no light; and the contrast from the bright sunshine outdoors, with the darkness here, almost makes one feel he is going into a dungeon. After we are all down he shuts the door after us, probably because his good wife has taught him to do so, and then bids us all wait just one moment.

"Why, it must be he has got a door in the wall, into somewhere," said Mary; "see the light along the cracks."

By this time friend M. had approached the door; and when it was opened, an exclamation of surprise burst from all the party. A cosy little glass house was there—or at least one side was glass, and the strangest part of it all was, that it was full of humming bees. The ground was covered with new soft sawdust, and several 25-cent camp-stools of his own make were placed tastily around, inviting them to take a seat. Up near to the large glass sash, which sloped to the south, and, in fact, formed the whole south side, were two of the same pail bee-hives we saw last summer, and bees were passing out and in as briskly as if it were summer. In the center of the room was a large cluster of bees that looked for all the world like a natural swarm, only that the bees were going to and fro from it constantly. A closer look, however, revealed the fact, that it was only a bag of thick ducking filled with sugar syrup, which continually oozed through the cloth in bead-like drops, which were eagerly sucked up by the bees, and carried to their hives. Besides this bag of syrup, there swung, from about the center of the sash, right in the full blaze of the sun, a bee-hive cover containing a little heap of rye flour. On this the bees were as busy as you see them on the soft-maple trees in the spring, and the droning hum at the mouths of the—pails, as bee followed bee with his load of pollen, was funny enough, with a cool frosty air on the outside.

"Why, what makes it so warm here?" finally said Mary. "I don't see any stove anywhere."

"It is the sun that makes it so warm, my girl. You see, we have cut off all the cold winds, by the glass; and although the rays of the sun come through miles of frosty air, when they alight in this cosy little room they so warm it up that we have a beautiful summer temperature. In fact, after the sun gets up a little higher, it will be so warm I may have to open the ventilator. I often sit here in my shirt-sleeves and read the bee journals, even when it is freezing outside."

Freddie, who had but just come in, now took up the conversation.

"O Mary! I'll tell you what makes it warm. Pa makes the air all come a long way under ground, and the ground thaws the frost out of it. See?" And he showed them pieces of drain tile, laid all around the outer walls of the room, just a little below the floor, and covered, so the sawdust would not get into the open joints, by a long narrow box or trough, having holes at intervals along the top. This drain tile was connected with the cellar drain, which was of tile of pretty good size, and perhaps 200 feet long.

"O pa! light the smoker, and show them how it works."

Friend M. lighted his smoker, and puffed some smoke over the holes in the wooden trough. It could be plainly seen that a little air was oozing out of nearly all the holes. Then he went to the ventilator, near the highest point in the roof, and opened it a little. The smoke now showed a strong current outward; and on going back to the wooden trough, each hole sent up a little jet of air.

"Oh, see!" exclaimed Mary; "the Lees are all leaving the flour and bag of syrup, and going into their hives."

"Yes," said friend M., "because our experiments have cooled off the room; but I will bring them out again."

He then closed the ventilator very tightly, and pushed some bits of tissue paper into every crevice he could find around the sash, which soon made it so warm they began to take off their hats, and the bees came out in great numbers, and began buzzing in the sunshine, and finally bumping against the glass.

"There," said he, "you see that won't do. If we should keep them long at this temperature, without a brisk change of air, we should soon have the room smelling badly, and they would leave the hives, and have dysentery. It really begins to look to me as if lack of pure air has as much to do with the cause of dysentery, as lack of pure food. Before I fixed my ventilating apparatus I had as bad cases of dysentery here as you ever saw in the spring."

"Yes," chimed in Freddie, "they made every thing so nasty that ma had to come down with a basin of soapsuds. Why, they even daubed the nasty stuff on the glass, and lots of 'em fell down and died, and pa couldn't fetch 'em to life again."

I don't know but that Freddie would have let a good many more "cats out of the bag" had not his pa, with a smile, here told him he had said a plenty about it.

"Please, Mr. M., may I open a hive?" And John looked up wistfully into the face of his kind old friend.

"Certainly, my boy; go on."

"Do I need smoke?"

"I think not; the room is warm, and they are pretty full of stores, and building comb. Besides, smoke fills the room unpleasantly, unless one is very careful."

Brood was found in all stages, and the queen was enlarging her circles in a way that might look cheering to any bee-keeper. The hoops of comb were passed around, and examined and approved by all.

"But what do you do on days when the sun don't shine?" said Mary.

"Oh! I don't have the bees work then. I cover the sash with the large straw mat you see out there, and open the door into the cellar, so it does not get very cold. Whenever the sun shines enough to set them working, I take off the mat and close the door."

"Do you not lose some that get on the glass, and do not get back?" said John's father.

"Very few, when the ventilation is kept right. They are rearing lots of brood; and when the sun turns and gets warmer, I hope to build them up so as to get them to swarm by the time I can get a queen from some of our friends in the South."

"Why," said John, "you can raise queens and get them fertilized in here; I'll bet you can."

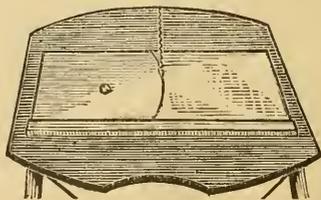
"You mustn't bet, John; and besides, won't it be the best way, to get it done before we say very much about it? We have got so far, and it works very nicely, does it not?"

"Yes, indeed it does," came from a chorus of voices.

"Papa," said Freddie, "won't you show them the machine you invented, to make sleds and things?"

"Sleds and things," said John. "what about 'sleds and things'?"

"Oh! you come and see." At this the party adjourned to friend M.'s neatly arranged workshop, and Freddie took them up to the scroll-saw. What they saw was simply a thin piece of board laid on top of the table, with a strip of wood nailed to one side, and a large screw near one end, put down through into the table. Below is a cut of the table, with the swinging board on top.



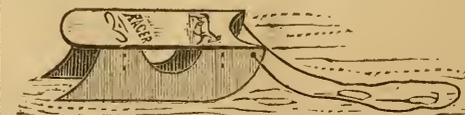
MR. MERRYBANKS' SCROLL-SAW ATTACHMENT.

"You will observe," said friend M., "that this device is to avoid the troublesome operation of marking out your work from a pattern, and then trying to make the saw follow the mark by your eye; but of course it applies only to work where a great number of pieces are wanted all alike, and are to be cut on a true circle." To show how it could be used, he took a strip of plank and laid it on the swinging table, and in a moment had it cut as in the dotted lines below.



HOW TO MAKE TOY SLEDS.

A tack in the swinging table served as a stop, so that all the pieces were cut off just alike. Next he unscrewed the machine and cut the round holes you see in half of the pieces, by putting the screw through the center, and then setting it into the table, nearer the saw. The board was simply revolved around the screw, and the saw cut the circle. Now the pieces were taken to his circular foot-power saw, and those with holes in were split through the middle, as in the cut above. To make the pieces for the sled, he had only to take off slices with his circular saw, of the thickness required, and plane them, and the sled was ready to nail up. Mr. Jones planed the pieces, and nailed them up with wire nails, and in a twinkling friend M., with a small pot of paint and a stencil of a horse, painted on that animal, and the name "Racer."

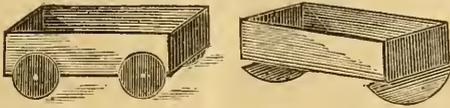


THE SLEDS THAT WERE MADE IN JUST 15 MINUTES.

While the rest were busy at the sleds, Mary and Freddie were looking at some oblong one-piece section boxes that friend M. had ordered in some of his honey experiments; and Mary, placing one on the sled, suggested that it would answer for a box, so she could draw her doll in it. John here interposed, that, if the box had a bottom to it, the runners could be nailed directly to it, and they could be made so rapidly he could sell them at his "Hotel," just before Christmas, for five cents each.

"Why, John," said friend M., "can't we put some wheels on some of them, and have wagons as well as sleds, for only five cents?"

At this point John's father picked up one of the circles (you see, the piece that comes out of that opening in the runners just makes a rocker), and broke in,—



WAGONS AND CRADLES FOR FIVE CENTS APIECE.

"Why, look a-here! Just cut these in two, slice them up, and you have rockers to put on the boxes, and we have cradles for the doll, as well as sleds;" and while they were busy working out these plans, the doctor and his boy Tom came in, having heard of the success of flying bees in the greenhouse. Tom, you must know, has a little printing-press with which he prints wrappers and labels for his father's medicines, and he suggested that he could print some nursery rhymes on some bronze paper, pasted on the "vehicles," to make them sell better for the holidays. The doctor got out his pencil, and began writing on one of the sleds. Tom also took one, and finally all the older ones busied themselves in writing a verse. Friend M. wrote in the bottom of the cradle as follows:—

Rock-a-by baby upon the tree-top,
When the wind blows the cradle will rock;
When the bough breaks the cradle will fall,
And down will come rock-a-by, baby, and all.

Mr. Jones then wrote on the sled,—

Mary had a little sled,
To ride upon the snow;
And everywhere that Mary went,
That sled was sure to go.

John wrote on his (you will note where his mind ran),—

"It was a sled that Mary had,"
The teacher did reply;
"Five cents bought the little thing,
And how was that for 'high'?"

By this time the doctor had studied up—

"What makes the sled love Mary so?"
They cried in accents wild;
But not a "feller" answered them,
Though every "feller" smiled.

Of course, they had a big laugh; but when Tom came to produce his they laughed still harder. Here is what he had written, and it was pretty well written too; for Tom, with all his faults, had much skill that way:—

Mary had a little sled;
I tell you, it was "boss;"
'Twas lots of fun to see it run
As fast as any "boss."

Right here their merriment was interrupted by Mrs. Merrybanks, who excused herself by saying that a kettle full of maple candy was all ready to be pulled, and "would the men folks be so kind as to come and pull it?" At the same time, she gave the doctor a pleasant smile, and told him he was especially wanted, as doctors are always expected to know better than anybody else how every thing should be done, "*ex officio*."

"Can't we help too, '*ex officio*'?" said Mary.

This occasioned another big laugh, to think that Mary had unconsciously said a pretty smart thing; and even if her father did chide her a little about being forward, Mrs. M. took her part so pleasantly that she did not feel very sorry.

"Oh! please, ma, can't I go over after John's mother, '*ex officio*'?"

As permission was granted, we will explain, while he is gone, how maple candy is made. About 5 lbs. of maple sugar is put into an iron kettle, with perhaps a pint of hot water. When melted, a piece of butter is stirred in, about the size of a hickory-nut. It is now boiled slowly, until done, which can be ascertained by dropping a little into cold water. When it snaps like brittle glass, it is ready to pull. If not cooked enough, it will be too soft to handle when done; if too much it will be burnt. Good dry hard candy is the golden mean between these two extremes. To cool, it was poured into large dripping-pans, perhaps $\frac{1}{2}$ inch deep in each pan, and the pans were then set out in the snow. Of course, the pans were previously buttered. As soon as the candy began to cool it was picked up from the edges, and rolled over into the center, and this process kept up until the whole could be taken up like a roll of dough. It was then pulled until white. If it got too hard to pull, it was taken near the stove; if too soft, in the air before an open door. Each one of the party was given a piece to pull, and now quite a strife sprung up, to see whose would be whitest. Of course, the men expected, by their superior strength ("*ex officio*," John said), to be far ahead; but to their great surprise, John's meek little mother was ahead of them all, and Mrs. M. next. After it was pulled out into long slender threads, these were snipped off with shears, just right to go into Mary's little doll cradle; and almost before they knew it, John had a "wagon-load of maple candy," labeled "**ONLY 15 CTS.**"

At this point Tom fairly boiled over with joy. "Why, John, you just get up a lot of these, and I will print some bronzed labels for them, and we will have out some posters, and advertise them all over the country, and the week before Christmas you will sell *millions* and *millions* of them."

"Yes, sir, 'ee," says John, forgetting for the time how many ciphers there are in the arithmetic in a million; "but where can we buy the sugar?"

"Oh! Uncle Billy has got a big lot of it, for I heard him say he would *never* sell it, if he couldn't get more than 9c. per lb. for it; and next spring you and I will rent a sugar-bush and make our own sugar, and —"

Really, friends, I would like to tell you more what they planned; but I have only room to say, they went into it, and I don't believe any boys ever had a happier Christmas week. They hired Mr. M. to work for them with his tools, at a dollar a day, and Mrs. Jones made the candy; Mary and Freddie nailed up the vehicles and cradles, and pasted the labels on, and at 9 o'clock the day before Christmas they counted up their money and found they had taken in for tinware and all (you see they sold candy by the pailful as well as wagonful), \$19.45, besides having quite a little sugar and other stock on hand, all paid for. Tom sold out his interest to John for \$10.00, so John was sole proprietor. Next month I will tell you how Tom bronzed labels, and what the temperance hotel did in the month of January. Truly the sad and dilapidated home of John Jones was beginning to blossom as the rose, even in the winter, and the way in which it got to be the favorite gathering-place of the people of Onionville, under the kind guidance of friend Merrybanks (was it really Merrybanks, or the Lord Jesus Christ whom he loved to serve?) would not inaptly remind one of our opening text.

TOBACCO COLUMN.

AND YE SHALL KNOW THE TRUTH, AND THE TRUTH SHALL MAKE YOU FREE.

I AM a native of Germany; landed on the American shores in 1856, and never had an hour's lesson in English; but my occupation as colporteur brought me in contact with all classes of people, to learn to read and write. I first heard of you as a scientific bee-keeper and journalist through *Farm and Fireside* advertising columns. I sent for a specimen copy of GLEANINGS, as I was interested in bee culture, which you sent promptly. Every thing else I liked; but I thought you had stepped rather out of your place in your Tobacco Column. You know the Germans are great consumers of tobacco, and I have used it in all its forms, chewing not extensively. You must not think hard of my countrymen in this respect, when you see them even on the street with a pipe in their mouth as long as themselves, for all classes, high and low, use it, even the preacher in his study. But since reading your Tobacco Column, I have thought the matter over conscientiously, between me and my God, and am enabled to see the word of God in a new light on this subject; that it is sinful and wicked for any man to defile his body with this filthy weed, which destroys the constitution of the strongest man, maddens his brain, and disqualifies his thinking powers, unfits him for good judgment, and, what is worse than all, defiles the body, which the apostle calls a "temple of the Holy Spirit," and the Spirit of God can surely not dwell in a temple built largely of tobacco. In order to worship God acceptably, and to offer up sacrifices pleasing in his sight, the vessels in use must be clean, pure, and holy; and how a man can pray to God, and sing his praises with a chew of tobacco in his mouth, I am unable to see now.

Some one may think I am saying too much when I say that it is sinful and wicked to use tobacco.

Well, I will then say, it is a naughty, bad habit, and the Bible tells that all naughtiness is sin; and the apostle exhorts us to do away with all naughtiness and filthiness of the flesh. God required ancient Israel even to wash their clothes before approaching him in worship. Could they have presented their bodies a living sacrifice, holy and acceptable unto the Lord, with a chew or cigar or pipe in their mouth? This puts one in mind of the story of a missionary in Scotland, who asked at a farmer's house for a night's lodging. On being refused, he said to the host that he must not forget to entertain strangers, for thus many had, unawares, entertained angels. The farmer said, on looking into his face, "That may all be; but you are surely no angel." "How do you know?" asked the missionary. "Because," said the farmer, "angels don't chew tobacco," seeing his beard all saturated with the juice of the filthy weed.

It is said by a man of understanding, that the food we partake of, the nature we partake of; and this being the case, no wonder Dr. Adam Clarke used the expression on one occasion, "If you want to bring a pleasing sacrifice to the Devil, take a pig, stuff it with tobacco, roast it, and your offering will be complete;" and no wonder the cannibals never will kill a man to eat his flesh if he has used tobacco.

Now, friend Root, having come to see and understand these facts, I have solemnly pledged myself never, never, to use the filthy weed; and more than that, the investigation of this has led me into temperance in all things; and by the help of God I shall henceforth keep my body under subjection; eat wholesome food, and drink pure and wholesome drink; and don't think, friend Root, I do or say this because I want a bee-smoker. No; but I tell you before God, I mean what I say.

STEPHEN ROESE.

Maiden Rock, Wis., Jan. 7, 1882.

I do have charity for your countrymen, my good friend, and I can take them by the hand despite their long pipes; but at the same time I can but earnestly pray they may be delivered ere long from the bondage of the habit. As I read your letter, friend R., I felt the answer to the prayer was coming, and that, too, chiefly through the labors of their own number, even such as you. To be frank, even when most hopeful I have never had the faith to believe that my poor words in the Tobacco Column would ever have raised up such a one as you. May the Lord be praised!

A young friend of mine promises to quit the use of tobacco. He has been in the habit of smoking and chewing, about four years. He seems to think it will help him to make a public announcement of his promise. He says he will "smoke his last cigar" on the last day of this year, and if he ever breaks his promise he will send you word. His name is Joseph Wood, age 17, late from England, and at present is employed on our farm. He says you need not send a smoker.

WM. L. STILES.

Austin, Tex., Dec. 30, 1881.

May the Lord bless both you and our young friend, friend D. Tell him that he will do us the more good, because he has voluntarily come out and desired to be numbered with those clean in body and clean in heart, and we know he will hold out, the Lord helping him.

Our Homes.

Great peace have they which love thy law.—PSALM 119:165.

IT was Sabbath morning, and as the weather was getting cold I had put on my overcoat preparatory to going out on my Sabbath's work. I pushed my hand absently down into one of the pockets, and brought up some little cards. On one of them was the text above. The cards were probably some I had used the winter before over in our little mission Sabbath-school that I told you of last winter. Why, what a beautiful text that is! said I, and I began wondering that I had never before noticed the singular power that lay in its mild statement and promise. Surely no one but David ever put so much simple grandeur into so few words. As I thought of it, it began to come out sharp and clear, like a new engraving in our printing-press, when we first begin to work with it. These bright texts are a wonderful comfort and joy to me, and this one, this Sabbath morning, seemed a new bright token from the kind Father above, of his great love to me. Not simply peace alone, but "great peace" was the promise. And to whom? under what conditions? Just simply "to those—who love—thy law." Was ever anything more beautiful? And it was not a promise: it was a reality, for it says, "have they." I almost trembled at the joy that came pouring in, when I reflected that I did indeed love that law. Once I fretted and chafed under it, and felt it a fetter; but now, thank God, it was a pleasure and a privilege to obey those laws, for I loved Him who, in such great wisdom, framed them. Perhaps not quite all the time did my voice and actions show that I loved them, and this was likely the key to the fact that I did not have, all the time, that GREAT PEACE, either.

Before night I met a friend who was in trouble. I listened to the circumstances, and ventured a word of hopefulness and consolation; but it seemed a difficult matter to quiet the troubled spirit. While I was trying to think of something from Scripture that would cover the case and show this friend where she stood, I again absently pushed my hand far down into my coat-pocket. It touched these cards again, and I gladly drew them forth and held up this bright little gem. It covered the ground, and as its great truth in all its power seemed to answer and embrace all I had been vainly trying to say, I felt like thanking God again for my bright new treasure, this text. Have I ever told you how these texts and hymns come to me, and grow and enlarge as I contemplate them, until they seem like little nuggets of gold? Why, I often see and feel, when I first get a sight of them, that they are to prove new and bright friends, like ministering angels, when I get to know them more. Well, my friend did venture to suggest something, to the effect that she *might* have "great peace," if folks would only let her alone.

"But," said I, "it don't matter what folks

do; they are not even mentioned in the conditions at all. Why, all the people on earth, and Satan with them, can not rob you of, nor prevent your having, that great peace, if you simply love that law." I knew my words were true; but when I reflected, that I often forgot them myself, I felt like asking God to help me not only to remember them, but to be sure I put them in practice.

I have told you that Ernest is going to school in Oberlin. Well, his cousin George, the one who is such an enthusiast on the microscope and electricity, is also at school with him. Within the last few weeks George has been converted, and, to the astonishment of almost everybody, has thrown off his usual diffidence, so much so as to stand up boldly for the cause of Christ before men. The two boys came home from college for a vacation during the holidays, and almost my first thought was, when I welcomed George, a fear that I might, in some way, before the vacation was ended, check or chill this newborn spirit of love and good will for everybody. I knew he had had a pretty good opinion of me, and I shuddered to have him find out, that, after all, I was but—clay. George is a printer, and, true to his usual habits of industry, he very soon went right into the printing-office, and resumed his place among his old shopmates, even during his vacation. Well, one day toward the close of the year, when a multitude of cares seemed to center all together on my poor bald head, I fear I must have got into one of my old uncharitable moods. Come to think of it, I am not sure they are so very old after all; but I wish they were. You know we always print the month on our postal cards, so the clerks have only to put in the figures indicating the day of the month. It was about the 28th of December, and of course we did not want a great many to last until the new year; but the clerks were out, and some more must be printed; but George was using the job press to print some honey-labels in red ink, and he thought he could not stop to wash up the press and rollers, when I, perhaps pretty peremptorily, told him not to wash the press at all, but to print the cards with red ink. Then came a discussion as to how many should be printed to last until the new year. It was getting pretty close on to the hour when I am obliged to have the mail read, ready for the office; and the reviewing of the work of so many clerks, correcting mistakes and misapprehensions, is quite apt to get me into a fretful mood before it is all off. At such times I very often decide pretty hastily in giving orders; and often, too, it is better to decide some way, and get the wheels of business moving along, than to spend too much time in dallying over matters that are really of no great importance. I reasoned thus: that it would be better to print a few postals into January, rather than waste time in trying to decide just how many would be likely to be used in three or four days. With my fingers stuck between the postal cards and letters, to keep those read from those that were not, I asked George about how many blank cards he had all together. Others were waiting for answers to their questions, and

mail time was nearing; and without waiting for a very definite answer I directed that all should be printed December, reasoning that, if you got postals in January, marked December, you would all know at once how it should be, and it would do no harm. Well, the book-keeper is one of those precise little bodies (as of course all book-keepers should be), and she could not think of having things go out in that shape, even if I had so decided it. Worried as I was, this somewhat offended my dignity, and it looked to me then as if it was my privilege to have things as I chose in my own business, even if it was *not* just as other people do things. Did you ever hear of the farmer who had been greatly troubled to get a hired man who would do exactly as he was bid? Well, I suspect he must have been one of these touchy people who are always afraid their rights are going to be encroached upon. At any rate, he declared he would never hire another man until he had given a decisive test. Well, an applicant soon came for a place.

"I am hard to suit," said our friend. "Do you think you can please me?"

"I should like to try, sir."

"And will you do exactly as I say, whether you know all my reasons or not?"

"Try me and see."

"Very good. Here; take this saw, and saw off the wagon-tongue." The man did as he was bid, and soon came back with the saw in one hand and the wagon-tongue in the other.

"All right," said his employer; "I think you will suit me. Now take the wagon to the shop and get a new tongue in it, and we will go to work."

You see, I had got it into my head I was like the man who had the wagon, and that it was necessary for me to let the hands know, by a bold stroke, that I was "boss," and that I would be obeyed. Accordingly, in spite of the protests of the book-keeper, I declared they should all be printed December.

"Why, Uncle Ame," says George, "there are almost a thousand."

Of course, it would not do for me now to give way, after all I had said — or at least I thought so, and so I told him, "It doesn't make any difference; *print them all December.*"

After this, with a happy consciousness of having set my foot down, and given all to understand that when I spoke I was to be obeyed, I went over to my type-writer and sat down to read my mail. I read the neatly written lines, but, for some reason or other, I did not understand them. Just then it occurred to me that my face was hot and flushed, and also that if one of you, my friends, should have called just then, it would have been a hard matter for me to have extended my hand with a pleasant smile of welcome. Then remorse began to creep up, even though the old pride did for a little time hold it at bay. May God help me! I have been angry! Oh that terrible stinging conscience, from which there is no escape! Is there no loophole, and no way of escape, but to beg pardon *again* from those from whom I had hoped never to be obliged to ask forgiveness

any more in that way? It seemed for a while as if even God would not hear my prayers again. Relentless time pushed on, and the mail must be read. In fact, I had not even time for an apology, if I wanted to make one. A little comfort soon came, in the line of my father's text, "He knoweth our frame, he remembereth that we are but dust." I knew God would forgive me, but I felt I was crippled in my power for influencing others, at least for a time; and oh how I did resolve to be more careful! I wanted to be alone, and so I pushed back behind my type-writer into a sort of closet, or clothes-press, with my unhappy thoughts and — letters and postal cards. God did hear, though, and, in spite of my poor weak sinfulness, gave me even there a glimpse of his wondrous kindness and love that made me more ashamed of myself than ever. To explain it, I shall have to go back to the events of the morning.

I had been apprised that on this day, at about 10 o'clock in the morning, I should be wanted to testify, as an expert in bee culture, in regard to the case with which you are nearly all familiar, of the bees and grapes of the two friends Krock and Klasein. The two opposing lawyers called, with a notary, to take down my evidence. The lawyer for friend Krock (the grape-man) was a stranger; and as I felt instinctively that he was employed to make out a case against us bee-folks, a prejudice was inclined to spring up. I fought against it, however; and when I was put under oath, I mentally asked God to help me to tell the truth, the whole truth, and nothing but the truth. I felt a little pained at his wary distrust, as I felt it, when I first saw him, and I longed to have him know I was a friend to grape-men as well as our own folks, and wished peace and good will to triumph, no matter who was the loser in the end. When I gave some facts that helped his side, which I might not have been expected to give, I was pleased to see him apparently soften toward me. I felt he was becoming disarmed, and the man was coming out; and before we got through I felt quite an interest in his soul's salvation. One point struck me forcibly. I was telling him we have those among our ranks who keep large apiaries, and acres of grapes too; and that, therefore, bees and grapes can not be so very antagonistic.

"Oh, yes!" said he; "where a man owns both, I grant you he will get along, for *no man quarrels with himself.*"

"Well, then," said I, "if that be true, when we can get mankind so that everybody loves his neighbor as himself, all difficulties will be at an end, and we shall have the millennium, shall we not?"

He assented; and although no one said there would then be no further use for the profession of lawyers, I presume all felt it. We did not get through by noon; and as the time came for our noon service, I asked all three to come out and sit down with us. All declined, except the one of whom I have been speaking. I had no time for preparation, and so I took up the thought that I have just alluded to. If every man loved his neighbor as himself, peace on earth would

be established. I spoke of the long and expensive quarrel between our two friends Krock and Klasen, and prayed quite earnestly that God would touch their hearts, and make them conscious of their folly, that the case might end at once, before it had become a worse precedent than it was now, for the bee and grape men of our land. I knew that, if the prayer were answered, it would throw our friend the lawyer out of a case; but I somehow felt as if he was with me in heart in it. I remember thinking at the time, that I seldom confined my brief petitions so closely to one single point as I had that day. As I stopped abruptly, almost, I had a sort of feeling, as I often do at such times, that the prayer was acceptable. As my work for the forenoon had been all interrupted, many cares pressed me after dinner; and when engrossed in them, I forgot all about the noon prayer. Well, as I sat there by the window in the closet, this new lawyer came up.

"Well, Mr. Root, your prayer is answered."

"What prayer?" said I, thinking only of my sad downfall of the last half-hour.

"Why, do you not remember what you prayed for this noon? Krock and Klasen have telegraphed for us to drop the case just where it is, and come home. The telegram came in just as we were going up to dinner."

God had heard and answered, once more; and this time he had honored my poor petition by making the matter plain to the sight of men, while I had dishonored my Savior almost at the same hour, by letting my foolish, weak pride, persuade me that I might not have the honor I deserved. I tried to say a few words to my new friend that might help him to put *his* trust in God; but the awful inconsistency of such a course before the book-keeper, who was busily at work hard by, stopped the words in my throat. I must first ask her pardon. Before I could do so, however, a little note was pushed toward me. In her nice clear handwriting, even if it was on a scrap of paper, were, as nearly as I can remember, these words: "Please, Mr. Root, reconsider your decision about those postals; it will make us so much trouble to mark them out and write them over." Womanlike, she was not conquered, even if she was silenced; and, book-keeper-like, she could not think of letting a "Jan." card go out marked "Dec." I was not afraid then to say I was sorry; but I felt sad, and told her so, to think I had been led into such foolishness. I hated to go to George and acknowledge my weakness; but when I told him after all that he might print them January, he looked up smilingly and said he "did print them January long ago." My plans for impressing them with a sense of my importance had all gone to naught, for none had obeyed, and none had been silenced. They did right. They are both earnest, faithful Christians, and they paid me a greater compliment by doing as they did, than by doing otherwise. They recognized that a bad spirit had given that order, and not I; and in believing that my better self would soon come uppermost, and approve of the course they took, they paid me a compliment. Not I, but Jesus, my Savior,

shall reign. Is it not unwise and dangerous for one like myself to thus openly encourage disobedience? It might be, if my trust were not in God. In other words, I have no fear that a single hand in my employ will ever disobey, very far, orders that I give him in my usual calm spirit.

Several days had passed since the above, and I was one evening in the office having something of a talk with the boys, a few of them, including George and Ernest. I had not said any thing to George about the matter of the postals, only to tell him I was glad he changed the dates, even though I directed otherwise. I had a sort of hope that he did not see I lost my — balance that day, and that, therefore, the less said about it the better. Did you ever remark, that a drunken man is always sure he was not so bad that anybody could have noticed any thing different? Well, I have a sort of theory that sin is about the same in all its phases. The sinner always thinks it was not so bad that anybody noticed it. Once in a while, however, we have a Christian friend brave enough and *kind* enough to tell us the plain truth. Well, George was just such a brave and kind friend to me. If any thing in life should ever come up to persuade me that George is not a good friend of mine, I shall try to look back at that evening, and tell the tempter to get behind me, for I know better. Ernest had been gently chiding me for branching out in business so much, and I was telling the boys that I did it, mainly that needy ones might have work, and in the end, as I hoped, souls be brought to Christ. George here, with some apology, asked if he might take the liberty of making a suggestion in regard to the latter matter. I knew what was coming, instinctively; but I was very glad he had decided to broach the subject. He then reminded me of the occurrence.

"And so I showed it in my face, did I, George, that I was vexed?"

"Why, to be sure, you did; anybody could see it."

"I am very sorry indeed. I was really not aware of it until I had spoken as I did."

"I presume I should not have done so, but I told them in the composing-room what you said, and they had a laugh over it, and quoted your 'GREAT PEACE.'"

There you have it, my friends. I was not one bit displeased to hear that George had told them, in the other room, how I had fallen, nor do I feel hard toward the boys for quoting "great peace." when he who had talked it so vehemently had fallen, and shown *he* was "but dust," after all. George did not tell me any more, but my mind instantly reverted to one in that office to whom I once talked and recommended skepticism. When I was converted, I tried to take it back; but there has always been a sort of feeling that he thought he would wait, and watch me a while, and see how I would "pan out" in the new life. I do not know, but I can imagine it was he who said "great peace." I know he did not mean to be unkind nor unfriendly, for I am sure you would find him a most warm friend and champion of mine, if any real danger threatened, and this is why I have felt so keenly the justice

of this reproof. Do you see how we who profess to be followers of Jesus are watched and weighed? I am glad it is so. We ought to be watched and weighed, for this is one of our greatest safeguards against falling. Shall we then fear to proclaim his name?

Whoever therefore shall be ashamed of me and of my words, in this adulterous and sinful generation, of him shall also the Son of man be ashamed, when he cometh in the glory of his Father with the holy angels.—MARK 8:38.

Do you not see, now, that it takes some courage to be a Christian? And shall we back out, and stop by the way, because of the lions that may be found near our path? Not a bit of it. I shall talk "great peace." I hope, as long as I live; and, with the help of the Lord, I hope to live it, even in business, better than I have done.

Some of you may say, "But, hasn't a man a right to — have his wagon-tongue sawed off, if he has a mind to? It is his wagon, and if the man gets his pay, whose business is it?"

My reply would be, that no one who professes to be a Christian has any right to be guilty of any such proceedings. Whenever you contemplate any such action, you are, like Christian and Hopeful, out of the strait and narrow path that leads to the celestial city.

Ernest had not got through with me, it seems, for he commenced again, that I had too many cares, and too much business. George followed him up; and in the talk that ensued, it appeared that my fretful, uncharitable, and impatient moods were invariably between three and four o'clock P.M., at just the hour when I am accustomed to gather up the business of the day, and pass it through my brain, before it goes into the mail-bags. I was at fault for getting out of patience; but in truth, I had been fighting against fearful odds that had not been taken into account. One may be able to read letters more rapidly than his brain can stand it to handle the business. Brains, like muscles, will stand about so much, and no more. I was a little proud, too, perhaps, of the amount of business I could handle, and this was another obstacle in the way of the "great peace." Here were a couple of mere boys, only starting in college as it were, yet who, having the love of the Lord in their young hearts, were teaching me great lessons. My letters were to be read at different times through the day, instead of letting them all run into a single hour, and I was to study in different ways to husband the powers God has given me, as well as to try harder, with Jesus' help, to "suffer long, and be kind."

Now, I know there are those among you, my readers, who are often overworked in the same way. There are times when it is next to impossible, on account of mental fatigue, to call forth the kind smile you would gladly give if you could. May God help you!

And just a word more: Think gently, suffer long, and be kind to those whom you know are suffering from ill health or overwork. When you see a cloud of care upon the brow of a loved one, lift it; make it a study to be able to disarm vexation; and when you, with God's help, have learned to

soothe one, and bring him into his right mind, while in the chains of passion, you are on the way to realize the promise,—

And they that be wise shall shine as the brightness of the firmament; and they that turn many to righteousness, as the stars for ever and ever.—DAN. 12:3.

And you can then also say with David,—
Great peace have they which love thy law.

Friend Root:—In reading the Home Papers in the January number of GLEANINGS, some thoughts were suggested by Mr. I. B. Rumford's article, on the duty of studying, that we may know and obey the laws which the Creator has stamped on our physical and mental natures.

He very pertinently asks, in speaking of the efforts of the Moral Reform Association in behalf of the degraded, "Will it not be best — yes, imperatively necessary — to look well to the cause, and go to the root of the matter?"

Now, I hold that the cause of all the misery and unhappiness in the world results from the violation of laws which the Creator has wisely framed for our welfare and happiness. He has not given us intuitive knowledge of these laws, nor has he proclaimed them in his revealed word; but he has endowed us with powers of observation and reflection, through which we may learn what he has instituted in regard to us. If we neglect to use these powers in making ourselves familiar with the Creator's laws as they affect ourselves, we must inevitably suffer; for they are immutable and unbending in their operation.

Man, ignorant and uncivilized, has suffered countless miseries from which we of the present day are delivered. But it is only because we know more of God's laws than our ancestors. And if there is misery and unhappiness in the world to-day, it is because we are still ignorant of what will assuredly some day be known, or selfishly disobedient where knowledge is already abundant.

Within a stone's throw of me to-night there lies a drunken mother, so helplessly besotted that another has to put her nursing babe to her breast. It is scarcely five months since this babe was born, and it was during a drunken spree like the present that it first saw the light. The husband is a man of good capacity, who would have a home of his own to-day, but for an unfortunate inheritance which has been handed down to him from his father. The latter has been in the habit all his life long of going on periodical sprees. Between the sprees he would be strictly temperate. But about twice a year the slumbering taste for strong drink would arouse, and lead him away like a slave, refusing to be satisfied till absolute physical prostration, and a system saturated with alcohol, caused the very sight of liquor to create a loathing. The son has inherited this peculiarity of constitution. He rises from his sprees penitent, and thoroughly disgusted with himself on account of his weakness and folly; and I have known him to swear with his hand on the Bible, that not another drop of liquor should ever pass his lips again. But before six months have gone by, some peculiar temptation, — the banter of a companion, or the excitement of some festive occasion, — will arouse the demon slumbering within him, and he will be led away, a helpless slave, bound with the chains of his inherited desire. His wife is a weak woman, who inherits her taste for strong drink from her mother. They have three little boys besides the

infant before alluded to. Will it be strange if these children shall grow up to be common drunkards? Will it be strange if this inborn desire for strong drink should lead them to the felon's cell, or bring them to an old age of pauperism and misery?

Conceived in inebriety, born in inebriety, and suckled at the breast of an inebriate mother! What a terrible legacy is this for a parent to leave a child! And yet, it is a legacy which, eight times out of ten, will cling to that child, and produce its legitimate fruits as long as he may live.

This I conceive to be the root of the matter. Men are what they are, not so much by instruction and training, as by what they have inherited from their parents. Let our reformatory institutions and associations bear this fact in mind; and while they battle with the evil which is present, let them not forget its fertile source, but let them proclaim through the highways and the byways of the land the immutable laws of the Creator, which place within the power of parents such a controlling influence over the destinies of their unborn children.

JAMES MCNEILL.

Hudson, N. Y., Jan. 10, 1882.

I can not forbear giving here an extract from Doctor Kellogg's excellent book, *Plain Facts*, as it has such a direct bearing on the subject friend M. has so vividly and powerfully brought up before us. See what our nation has to battle with:—

A SOURCE OF CRIME.—THE "JUKE" FAMILY.

Who can tell how many of the liars, thieves, drunkards, murderers, and prostitutes of our day are less responsible for their crimes against themselves, against society, and against heaven, than those who were instrumental in bringing them into the world? Almost every village has its boy "who was born drunk," a staggering, simpering, idiotic representative of a drunken father, bestly intoxicated at the very moment when he should have been most sober.

An interesting study of this question has recently been made by Mr. Dugdale, a member of the Prison Association of the State of New York. When visiting the various jails of the State, he found in one six persons detained for crimes of various character, between all of whom there was a family relation. Upon further inquiry, he found that of the same family there were twenty-nine relatives in the vicinity, seventeen of whom were criminals. Still further investigation developed the following facts:

Within seventy-five years, a family of 1200 persons have sprung from five sisters, several of whom were illegitimate, and three of whom were known to be unchaste, and who married men whose father was an idle, thriftless hunter, a hard drinker, and licentious.

Of this family, the history of but 709 was traced. Of these, the facts set forth in the following incomplete summary were found to be true:—

Paupers,	280
Years of pauperism,	738
Criminals,	130
Years of infamy,	559
Thieves,	60
Murderers,	7
Prostitutes and adulteresses,	165
Illegitimate children,	91
No. of persons contaminated by syphilitic disease,	480
Cost to the State in various ways,	\$1,308,000

Without doubt a complete summary would make this showing still more appalling, since of the 709 whose histories were traced, it was in many instances impossible to determine whether the individuals were guilty of crime or unchastity or not, even where there were grounds for suspicion. Such cases were not included in the summary.

No amount of argument on this question could be so conclusive as are these simple facts concerning the "Juke" family. It is certainly high time that our legislators began to awaken to this subject, and consider whether it would be an unprofitable experiment to make some attempt to prevent the multiplication of criminals in this manner. We are not

prepared to offer a plan for securing such an end; but it is very clearly important that something should be done in this direction.

FOOT-POWER SHEARS, FOR CUTTING TIN, PASTEBOARD, THIN WOOD, ETC.

SOMETHING ABOUT A HANDY TOOL FOR A BEE-KEEPER.

THE machine we illustrate below was intended originally for cutting sheet iron and tin; but we found them so handy for a great variety of purposes, that we have had them for years in the different rooms of our factory. As they are all made of iron, and the bed-plate, or table, planed perfectly true and level with the different gauges, it affords great facility for cutting perfectly square, and with great accuracy. As it cuts paper as nicely as any paper-cutter, when not more than, say, 24 sheets are cut at once, it is really superior to most paper-cutters for any thing like the money. For several years GLEANINGS was trimmed on one of these machines, and it did it quite as well, and almost as fast, as the cutter we use now, costing several hundred dollars. Amateur printers will find them very handy for trimming circulars, cutting cards, paper, etc.



22-INCH FOOT-POWER SQUARING SHEARS.

You will observe by the cut, that there are sliding gauges, both on the back and front. Other gauges make it easy to cut wood, metal, card, or paper, into any size or shape, bound by straight lines. Tin can be cut into squares or strips, by an expert, faster than you could well count the pieces. Thin wood is also easily cut, and we use one constantly in the wax-room for boxing film. As we use mostly thin basswood, we cut it across the grain readily, where the thickness is from 1/4 to 1/2 inch; and with the grain, we can quickly shear off even 3/4 stuff. Nail the pieces on your box, letting the stuff extend over; take it on the shears, and clip off closely clear around; now finish with one of our cheap planes, and you have a neat job, done in a twinkling. With a lot of thin basswood, such as you can have made at any shingle

machine, you can make light packing boxes with this machine with wonderful facility. The one figured above cuts a length of 22 inches, and we have obtained a special rate from the makers, so we can furnish them to bee-keepers for an even \$40.00.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, FEB. 1, 1882.

And the Lord shall guide thee continually, and satisfy thy soul.—ISAIAH 58: 11.

We have recently sent friend Abbott, of the *British Bee Journal*, sixty thousand one-piece sections.

On page 27, January number, last line of friend Morris' letter, read "nuisance" instead of "new ones."

Will friend D. A. McCord ask Mr. Langstroth his experience in regard to pollen being necessary for brood-rearing?

We don't want *long articles* from anybody. Bear in mind, there are a great many we want to hear something from every month.

The time of holding the meeting of the Bee-keepers' Convention at Jamestown, Pa., has been postponed one week, and will take place Feb. 8 and 9.

REPORTS from working bees are always in order; but, dear friends, I do not believe it is profitable to have so much theory as we have been having lately.

FRIEND ABBOTT has just us another large order, and in it is one item of 100 of our 50-cent cold-blast smokers, which seems to imply they find favor across the water.

It has been said that those who constantly dwell on the faults of others, are invariably smarting under guilty consciences. One who is trying to do right is generally pretty busy at home.

If there are any better oranges in the world than the Rusty Floridas that friend Froscher, of Pilatka, Fla., is supplying our lunch room with, it has never been our fortune to find them. We have just opened two barrels of luscious ones.

We have about two dozen of the old-style Waterbury watches on hand, that we will sell for 50 cents less than the new solid nickel ones. They are regulated by carrying, like the rest, but the cases are only nickel plated. Who will take them?

THE Apiary Register, from the A. B. J. office, is very neatly gotten up, and strongly bound in leather; but I fear our friends will think \$1.50 pretty high for a small book with the "reading" all the same on each page, and the pages unnumbered.

We have just added quite a quantity of new type to our job-work department in printing, and our friend "M." is anxious that I should let you know about it. Labels, circulars, price lists, etc., printed on short notice. Estimates furnished on application.

FRIEND HAYHURST says, in his postal-card circular, "Don't send any affidavit, nor return any dead bees; but simply say they are dead, and briefly give circumstances." To which I would add, "Don't ever, at any time, be in haste to think you have been cheated."

We have made a very decided improvement in our rubber-plate machines, by using a hard quality of rubber. The fdn. often drops from these plates of itself. We are now about to test dipping plates for plain sheets made of rubber. The quality of rubber required, to stand heat, is worth about \$1.00 per lb.

DR. KELLOGG'S doctor book, mentioned last month, is called "*Home Hand-Book of Health*," and the other is "*Plain Facts for Old and Young*," instead of as I had it. The books are much more expensive than I supposed when I wrote; and it seems to me the latter one especially should be published in a cheaper form, for the benefit of the masses. Address Dr. Kellogg, Battle Creek, Mich., for prices.

THE ONE-PIECE SECTIONS.

BEFORE us is a copy of a patent granted in 1874, to H. W. Hutchins, East Livermore, Maine, for a plan of making boxes of one piece of wood, precisely like the Fornerook sections, even to the V-shaped groove, dovetailing in the ends, and all. The drawing makes it so plain, it is difficult to conceive that Fornerook's was not copied from it.

Just as we go to press, "John" is all excited over some pie-plant roots that Mr. Merrybanks has permitted him to set in his greenhouse. He set the roots in tubs made by cutting old barrels in two, filling in with the best manure and woods dirt he could find, and the enormous growth they are making—whew! If the men over at the new sawmill don't get supplied with nice five-cent pies, sweetened with maple sugar, won't it be funny? You can just see the chimney of the new sawmill in the telephone picture.

TO-DAY is the 28th of January, and we have 3639 subscribers, and about 200 swarms of bees. The bees are in good order. I know that, because they had a little fly yesterday, and we overhauled a few of the weaker ones. Hill's device seems to answer excellently for letting the bees pass from one comb to another, to get at their stores. I presume the 3639 subscribers are all in good order too, for they seem to be *quite* lively, from the amount of business they are sending us from every part of the civilized world.

DESTITUTE COLONIES IN FEBRUARY.

SMALL cakes of candy, laid right on the frames, over the cluster, seems to be the simplest way of feeding any colonies that may be in danger of starvation. If broken into pieces about the size of walnuts, they will warm them up more readily. I would not feed candy containing flour for at least another month yet. So long as there is danger of more severe weather, I would not start brood-rearing. Of course, this is for Northern localities. Where bees can fly a little nearly every day, you can crowd brood by feeding all you choose.

QUEENLESS COLONIES IN WINTER.

DON'T worry if you have a few colonies queenless. We have four or five such, and they are wintering just as well as any, so far; and if it is desirable to prevent brood-rearing, the absence of a queen will probably be just as effective as the absence of pollen. Friend Viallon, or somebody else down that way, will have young queens ready for us in April; and who knows but that they will be all the better for having no queen until April? I should not be at all surprised, from the experience I have had in such matters.

A BEE PAPER IN CALIFORNIA.

It is coming, friends, and I think it a pretty good idea, if they have some one to direct it who is not afraid of work, and, so far as I know, friend Levering seems to be the man. See:—

Please mention in your Feb. No., if you can, that this State is to have a bee paper, "The California Apiculturist," that it will be out by the 1st of Feb., and published at this city and Los Angeles, with N. Levering as editor. Subscription price \$1.00 per year. CAL. APL. PUB. CO.
Oakland, Cal., Jan. 20, 1882.

I confess, friends, I would much rather see the name of some good square man, in the place of "California Apicultural Pub. Co."

In regard to the Square List, it has occurred to me that candidates for this list had better be propounded a month ahead; and if no objection is raised, they then go in. Also, as it may not be *always* possible to settle according to everybody's demands, why not have difficult cases settled by arbitration? Any party who refuses to submit to arbitration, I suppose would have to be called a "heathen," and passed by as unworthy of count. You may say this is getting a little complicated; but there is great need of something of the kind, as many of you well know.

THE BLIZZARD.

The morning of the 24th it was 2° below zero here. I am told that, in some parts of York State, it was 40°. Here is what Doolittle says:—

This is the coldest morning we have had here at Borodino since I have kept bees. The mercury stands at 26 degrees below zero as I write. At such times I can not help but feel that a good cellar, kept at a uniform temperature of 45 degrees, is the best plan for bees during winter. G. M. DOOLITTLE.
Borodino, N. Y., Jan. 24, 1882.

And here, Alley:—

WHEW! 20 degrees below zero here. Coldest ever known. Wenham, Mass., Jan. 24, 1882.

Now, I don't feel so sure we want cellars, in our locality, especially if it turns round as quickly as it did here; for in 24 hours, or a little more, we had mud again.

THE PRESENT CONDITION OF AFFAIRS AT THE PATENT OFFICE.

The following is an extract from the Humburg Department of the *American Agriculturist* for February:—

A few years ago we asked the then Commissioner of Patents why an inventor could not do business directly with the office. He replied that, while he would give an inventor every facility in so doing, he would not advise the attempt, as the Patent Laws, which he had no hand in making, were so intricate, and in such confusion, as to require an expert to avoid mistakes which might invalidate a patent.

Well, friends, if such was the case a few years ago, is it any thing strange if, at the present time, one gets a patent on any thing, if he only pays the money, no matter how many times it has been patented before?

We always like to accommodate; but when some friend says, "Send us GLEANINGS right along, I am

going to renew in a club," it is a pretty hard matter for us. If we send it without pay, of course we must charge it; and then when the club agent sends in the name, how are we to know that the charge should be balanced on the ledger? Again, you say, "Keep my name on your list, and don't let GLEANINGS stop. I will remit in a few days." Well, when you remit, a great many of you don't say a word about this little transaction, but just say, "Here is your dollar for GLEANINGS;" and the consequence is, you get two copies— one paid for, and the other charged to your account. We have had several quite respectable little fights (we try to have no other kind with our patrons) from misunderstandings growing out of just this one thing. Now, won't you try to help us?

A SUCCESSFUL HOUSE APIARY.

MR. J. P. NEEDLES, Alanthus Grove, Mo., has recently paid us a visit, and, among other things, I learned he had a house apiary which he has had in constant use since before the time ours was built. He uses it only for comb honey, and never lifts out the combs, nor opens the hives at all, except to take the honey off, and as he does this only after the bees are driven out of the boxes by cold weather, he never has any bees out in the house. The honey, while there over the hives, is safe from moths, thieves, and all other enemies, and it is never moved until he wants to take it to market. I presume he gives each colony all the boxes they can possibly fill, at the commencement of the season; for, in fact, he says he sometimes piles them almost up to the ceiling. In this way he would get a better ripened quality of honey, but it would not be so clean and white to the eye.

I THINK, friends, I shall have to give you a little chapter on alarm clocks, as so many are complaining their clocks don't alarm when they are set. The trouble is, you forget that the alarm is dependent on the position of the *hour-hand* of your time-piece; if you move the hour-hand to set the clock after it has run down, your alarm is out of tune.

HOW TO SET THE ALARM CLOCK CORRECTLY.

Wind the alarm a little, and then move the clock forward by the minute-hand, until the alarm sounds. Now let go of the minute-hand, and place the hour-hand exactly over the time you wish to get up, say half-past five in the morning. You see the alarm has just sounded, and it is half-past five by the hour-hand. Therefore it will always sound at half-past five until the hour-hand is again moved independently. Wind up your clock, and set it by the minute-hand as usual. Now don't wind your alarm during the day, or it will sound in the afternoon at half-past five; but wind it in the evening, before you retire.

SUPPOSE some one should say, "Potatoes can not be raised for 25 cents a bushel. I can demonstrate it by figures. If anybody offers them at that price, he is damaging the community, for they can not be good." Would not somebody soon say, "Why, friend, what means this singular vehemence? Have you a spite against anybody who does raise them at that price? Very likely *you* can not afford to do it; but how do you know what others can do? See, here are carloads of them going off, and those who have used them for years do not find them materially different from those they have at other

times paid a dollar for"? Is not the case somewhat parallel with the "essays" we have had against dollar queens? No one expects dollar queens are all to be used for breeding purposes (any more than that all cattle and horses shall be so used), for the greater part of them are used for the production of honey. If I am not mistaken, the greatest crops of honey on record have come from our dollar queens, reared from imported mothers. On page 583 of our December number, a daughter of a dollar queen gave 216 lbs. comb honey, and 301 extracted, in *twenty-four days*. What do long, uncharitable "harangues" (excuse me) amount to, compared to great reports like these?

SQUARE MEN.

WE like your proposition to start a "Square Men's" column; but while such a course on your part would be of unquestionable advantage to all dealers whose dealings will bear the light of day, and to consumers, it presents some obstacles, the chief of which is the danger of doing injustice, either to an honest dealer by leaving him out of the list, or to consumers and all concerned, by putting in dealers of questionable reputation. In order to be just to all, it will be necessary to properly define the meaning of *square men*. Our ideal of a square man, and which we endeavor to live up to, is one who will keep the *golden rule*, "do to others as he would that they should do unto him." Suppose you should offer to insert one month, free, an advertisement offering to make every thing square with dissatisfied customers. For our part, we would be glad to respond with something like the following:

NOTICE!

We do not know that we have a single dissatisfied customer; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

Why is it that some say that the world is hard to please? We have not found it so.

E. A. THOMAS & Co.

Colerain, Mass., Jan. 14, 1882.

Friend Thomas, I thank you for your suggestions, as well as those written by others on this matter, and it is to me another evidence of God's loving kindness over all of us who are trying to do right, for good is assuredly beginning to shine out of it all. One who had not *worked hard* for a good name would hardly dare come out and take the bold stand you and several others have done. May the Lord bless you, and give you patience to hold out in the task you have undertaken. How will this do? —

**Department for those who wish to be considered
SQUARE MEN.**

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

We whose names appear below do not know that we have a single dissatisfied customer; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- Paul Viallon, Bayou Goula, Iberville Par., La.;
- I. R. Good, Nappanee, Elkhart Co., Ind.;
- Otto Kleinow, opp. Fort Wayne, Detroit, Mich.
- E. M. Hayhurst, Kansas City, Jackson Co., Mo.;
- E. A. Thomas & Co., Colerain, Mass.

CIRCULARS, ETC., RECEIVED.

- Friend Hayhurst gives us a very neat little price list on a postcard, and during 1882 is prepared to replace all dollar queens that turn out hybrids. Kansas City, Mo.
- W. W. Cary & Son, Coleraine, Mass., send us a 4-page circular and price list of bees and supplies.
- A very pretty little queen circular from J. T. Wilson, Mortonsville, Ky., telling to which State in the Union he sent queens last year.
- W. S. Cauthen, Pleasant Hill, S. C., a price list of Italian bees and queens, one page, 5 x 15.
- Jas. Forncrook & Co., 16-page list of apiarian supplies, bees, etc., Watertown, Wis.
- A very pretty 12-page circular from Mrs. Lizzie E. Cotton, of West Gorham, Me. This circular contains much that is valuable; but I fear it rather exaggerates the profits that a new hand might expect from a swarm of bees. Mrs. C. lays almost too much stress on "her hive," as it seems to me; still, I have no doubt but that great results may be obtained by her plan of very liberal feeding before the honey crop appears.
- C. G. Dickinson, South Oxford, N. Y., sends us a 1-page circular and price list of bees and hives.
- We have just printed circulars and price lists for the following parties:—
- J. F. Hart, Union Point, Ga., an 8-page catalogue of bee supplies, copiously illustrated.
- J. M. Kinzie, Doon, Ont., Canada, a 4-page list of hives, etc.
- Von Dorn, Omaha, Neb., a 4-page list of apiarian supplies, illustrated.
- A. W. Cheney, Kanawha Falls, W. Va., a 12-page list, illus., of the Kanawha Apiaries.
- Delos Staples, West Sebawa, Mich., a 4-page circular and descriptive price list of the Willow Ridge fruit farm.
- T. C. Crilly, Grafton, O., a 12-page list of bees and queens.
- G. M. Doolittle's 12-page list is very comprehensive, giving a list of papers for which he is agent, some 530 in number, and also a catalogue of bees and queens. Although friend Doolittle is so prominent as an apiarian, one is at a loss to say, after reading his catalogue, whether he is not deservedly as much so as a horticulturist; for his cuts of strawberries and potatoes, and description of small fruit, make one's "mouth water." Borodino, N. Y.

MOLDED COMB FDN.

Rubber or plaster machines, warranted, \$3 75 to \$7.00. THIN FDN. machinery complete, by mail, \$2.50. See OLIVER FOSTER'S free samples and price list. Mt. Vernon, Linn Co., Iowa. 2d

NORTHERN-GROWN SEEDS, PLANTS, VINES, ETC.,

of first hands, at growers' prices, grown at my seed farm, fruit gardens, and apiary, east side Saratoga Lake. Address, JOHN H. MYERS, Box 1064, Saratoga Springs, N. Y.

WANTED!

Two young men to work with bees, and in the nursery. Will pay wages, with a chance to learn the business. S. I. FREEBORN, Ithaca, Richland Co., Wis. 2d

At Kansas City, Mo.,

I breed PURE ITALIAN BEES for sale. I warrant my dollar queens to be purely mated, and guarantee safe arrival. I will try to give *perfect satisfaction*. Please send for list to E. M. HAYHURST, 2-3d P. O. Box 1131.

1882. TWELFTH YEAR. 1882. Italian Queens!

Tested Queens in April and May, - - - \$2 50
 " " in June and after, - - - 2.00
 Untested Queens in April and May, - - - 1.25
 " " in June and after, - - - 1.00
 By the 1/2 doz., 5 per cent off above prices. By the dozen, 10 per cent off above prices. Also, Syrian and Cyprian Queens (bred in separate apiaries), at same price. Sent by mail, and safe arrival guaranteed. Address W. P. HENDERSON, 2-54 Murfreesboro, Rath. Co., Tenn.

FOR SALE CHEAP.—Foot-power buzz-saw. Pure Plymouth Rock fowls and eggs for hatching during the season. Orange cane-seed, the kind bees work on. Also seed potatoes. For prices, address N. J. ISRAEL, Beallsville Monroe Co., Ohio. 2-3d

Langstroth and SIMPLICITY HIVES!

New and perfect machinery for turning out first-class work. Send \$1.00 and get a 2-story Langstroth Hive, with 4x4 dovetailed boxes, with all fixtures complete, in lat. with roof top. All my hives are made of select dry white pine. To anyone getting 1000 dovetailed Sections I will send a machine with which a child 14 years old can put together 1400 of my boxes in one day; a deduction of 10 per cent off on large orders. Send for Price List. Be sure to state whether or not you now have my 1881 Price List. For reference, Farmers' National Bank, or Nye Plow Co.

S. D. BUELL, Union City, Branch Co., Mich. 2d

BE SURE

To send a postal card for our illustrated catalogue of **Apiarian Supplies**

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICES.

Italian, Cyprian, and Holy-Land Queens and Bees. J. C. & H. P. SAYLES, Hartford, Washington Co., Wis. 2-7d

FOR SALE AT A BARGAIN.

A planing-mill and foundry, with a well-established supply trade. Will take bees for first payment. A. B. WEED, No. 75 Bagg Street, Detroit, Mich. 2

WANTED!

Every reader of GLEANINGS to send at once for a copy of my new Illustrated Circular of Bee-keepers' Supplies. It may pay to see it before ordering.

BEESWAX WANTED.

J. V. CALDWELL, Cambridge, Henry Co., Ill. 2-7d

BEES and QUEENS.

Hybrid Queens, \$1.00; Italian Tested Queens, before May 20, \$2.50; after, \$2.00. Unrested Italian, Cyprian, Holy-Land, and queens where the three races are kept (laying), \$1.00; per half-dozen, \$5.50; per dozen, \$10.00. Bees, \$1.00 per pound; 2 (L.) frame nuclei, \$1.50; 3 (L.) frame nucleus, \$2.00; colony of Italian bees in 10 (L.) frame hives, \$7.00; (add price of queens to nucleus and colonies); 3 or more colonies, 10 per cent discount. Special discount on large orders, and after July 1st. Guarantee safe delivery to your post or express office. Root's Extractor, A B C Book, Cook's Manual, and Bee-keepers' Supplies furnished at Root's prices.

OTTO KLEINOW, Opposite Fort Wayne, Detroit, Mich. 2td

Early Italian Queens: ONLY THE BEST. FROM

W. J. ELLISON, STATESBURG, SUMTER CO., S. C. Tested queens in April, May, and June, - - \$2.50 " " " in July, - - - 2.00 Dollar queens in April, May, and June, - - - 1.25 " " " in July, - - - 1.00 Bees by the pound in May, - - - - 1.50 2-5d

1882 Consult your own interest, and send for my new Circular and Price List of Colonies, Nuclei, and Queens. 2-7d Address S. D. McLEAN, Columbia, Tenn.

G. M. DOOLITTLE

Says STANLEY'S VANDERVORT FOUNDATION

for sections is *even thinner than natural comb, and is the very best fan made.* See GLEANINGS for Jan., pages 14 and 15, and A. B. J. for Jan. 3. We also make high-walled Vandervort fan for brood-chamber, to fit any size frame. Send for samples and prices, or send \$10.00 for 20 lbs., 10 sq. ft. per lb., to 2-4d G. W. STANLEY & BRO.,

WYOMING, - WYOMING CO., - NEW YORK.

25 cents per lb. in trade for good yellow beeswax, delivered here.

Something New and Valuable.

Brother Bee-keepers, if you want the most perfect surplus arrangement for obtaining Surplus Comb Honey, send for my new Twin Clamp; it is simple, cheap, and handy. It keeps the sections clean and neat from propolis. I will send a perfect clamp, filled with the most beautiful sections in the world, all ready to set upon the hive, for \$1.00. By this sample you can get the idea, and make them to fit upon any hive. Send to

F. BOOMHOWER, Gallupville, Scho. Co., N. Y. 2d

IMPORTED QUEENS.

In April, - - - - - 11 frames in Gold.
May and June, - - - - - 10 " " "
July and August, - - - - - 9 " " "
September and October, - - - - - 7 " " "

Queens which die in transit will be replaced only if sent back in a letter. 1-6d CHARLES BIANCONCINI & CO., Bologna, Italy.

FOUNDATION!

WHOLESALE

-AND-

RETAIL.

Dealers in Bee Supplies will do well to send for our wholesale prices of foundation. We now have the most extensive manufactory of foundation in the country. We send to all parts of the U. S. We make all standard styles, and our wax is nowhere to be equaled for cleanliness, purity, and beauty. Extra thin and bright for sections. All shapes and all sizes. Samples free on request.

CHAS. DADANT & SON,

Itfd HAMILTON, HANCOCK CO., ILL.



1882. QUEENS! 1882.

I am now booking orders for warranted Italian Queens; each, \$1.00; six, \$5.00. Tested, after June, \$1.50. Cyprians, unwarranted, \$1.00; six, \$5.00. Send for circular giving description and recommendations from P. M. and county officers. Money-Order office, Versailles, Ky. 1td J. T. WILSON,

Mortonsville, Woodford Co., Ky.

I. R. GOOD, Nappanee, Elkhart Co., Indiana, Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land apiaries, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

300 Swarms of Bees for Sale!

I will sell and ship from the 15th of April till the 20th of May next, 300 colonies of bees at the following prices:

SINGLE COLONIES, EACH,	\$7 50
2 to 5 "	7 00
5 to 10 "	6 75
10 or more "	6 50

PURE ITALIANS, 50 CENTS PER COLONY MORE.

It is unnecessary to say any thing concerning the quality of my bees, inasmuch as they have always given universal satisfaction. As to their strength in numbers of bees, and extent to brood, I will only say that they are as strong as any that I have at the season of the year that they are shipped. The queen must be healthy and prolific, and this year will, in nine cases out of ten, be of last year's breeding, since nearly all of my 612 colonies that I wintered in last fall had been supplied with young queens during the season. They will have sufficient honey to carry them through to white-clover blossom; often they have much more. I use the eight-frame Langstroth hive, with portico. They are painted white; are in neat, trim-looking shape, and have all straight combs.

I might here insert letters testimonial sufficient, but I trust that my guaranty, that every colony I ship will give satisfaction, is sufficient in any case, inasmuch as I have shipped several thousand colonies during the last four or five years with never a grumbling report.

I will further guarantee safe arrival at the last express station. No order is booked unless accompanied by the cash. When booked it will be filled in its proper turn. Notice will be given as to the time of shipment, and, shortly before shipment, the exact date. No discount from the above prices will be given under any circumstances to anyone; and correspondence for that purpose will be useless. I shall, however, be glad to answer any other questions in regard to bees and their management.

Money may be sent by Chicago, Milwaukee, or New York Draft, Money Order, or Registered Letter.

Respectfully yours,

GEO. GRIMM,

JEFFERSON, JEFFERSON CO., WISCONSIN.



THE ORIGINAL PATENT
BINGHAM BEE SMOKER
 AND
Bingham & Hetherington
HONEY KNIFE.
 Send a card for testimonials, or half-dozen rates, to
BINGHAM & HETHERINGTON,
 ABBONIA, MICH.

SOUTHERN CALIFORNIA.

For reliable information regarding climate, resources, and the general industries, subscribe for the

SEMI-TROPIC CALIFORNIA!

An illustrated monthly, devoted to Agriculture, Horticulture, Viticulture, Apiculture, the home, and fireside. The REPRESENTATIVE JOURNAL of the SOUTHERN PACIFIC COAST. Subscription east of the Rocky Mountains, \$1.00; single copy, three 2-cent stamps. Address **COLEMAN & DICKEY,** 2-4 LOS ANGELES, CAL.

GIVEN'S FOUNDATION PRESS.

GIVEN'S MACHINE FOR WIRING FRAMES.

The only invention to make foundation in wired frames. Circulars and samples free.

D. S. GIVEN & CO.,

1-3d Hoopston, Vermillion Co., Ill.

Langstroth Hives AND Sections.



LEWIS' IMPROVED ONE-PIECE SECTION.

Objection has been made for the last two years, by Heddon and others, to the One-Piece Section, on account of the sharp corners made by the side-insets, and by others to the tendency of the bees to make the combs narrower at the insets. Our attention was called to these objections by receiving large orders for sections without the side-insets (one party ordering 30,000). We have now decided to manufacture them like the above cut, without side-insets. This improvement also enables us to make them at a lower price, as there is less labor on them. Price \$1.50 per 1,000 on orders of less than 500. No charge for crating. No Patent on this Section.

Send for new Price List, now ready.

C. B. LEWIS

Watertown, Wis.

21fd

IN THE FRONT RANK

of Queen-Breeders. Our handsome 24-page

Illustrated Catalogue

of four races of BEES, QUEENS, and BEE-KEEPERS' SUPPLIES for 1892 is now ready. Secure a copy before you purchase elsewhere. Address

E. A. THOMAS & CO.

(Successors to E. A. Thomas),

Coleraine, Franklin Co., Mass.

2-7d

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Recent Additions to the COUNTER STORE.

THREE-CENT COUNTER.

6 | Tumbler for 1/2 lb. honey, tin top 29 | 2 85
3 | Maple sugar cakes, first run, extra nice 20 | 1 75
2 | Chalk lines, cotton, good 20 | 1 80
2 | Fishing-lines, cotton, good 24 | 2 10
1 | Ink, good black ink, per bottle 25 | 2 25
3 | Pans, oblong, for making 1-lb. bricks of bee candy or maple sugar 23 | 2 75

FIVE-CENT COUNTER.

6 | Gem pans, 3 in a frame 48 | 4 50
1 | Glass tumblers, 1 pt., strong and well finished 45 | 4 00

TEN-CENT COUNTER.

6 | Baking powders, friend Muth's, and a splendid article 80 | 7 50
11 | Gem pans, 6 in a frame 95 | 9 00
3 | Pocket oilers 90 | 8 50
3 | Spectacle case, tin, just right for our 10-cent spectacles 85 | 8 00
18 | Soap, Frank Siddall's Celebrated, wash-clothes without boiling and without injury 90 | 8 50

Twenty-Five Cent Counter.

12 | Hammer, tempered steel, claw, small size, adze eye, splendid for the money 2 52 | 25 00
1 | Wooden bowls, 7 inches 2 25 | 21 00

Thirty-Five Cent Counter.

6 | Pocket wrench, nickel-plated, a very useful tool 13 00 | 27 50

SEVENTY-FIVE CENT COUNTER.

10 | Life of Garfield, from Canal Boy to President, Alger** 6 85 | 67 00
10 | Walks and Words of Jesus** 5 50 | 50 00

This book contains, in very large type, all the words spoken by Jesus, as nearly in their proper order as we can get them.

ONE-DOLLAR COUNTER.

35 | Clock, in walnut case; a real beauty, and a good "timer." 19 00 | 85 00
A. I. ROOT, MEDINA, OHIO.

NORTHERN-GROWN SEEDS, PLANTS, VINES, ETC.,

of first hands, at growers' prices, grown at my seed farm, fruit gardens, and apiary, east side Saratoga Lake. Descriptive catalogue free.

Address, JOHN H. MYERS, Box 1064, Saratoga Springs, N. Y.

TOOLS FOR MAKING

Maple Sugar!

Sap-pails, 10-qt., each 20c; per hundred, \$18.00. Sap-spiles, like those shown on page 143, per box of 100, \$1.50; per 1000, \$12.50. Sample by mail, 10 cents. Bits, 3/8, to match above, 20c; braces to hold them, 25 and 50c. Postage on bits, 3c; on braces, 18 and 27c respectively. Oblong square pans, for 1-lb. cakes, 3c each. Patty pans, from 10 to 30c per dozen.

A. I. ROOT, Medina, O.

FOR SALE.—Barnes Bros.' Combined Machine with all necessary tools for making hives, frames, and section boxes. Cost \$50; will take \$30. J. F. THORNTON, 3d Bedford, Ind.

One-Piece Sections a Specialty.

Pound size, \$4.50 per 1000; L. hives, 50c each. Circular free. BEE WALKER, 3-7d Capac, St. Clair Co., MI h.

WANTED.—A Barnes Combination Circular and Scroll Saw. Must be in good condition. Write, stating particulars and the lowest cash price. S. H. HICKOK, 3 Bethel, Fairfield Co., Conn.

WOOD SEPARATORS FOR SURPLUS HONEY

They are better, cheaper, warmer, than tin, and give 3/8 inch entrance to sections. We have machinery to furnish them in any quantity desired. Address C. H. ISHAM, Peoria, Wyoming Co., N. Y., or C. J. VAN EATON, York, Liv. Co., N. Y. 3d

ALSIKE CLOVER SEED.—Prime new seed, 2 2c per lb.; 5 lbs. for \$1.00. F. L. WRIGHT, Plainfield, Mich.

CHEAPEST PLACE FOR COLONIES.—Italian Bees, \$4.50; Nuclei, Queens, Extractors, and Bee Books, see Feb. GLEANINGS. Address OTTO KLEINOW, 3ftd Opposite Fort Wayne, Detroit, Mich.

COMB FOUNDATION MACHINES, from \$1.60 to \$4.00. Dipping-Box, \$3.50. Foundation, 35 to 40c per lb. No sagging or breaking down with the dipped fdn. Having moved my apiary, all wishing to address me will do so at Townhouse, Smyth Co., Va. JOHN FARIS. 3

ANOTHER NEW IDEA!

Foundation all ready for business. Every sheet wired and bound around with a light wooden rim ready to adjust instantly into your frame. No advance in prices. Small sample for 6c. I shall also breed Choice Italian and Holy-Land Queens, practicing a new stimulative process. Write now for prices and particulars to JOHN H. MARTIN, Hartford, N. Y. 3-2d

HOLY-LAND AND CYPRIAN QUEENS.

Tested Holy-Land Queens, in March and April, \$5.00. Selected, \$7.50.

ALL BRED FROM MOTHERS IMPORTED BY D. A. JONES.

Cyprians at the same price. Reared in separate apiaries. H. B. HARRINGTON, Medina, Ohio. 3

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 1fd
- *Paul L. Viallon, Bayou Goula, La. 1fd
- *S. F. Newman, Norwalk, Huron Co., O. 1fd
- *Wm. Ballantine, Sago, Musk. Co., O. 1fd
- C. H. Deane, Sr., Mortonsville, Woodford Co., Ky. 1fd
- *J. O. Facey, New Hamburg, Ont., Can. 2-7
- *D. A. McCord, Oxford, Butler Co., O. 3-2
- *C. C. Vaughn, Columbia, Maury Co., Tenn. 3-8
- J. P. Sterritt, Sheakleyville, Mercer Co., Pa. 3-8
- *Otto Kleinow, opp. Fort Wayne, Detroit, Mich. 3fd

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 1fd
- S. F. Newman, Norwalk, Huron Co., O. 1fd
- J. F. Hart, Union Point, Greene Co., Ga. 4-3
- M. S. West, Flint, Gen. Co., Mich. 2-7
- F. A. Snell, Milledgeville, Carroll Co., Ill. 3-2

Department for those who wish to be considered SQUARE MEN.

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

If thou bring thy gift to the altar, and there rememberest that thy brother hath aught against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.—MATT. 5: 23, 24.

We whose names appear below do not know that we have a single dissatisfied person with whom we have had deal; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- Paul Viallon, Bayou Goula, Iberville Par., La.; Otto Kleinow, opp. Fort Wayne, Detroit, Mich.
- I. R. Good, Nappanee, Elkhart Co., Ind.; 3fd
- E. M. Hayhurst, Kansas City, Jackson Co., Mo. 3fd
- E. A. Thomas & Co., Colerain, Mass. 3fd

THE FOLLOWING ARE IN THIS MONTH FOR THE FIRST TIME.

- J. P. Moore, Morgan, Pendleton Co., Ky. 3fd
- G. W. Stanley & Bro., Wyoming, Wyo. Co., N. Y. 3fd
- Hiram Roop, Carson City, Montcalm Co., Mich. 3-3
- Olivier Foster, Mt. Vernon, Linn Co., Iowa. 3fd
- D. A. Pike, Box 19, Smithsburg, Wash. Co., Md. 3-5
- J. A. Osborne, Rantoul, Champ. Co., Ill. 3fd
- Chas. D. Duval, Spencerville, Mont. Co., Md. 3fd
- J. O. Facey, New Hamburg, Ont., Canada. 3-7
- J. T. Wilson, Mortonsville, Woodford Co., Ky. 3fd
- Rev. J. S. Woodburn, Livermore, Westm'd Co., Pa. 3-8
- J. H. Myers, Saratoga Springs, Saratoga Co., N. Y. 3fd
- Byron Walker, Capac, St. Clair Co., Mich. 3fd

ESSEX PIGS A SPECIALTY!

75 to 100 Pedigree Pigs for delivery in June, six weeks to two months old. Write for prices. Also Brown Leghorn (prize winners) EGGS, @ \$1 per doz., and B. B. R. G. Bantam Eggs for Hatching (imported), @ \$1.50 per doz., in new baskets. Safe arrival guaranteed. C. W. CANFIELD, 5-4d Athens, Bradford Co., Pa.

MUTH'S HONEY EXTRACTOR, SQUARE GLASS HONEY JARS, TIN BUCKETS, BEE HIVES, HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O. P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." Iftd

READ THIS:

FIFTY YEARS AN APIARIAN.

We are the oldest breeders of Italian Bees, and manufacturers of APIARIAN SUPPLIES in New England.

Our experience dates back to the first experiments of Mr. Langstroth in the movable-comb system. Send for our Price List of Bees, Queens, and Supplies, before making your purchases for 1882.

Address WM. W. CARY & SON, Iftd Colerain, Franklin Co., Mass.

HEADQUARTERS FOR EARLY ITALIAN and CYPRIAN BEES and QUEENS!

TWO, THREE, & FOUR FRAME NUCLEI —AND— TESTED QUEENS A SPECIALTY!

DOLLAR QUEENS FURNISHED WHEN REQUESTED. THREE RACES OF BEES FOR SALE BY THE POUND.

I shall take especial pains to furnish very full stocks early in the season.

EXPRESS CHARGES PAID PART WAY!

Basswood-Trees, Black Locust, and Sourwoods, young and thrifty, at reasonable rates. Send your orders early, and get served early.

Send for Circulars, and see how well I will use you. Address

A. W. CHENEY, KANAWHA FALLS, FAYETTE CO., WEST VA.

THE British Bee Journal.

The British Bee Journal is now mailed to our address in packages, each month. In order to dispose of them, we offer them at present at \$1.00 per year, postage paid, beginning Jan., 1882. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

FOR SALE CHEAP.—Foot-power buzz-saw. Pure Plymouth Rock fowls and eggs for hatching during the season. Orange cane-seed, the kind bees work on. Also seed potatoes. For prices, address N. J. ISRAEL, Beallsville Monroe Co., Ohio.

Headquarters in the South

FOR THE MANUFACTURE AND SALE OF

Bee-keepers' Supplies

SIMPLICITY

AND V. D. NELLIS HIVES AND FRAMES.

THE ALL-IN-ONE-PIECE SECTIONS,

Made on a machine purchased from A. I. Root.

Comb Foundation.

Having purchased Mrs. Frances Dunham's whole outfit to manufacture foundation by steam power, I can furnish foundation in any quantity, and in sheets as large as 14 inches wide and 7 feet long.

ITALIAN BEES and QUEENS.

All bred from imported mothers of my own importation. Dollar queens in April, \$1.25; in May, \$1.10; in June and after, \$1.00. Tested queens from March 1st to July 1st, \$2.50; after, \$2.00. Full colonies of Italian bees in any quantity. Early 4-frame nucleus, with tested queens, \$5.00. This is more advantageous to those wishing bees by the pound. Send for illustrated catalogue for further particulars. Address

PAUL L. VIALION,

Bayou Goula, Iberville Par., La.

C. OLM'S COMB FOUNDATION MACHINE.

SEND FOR SAMPLE AND CIRCULAR.

5tf

C. OLM, Fond du Lac, Wis.

STOP! LISTEN!

The new Deane System for Comb Honey.

The N. A. B. K. A. says it surpasses any thing of the kind, combining all the necessary arrangements, simple and complete. One full set for 50 cts. Weight, 4 to 5 lbs. Sent by freight or express as you direct. Send money by P. O. money-order to Versailles, Woodford Co., Ky., at my risk. Send for price list. Will send by mail, exact measurement of each piece of the Star Chaff Hive, and the new Deane System, for 30 one-cent stamps. Don't fail to put your name and P. O. address. C. H. DEANE, 1tf

Mortonsville, Woodford Co., Ky.



1882. QUEENS! 1882.

I am now booking orders for warranted Italian Queens; each, \$1.00; six, \$5.00. Tested, after June, \$1.50. Cyprians, unwarranted, \$1.00; six, \$5.00. Send for circular giving description and recommendations from P. M. and county officers. Money-Order office, Versailles, Ky. 1tf

J. T. WILSON, Mortonsville, Woodford Co., Ky.

IN THE FRONT RANK

of Queen-Breeders. Our handsome 24-page

Illustrated Catalogue

of four races of BEES, QUEENS, and BEE-KEEPERS' SUPPLIES for 1882 is now ready. Secure a copy before you purchase elsewhere. Address

E. A. THOMAS & CO.

(Successors to E. A. Thomas),

Coleman, Franklin Co., Mass.

2-7d

20 SWARMS OF BEES FOR SALE!

I will sell, and deliver to Louisville express office from 1 to 20 swarms of Italian and hybrid bees at the following prices: In 10-frame 2-story Langstroth hives, each \$10.00; in 8-frame 1-story L. hives, each \$7.50. Pure Italians, \$1.00 per colony more. They have all straight worker combs, young queens, and are as strong as any that I have at the time of shipment. I will guarantee safe arrival to your express office, and am determined to give satisfaction. No order filled unless accompanied by the cash. No discount on the above prices. Address

A. SCHNEIDER,

3 4d

Cor. 26th & Market Sts., Louisville, Ky.

Dodge's Bee-Feeder TAKES THE CAKE!

Hundreds using it; universal satisfaction. Sample by mail, 30c; per dozen, by express, \$2.10. Price list of Bee-keepers' Supplies, and Small-Fruit Plants, free to all who send. Address U. E. DODGE, 3d

Fredonia, N. Y.

GIVEN'S FOUNDATION PRESS.

GIVEN'S MACHINE

FOR WIRING FRAMES.

The only invention to make foundation in wired frames. Circulars and samples free.

D. S. GIVEN & CO.,

1-3d

Hoopston, Vermillion Co., Ill.

Honey-Bearing Trees LOOK! LOOK!

For 25 cents, I will send by mail, postpaid, to any part of the United States, either of the following (can use 2c and 3c stamps):

- 2) Pussy-Willow cuttings, the earliest blossoming of honey-trees (except box-elder), yielding pollen largely.
- 20 Golden Willow cuttings, yields both honey and pollen, and is tougher than hemp twine for tying.
- 25 Gray, or fence willow; will grow on low, wet ground, and can be headed back into a good fence; also yields honey plentifully. Put in deep, and ground well mulched, 90 per cent of these cuttings will form roots.
- 10 Catalpa Speciosa. Nice trees. Better than basswood for honey; a very quick grower, and the wood positively will not rot.
- 12 Turner Raspberry. Best honey-plant in U. S., and bearing abundant crops of the finest fruit.
- 12 Gregg, largest black-cap, keeps the bees busy.
- 10 Box-Elders; nice little trees.
- 5 Russian Mulberry; fine fruit-trees.

Catalpa seed, 20c per 75 seeds. Osage hedge-plants, boxed on car, by freight, \$2.50 per 1000. For catalogues of small fruit and nursery stock, send to

H. M. MORRIS, Rantoul, Ill.

FOR SALE!

Evergreen Sugar-Corn Seed, at \$2.50 per bushel. Seamless Sacks, 25c. Germination guaranteed. 3d

J. A. WARD, Madisonville, Ham. Co., O.

FOR SALE!

I have a few more stocks of Hybrid Bees that I will sell cheap; also 13 Nellis Chaff Hives, and 16 Novice Chaff Hives. Now is your time, if you want a bargain. Bees will be shipped in 10-frame Simplicity Hive complete.

Address W. G. SALTFOORD, 61 Delafield St., 3d

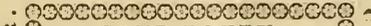
Poughkeepsie, Dutchess Co., N. Y.

WANTED.-WAX.—Address VON DORN, 820 South Ave., Omaha, Neb.

We have received from D. A. Jones a quantity of his perforated zinc, for the exclusion of drones and queens. Duties and freights cost so much we can not sell it less than 15 cents per square foot; but we will cut it to any size for that price. The postage on it, if wanted by mail, will be about 18 cents per square foot.

The price of nails has advanced so that we can not now buy them at the prices given in our Jan. price list. A new price list will be mailed on application. Wire nails are at old prices, for immediate orders. A very large trade has sprung up in No. 30 tinned wire, for brood combs, and, notwithstanding advances, by buying in half-ton lots we are enabled to give a decline in prices as follows: For less than 1 lb., 2c per oz.; for 1 lb. or more, 25c; for unbroken coils, as they come from the factory, weighing from 5 to 10 lbs., 23c per lb.

FRIEND BOOMFLOWER sends us a piece of a section, with a very pretty label on it. The latter is made with a rubber stamp. The matter on it is something like this:—

CLOVER.  CLOVER.
 COMB HONEY,
 FROM THE
Twin Apiary,
 Gallupville, Scho. Co., N. Y.
 F. BOOMFLOWER, PROP.
 CLOVER.  CLOVER.

We can furnish such for \$2.50, postpaid.

BASSWOOD-TREES; HOW SHALL WE GET THEM?

THERE is quite a call for basswood-trees, and nobody is at present advertising them. I have a little bit of a secret for those who want something to do, and it is that basswood shoots, if cut up into single-bud pieces, and properly started, will grow almost as well as currant and willow. I am trying to get time to have it tried in our greenhouse, and have just been thinking of getting buds from such trees as I know produce lots of honey, so as to get an extra variety. Mr. Merrybanks thinks he can raise maple-trees in the same way, from the "old sweet tree." We shall see. Will those who can furnish small basswood-trees please advertise them? You need not write me about them, because it will be by far the simplest way to deal direct with those who wish to purchase. Get some basswood shoots, and start them in boxes in the window, or near the stove. If the basswoods are not near you, we can furnish the buds for 25 cents per hundred, postpaid.

CIRCULARS, ETC., RECEIVED.

Otto Schulz & H. Guller, of Buckow, Prussia, send us a very nice 20-page price list of supplies for the apiary, as used in Germany. The list also contains a lithographed card with pictures of implements for the apiary, presenting quite a contrast with those used here; also a calendar for 1883 on the back. This list is so pretty, that probably few will be thrown away.

J. A. Hopkins, South Oxford, N. Y., sends out an 8-page list, 8x3 1/2 inches, of supplies for the apiary. It is well gotten up.

G. W. Stanley, Wyoming, N. Y., sends out a neat 4-page circular, with samples of the Vandervort Idm.

One of the brightest little circulars of 16 pages comes from our friend Viallon, Bayou Goula, La. We make the following extract in regard to Simplicity hives, from p. 7: "Having had no demand for L hives for the last two seasons, I discard them from this catalogue, while it may have been the best and simplest hive at one time, it is fast being superseded by the Roof's Simplicity, and the Vandeußen-Nellis Simplicity hives, which are, in fact, nothing else but an improved L hive, giving all the facilities of manipulation."

Narmore & Wood, North Lansing, Mich., send a price list of hives, sections, etc., printed on card, 5x8 3/4.

J. I. Johnson, Palmyra, N. Y., sends out his 4-page spring catalogue of small fruits, and price list of bees.

Dougherty & McKee, Indianapolis, Ind., dealers in bee-keepers' supplies, have sent us an 8-page illustrated price list of their wares.

Friend Olm, Fond du Lac, Wis., sends us samples of beautiful fan, with high side walls and thin bases; also prices of mills for making the same, down to 40, 25, 15, and 10 dollars for 12, 9, 6, and 4 inch, respectively.

The California Apiculturist makes a very creditable appearance for the first number. Terms \$1.00 a year.

A very pretty 32-page catalogue from A. H. Newman, 972 W. Madison St., Chicago, Ill., fully illustrated with modern implements.

Dr. Nugent, Strathroy, Ont., Can., is fully up to the times with his tasty 20-page price list of things pertaining to the bee business.

S. D. Buell, Union City, Mich., has issued a 12-page list of Simplicity and L. hives, sections, etc.

A very pretty circular of Idm. mills, from Mrs. Frances Dunham. Mrs. Dunham, by her increasing business, demonstrates woman's capabilities in nice machinery as well as bees.

J. O. Facey, New Hamburg, Ont., Can., sends a 4-page list of bees and apiarian supplies.

A very pretty circular from W. P. Henderson, Murfreesboro, Tenn., with a long string of kind words from his pleased customers.

Dr. W. R. Howard, Kingston, Texas, sends a nicely printed 4-page list of apiarian supplies. It is literally filled with cuts—a good feature.

F. A. Snell, Milledgeville, Ill., issues a 16-page list of hives, extractors, bees, etc. Illustrated. Friend Snell makes the "Eclipse" hive.

Cheirograph circulars are becoming quite common. Friend Duff, of Flat Ridge, O., sends us one 5x4, one page, which looks decidedly "gray." It is a price list of queens, Italian and Cyprian. Following this is one from friend Oliver Foster, Mt. Vernon, Iowa, relative to rubber machines for molding Idm.

G. B. Lewis, Watertown, Wis., sends out a 16-page price list, map fold, of apiarian goods.

B. Davidson, Exbridge, Ont., issues an 8-page list of hives, sections, etc.

I. R. Good, Nappanee, Ind., is out with a postal circular of bees and queens.

J. H. Robertson, Pawamo, Mich., sends out a 4-page price list of bees, with a picture of his apiary on first page.

L. C. McFatridge, Carroll, Ind., a postal circular of bees and queens.

J. L. Bowers, Berryville, Va., sends us a pretty 4-page list of apiarian goods.

Among those issued from our Job Department during February we note the circular and price list of E. T. Planggan, Belleville, Ill., 12 pages, illustrated, size of this journal. A 4-page list for J. A. Osborne, Rantoul, Ill., dealer in bees, queens, and Cotswold sheep. A 4-page list of bees and queens for George W. Baker, Lewisville, Ind. A price list of grapevines and small fruit, for T. L. Wright, Plainfield, Mich.

J. P. Moore, Morran, Ky., a 4-page list of Italian queens, of which friend M. makes a specialty.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. It near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CHICAGO.—Honey.—There are no changes in the quotations on either wax or honey in this market since my last report. The market is fully supplied, and sales are much slower. I quote: Comb honey, 17@22 c.; ext., 8@10 c. Wax, 18@22 c.
Chicago, Feb. 22, 1882. A. H. NEWMAN.

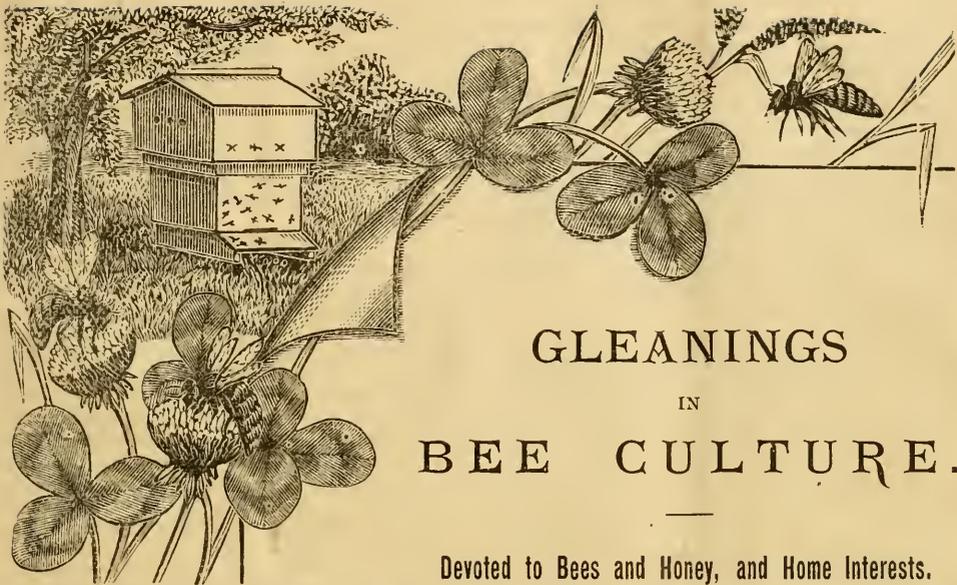
CINCINNATI.—Honey.—The retail demand for extracted honey in small packages is fair, but only an occasional barrel is sold for manufacturing purposes. It brings 7@11 c. on arrival. Demand for comb honey is only in a retail way, and only choice white is salable. It would bring 20 c. on arrival. *Bee-swar* brings 18@22 c. on arrival. The demand exceeds the offerings.
Cincinnati, Feb. 21, 1882. C. F. MUTH.

CLEVELAND.—Honey.—The honey market continues very steady, particularly for white clover and basswood; 1-lb. sections take the preference, but we are enabled to get 21@22 c. for both 1 and 2 lbs. It is almost impossible to sell buckwheat honey. Ext. in small packages sells at 12 c.; large, 11 c. Wax very scarce—22@25 c.
Cleveland, Feb. 20, 1882. A. C. KENDEL.

DETROIT.—Honey.—The honey market is very dull. The demand is light, and but little is coming in. Nothing but what is first-class will sell. Prices are unsteady, and range from 16 to 18c.
Detroit, Mich., Feb. 24, 1882. A. B. WEED.

NEW YORK.—Honey.—We quote best comb honey, put up in 2 lb. sections, at 18@20c; fair grade of white, 15@17c; mixed and dark grades, 12@13c; large boxes, 2c per lb. less than above prices; best white extracted in firkins, 10@11c; best dark do., 7@8c. *Beeswar*, prime quality, 23@26c. We have no comb honey in 1-lb. sections; therefore we do not quote them.
H. K. & F. B. THURBER & CO.
New York, Feb. 23, 1882.

I have between 1300 and 1400 lbs. of honey in kegs, for which I will take 10c for basswood, and 11 for pure clover, delivered on board cars at Farley. No charge for kegs. Samples sent, if wanted. I guarantee purity, and quality to be good.
JAS. SCOTT, Farley, Ohio.



GLEANINGS IN BEE CULTURE.

Devoted to Bees and Honey, and Home Interests.

Vol. X.

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No. 3.

A. I. ROOT,

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NOTES FROM THE BANNER APIARY.

NO. 28.

OUR BUSINESS — SHALL WE COMMENCE "LITTLE OR BIG"?

FRIEND HEDDON, I was much pleased in reading your article in January GLEANINGS. I agree, with you, that, after a man has learned bee-keeping, and intends to make it a business for life, it is foolish for him to fritter away his time with a few colonies; but in regard to the manner in which he shall gain a knowledge of bee-keeping, I don't agree with you, and yet I *do*. The serving as an apprentice may be all right in *some* cases; in others, it may not, as a method of management that is successful in one locality may be a failure in another. An apprentice who came from a distance to learn of friend Heddon, might be disappointed upon putting into practice, at his own home, a method that was successful in Southern Michigan. But even if this were the best way of learning bee culture, just think how few persons can leave home conveniently, and become apprentices; while by the aid of books, bee-papers that contain the experiences of the best apiarists, and a few colonies of bees, the theory, principles, and practice of bee-keeping can be easily learned at one's own home.

THE "SQUARE LIST."

I can subscribe to the declaration with which the "square" list is headed; yet there is something repugnant to me about the whole business — this advertising, in this manner, one's honesty and good name. Public opinion says, that the physician must not advertise his wonderful skill; it says, "Let his

works speak for themselves;" and I say, let a man's works, or dealings, speak for themselves. Dealer after dealer has advertised to "guarantee satisfaction;" but, judging from the manner in which some of them deal, it must have been unto themselves, and not unto their customers, that they guaranteed satisfaction. A bee-keeper once said to me, "When a man advertises, or boasts of his honesty, I think it advisable not to trust him too far." Please don't think that I am casting reflections upon those whose names have already appeared in the square list — far from it: I consider them the squarest of square dealers. Perhaps, though, if I had lost a good round sum through the dishonesty or negligence of some "scaly" dealer, I might feel differently about this matter.

BEES WINTERING SPLENDIDLY.

For the first time since November, my bees had a "fly" yesterday. I carried all, except two colonies, out of the cellar; allowed them to fly, and then returned them to the cellar. I did not give two colonies a "fly," as I wish to see if they will stand it without a "fly" until next May. There were scarcely any dead bees under the hives, and all my bees are wintering splendidly. I say "all;" but about those 10 colonies that are buried in clamps — well, I will tell you more about them next spring, after I dig them out.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

I think you mistake a little, friend H., in the matter of square men. Those who enter the list simply promise to make good any differences before commencing another season's business. Well, there are quite a number of our advertisers whom we would be

very glad to have say to the friends they were ready to settle up old scores, and make things satisfactory. You may say there are some who can not do it. In that case, should they be allowed to run the risk of defrauding more? Is it boasting, to say, "Friends, if there is anything in my past deal not right, I stand ready to make it so"? To be sure, not. Will anybody put his name thus before the public who is not square? He may one month; but the minute his name comes out I should be notified if he did not live up to this public offer. That is why I suggested they be propounded one month ahead. See:—

In regard to the Square Men's Column, I wish to say, that I also liked your proposition, but did not see how it was to be managed justly to all, until E. A. Thomas & Co. explained it. I can most heartily indorse all they say. Please consider me an applicant for a permanent position in the Square Men's Column, and accept my thanks for placing me there on the start. You have said a great many kind words for me, friend Root, but this last compliment exceeds them all. If there is one thing that I take solid comfort in, it is the feeling that, so far as I know, none of my customers have reason to complain. E. M. HAYHURST.

Kansas City, Mo., Feb. 6, 1882.

And here is another:—

To advertise Viallon and Hayhurst, with whom I have dealt, as *square men*, seems to me ridiculous, because I know that, like yourself, they will do more than is required, to satisfy their customers; but every year brings new men forward, and to them your indorsement will be of value.

L. M. SHUMAKER.

North Danville, Va., Feb. 6, 1882.

Many thanks, friend S., for putting my poor self in with friends Viallon and Hayhurst; but if you will reflect, I think you will think of reasons why I can not stand there. These two friends have fought for the place they occupy, and there is a great and strong desire on the part of many of our younger members, to stand by their side. Good is coming out of all these troubles, and perhaps a greater good than even the most sanguine of us dream of.

THE PROBLEM OF HEREDITY.

THE DZIERZON THEORY; THOSE THREE-BANDED HYBRIDS; SEVERAL RACES MERGED INTO ONE; CLIMATE AND TEMPERATURE CAUSE INSECT RACES TO VARY IN COLOR; BEES IN AMERICA; THE EASTERN RACES, ETC.

MR. EDWARD CORI, who is more extreme in his views on the Dzierzon Theory than I am, says: "I think the effects of impure fertilization more pronounced and perceptible in the drone progeny than in the worker progeny." A. F. Brown says: "We erred in breeding from drones where the queens have met with hybrid or black drones. Dzierzon or no Dzierzon, for such we have no use." Martin Metcalf speaks of the Dzierzon Theory as the bogus theory of the books; and Mr. J. E. Pond invites the fraternity to set him right if he has made a mistake in concluding that it is false. Undoubtedly, all who run full tilt against this theory

should be suspected by the editors—suspected of having tested it, and of having found it false in practice. The truth sometimes prevails in the long run; but, as my views differ from those of the working majority, lest I become a recognized sinner, I forbear to press the subject further. Let us have the whole truth on this important subject, friend Root, by all means; we have been groping in the dark too long already for the interest of the bee-keeping class.

THOSE THREE-BANDED HYBRIDS.

Most people know that animals sometimes breed after themselves; but most people do not know what Mr. Doolittle asserts that he does know, in the following quotation; and herein consists the stunner observed by Mr. John A. Buchanan, who, mistaking the shadow for the substance, adds his testimony to prove the first-mentioned fact. Mr. Doolittle said (see October GLEANINGS), "I claim the Italian bee is only a 'thoroughbred,' and not a fixed race of bees. It is said that a cross of the black bee with the Egyptian will, in three generations, produce a bee which no man can tell from the best Italian. If this is so, it is probably the starting-point of our Italians; but why such breeding can so thoroughly fix the bands that a queen, mating with a common drone, will not show such mating in her working progeny, is more than I can tell, but know such to be the fact." Mr. Doolittle, then, has found two races of bees (if the report can be relied on), whose offspring of the third generation can not be told from the best Italian! This he considers the starting-point of our Italians. This breeding has so fixed the bands, that a queen mating with a common drone will not show such mating in her working progeny; this he knows to be a fact; and yet he claims that the Italian bee is only a thoroughbred, and not a fixed race. Nearly 200 years have passed since two races of bees have been known to exist in Italy; and what can be accomplished in three crosses of their probable progenitors, is not yet accomplished in their progeny in that country. This surpasses the credulity of ordinary men.

SEVERAL RACES MERGED INTO ONE.

In the early part of this century, in the Miami Valley, Ohio, the bristly swine of that section of country were improved by crossing them with the Russia, the Byfield, and the Bedford breeds of swine. In 1816, four China hogs were imported, and bred with the before-mentioned hybrids. From 1835 to 1841 the blood of the Berkshire hog was freely added; and in 1838, some Irish graziers were imported and bred with them. By judicious selection from among these mongrels, a race of fixed characteristics, called the "Poland-China" hog, was formed in about half a century. Here seven lines of descent converge to form one race. This race varies in color from a light-colored hog with small black spots to those nearly black, as would be expected of a race made up of the descendants of animals of various colors. Color is not, then, necessarily, a distinctive characteristic of a race.

CLIMATE AND TEMPERATURE CAUSE INSECT RACES TO VARY IN COLOR.

Two species of the hawk moth, *Sphinx quinque-maculatus*, which is a northern species, the larva of which is known as the potato worm, and another, whose larva is known as the tobacco worm, meet in Maryland. They are nearly alike in all their states. The potato worm is there distinguished from the to-

bacco worm by the bluish color of the anal horn on its tail, and by a few minor distinctions. Here, this horn has assumed the reddish color of the horn of the tobacco worm. There, as here, the potato worm, which is of a greenish-yellow color in the summer, becomes nearly black late in the fall. Some specimens hatch out yellow late in the year. In this case, color is not to be relied on in determining the members of the race, and the influences of temperature and climate are strongly marked.

BEEES IN AMERICA, AND THE EASTERN RACES.

Previous to the introduction of the Italian bee, the bees of this section of country, in some cases, had well-defined yellow bands; in Arkansas the yellow color prevailed to a greater extent than here; in New Mexico they were of a lighter color still; at the North they remained dark. On the eastern continent, similar conditions have produced results similar to those produced here. Many queen-breeders have observed the change of color produced upon the occupant of a queen-cell by exposure to cold; and the same result may be expected by exposing other brood. Diversity of color in a race of bees, then, is in line with diversity in color in other races of insects, and a result due to the same causes. As in the case of the Poland-China hog, diversity of color in progenitors will produce diversity of color in the resulting race, unless the surrounding conditions are such as to produce a counteracting influence. It is evident, if the yellow bee has been produced at the South, and the black bee has been produced at the North, that there must be an intermediate point, or section of country, in which the two influences are about equal. Here, a race intermediate between the Southern and Northern races would be likely to develop, or the two races would overlap each other, and uniformity in color would not be produced by natural selection.

Virgil wrote before the time of Christ, and then two races of bees were known in Italy. One was spangled with gold, which is the better race, and one looked hideously ugly. Italy was then the intermediate ground on which the two races met, and, overlapping each other, mingled together. Knowing, at that early day, that the yellow bee was to be preferred, the natives would naturally practice selection in a rude way, and the yellow race would gradually prevail over the dark one. The influences of climate and temperature not existing in that country, the change would have to be produced by selection alone, and this could not be done until the two races had become hopelessly blended. We should expect from such results just what we have got; namely, a race of bees, uniform in characteristics, though varying in color from the lighter to the darker race; yet, when removed to where climatic influences have their full effect, capable of rapidly assuming the color of the race whose blood has entered most freely into their composition.

In view of these facts, is it reasonable to doubt that the Italian bee is a fixed race? In 1874, Mr. H. A. King had four Italian queens that were dark enough to pass for black queens. Their workers were as yellow as any he ever saw—all alike, and tapering in form, and the drones were better than the average. He raised quite light queens from them; this he could not understand, he said; and, also, that all queens raised in this country are lighter than those imported. Mr. King's experience here given agrees with the experience of others

who have used dark-colored queens from Italy, and is the best evidence to show that the Italian bee is a fixed race. Where climatic influences do not favor uniformity in color, they follow the same rule that governs the Poland-China hog; but when removed to where it has its full force, the tendency is to at once assume the color of the progenitor whose blood has entered into their makeup the most freely. They have descended from the same parents, and have the same distinctive qualities in common, which they transmit to their offspring with certainty. This is as much as can be said of any other class of animals; they are, therefore, a race.

Rulo, Neb., Feb., 1882.

JEROME WILTSE.

Many thanks, friend W., for your able paper, and the important facts you have furnished us. I have often wondered just how our Poland-China pigs and other improved races came about, and you have given some very important light on the matter. In regard to the Dzierzon Theory, I would simply ask our friends who can, to get some after-swarms from a locality where no Italians can be found, and bring them into a large Italian apiary. These virgin black queens will be pretty sure to meet Italian drones, and will produce mixed workers—some black, some three-banded, and some one or two banded (begging friend Doolittle's pardon). Now, if you can find among the whole a drone showing a single mark of Italian, you will do something I have not been able to do.—I have several times had it reported there were yellow bees in localities where Italians had never been. All specimens showed bees with a yellow fur, or down, as described in the A B C, but none showing the faintest yellow in the horny scale, as do the Italians. If you will excuse me, friend W., I must still be a little incredulous about any thing like Italian blood being found in America before their importation.

KEEPING BOX HONEY.

AN ARTICLE OF MUCH VALUE.



AS there are some bee-keepers who fail to keep their honey in a good marketable condition, I will try to give my experience, and hope it will be of help to those who fail in this respect. When I began keeping bees in movable-frame hives, it was advised to store honey in a good, dry, well-ventilated cellar, if one was handy. I had such a one; and as the honey was taken off it was placed on a table, or rack, in the cellar. Almost as soon as it was stored there, it would begin to turn watery, and sweat. I did not know what caused it, and so did not remove it until shipment in the fall. I had about 3000 lbs., and I think that I lost at least five cents on every pound; or, in other words, \$150, by not knowing how to keep my honey in shape so that it would bring a good price. At about this time I saw it advised to keep it in a warm upper room; and as I was about to build a bee cellar, I concluded to add an upper story, and partition it into two rooms, the one facing the south, with a large window on the south side, allowing the sun to shine directly in, to be used as a honey-room.

I kept the window and door shut as much as possible, which made it very warm and close. For two

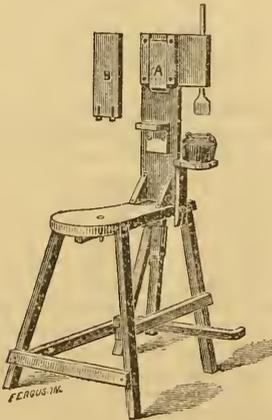
years I stored it in this room, and the honey was more watery, if possible, than ever. At last, upon the advice of a friend, I covered the south window opening in the honey-room, and also the one at the north end of the building, directly opposite, with wire cloth. A large opening was made in the door between the rooms, which was covered with the same material. In this way I provide for a free circulation of pure air every sunny day, directly through the room in and around the honey. Damp, rainy days and nights, the windows are kept closed. Since fixing the windows and door in this way I have had no trouble until the approach of cold weather, when a stove helps to maintain the desired temperature; even then I do not neglect ventilation. One thing more: Since I have kept my honey in this way I have not had to burn sulphur to kill worms, for none have hatched. N. F. CASE.

Glendale, Lewis Co., N. Y., Feb. 13, 1882.

MANUM'S MACHINE FOR GLUING SECTIONS.

ESPECIALLY FOR "FOLKS" WHO THINK THE DOVE-TAILED AND ALL-IN-ONE-PIECE NOT STOUT ENOUGH.

IN compliance with your request, I will give you a brief description of the machine. As you see by the cut, it somewhat resembles a harness-maker's stitching-horse. Having once worked at the harness business is doubtless the cause of my adopting this easy form for these machines. They are made of well-seasoned *hard* wood (maple and birch), except the seats, which are made of soft wood. The machines are put together with serews or bolts; they can thus be easily and quickly put together or taken apart. There is nothing about them liable to get out of order, or to wear out, except that the wooden spring may, after a time, lose its elasticity. To remedy this it may be turned over, which will make it as good as ever.



MACHINE FOR GLUING SECTIONS.

The little table under the slide A is movable, and can be adjusted to accommodate any size section. The plunger, to which the glue-pad is attached, is automatic, making a plunge into the glue at every downward motion of the treadle; and by simply touching one of the dovetailed ends to the pad, sufficient glue will adhere to the section to make a strong joint. These machines are very simple, and

easy to operate. It is fun for boys to operate them. A smart 12-year-old boy can put together from 1200 to 2000 sections per day, with one of these machines.

The fdn. press, B, is a simple piece of wood, which, when in operation, takes the place of the slide A. It has a metal gauge which plays in a groove in the lower end of the press. The fdn. is placed up to this gauge; and when the press is brought down, the gauge is forced up out of the way; and as the press rises again, the gauge is forced back by two springs. This press I have recently invented, therefore I have never put it to actual use; but I feel confident that it will work. However, as I charge nothing extra for it, no one will suffer any loss if it should prove worthless. A. E. MANUM.

Bristol, Vt., Feb. 13, 1882.

CORRECTIONS.

IN our last number we were particularly unlucky as to mistakes. The first six lines on p. 73 should be at the top of p. 72. They were at first carried over from p. 71, and accidentally misplaced. By drawing a mark around these lines, it will make the articles of friends Mellen and Corey read far more intelligibly. Hasty's article on clover, pp. 63, 64, is also defective. In the fourth line above the cut, read "solitary flowers" instead of *hairs*. Fig. 1 is a section of a clover-head, and not an exterior view. Fig. 2 is "a section of clover No. 5 changing to a raceme." In the third line under the cut, read, "and *c c c* the solitary flowers. *I was greatly desirous of getting seed from the solitary flowers, but none were produced.*" The eleven words in italics were omitted. On the same page, 64, tenth line from top, read, "heads and large flower-tubes. [This I constituted a new No. 3, that number being now vacant. I omitted to mention that the best plant was of medium growth, small heads, and slender flower-tubes.]" The words in brackets were omitted, the compositor's eye jumping from one "flower-tube" to the same word further on. These mistakes are humiliating and aggravating; the more so, as we take great pains with our typography. Friend Hasty himself, in telling us of these errors, pays us the following beautiful (though perhaps hardly deserved) compliment:—

What now has befallen the vigilant proof-reader of GLEANINGS, that my last article should be bashed up in such awful style? Right here, before I rage and pitch any more, perhaps I had better perform a neglected duty. I want to thank the proof-reader of GLEANINGS, whoever he may be, for the comfortable feelings I have so often had when folding up an article for that journal. "That, at least, won't be murdered by inches in getting through the press," I have mentally said. Now it so happens that I have suffered a good deal at the hands of printers—grammar knocked into a cocked hat; spelling calculated to make Webster turn over in his grave; absurd substitutions of one word for another; exasperating "outs," to make one think the writer's wits had taken a sudden vacation, etc.: but GLEANINGS has been a haven of rest to me. The editor gets frequent compliments and thanks; will the proof-reader this time accept most hearty ones from me?

For the future, we can only promise more care with our articles; and to make up for having occupied so much valuable space with an account of our blunders, we will give our readers four extra pages in the April number.

SPRING DWINDLING.

JAMES HEDDON.

IN discussing this subject, I must do so from my own standpoint. I must mean, by "spring dwindling," that phenomenon we have here to which I have attached that name. Our bees come out in spring alive, and strong *in numbers*, and apparently, to the casual observer, "all right." They have already, or immediately commence to breed. The necessary cares of breeding decimate their numbers at a fearful rate. The old bees drop off so much faster than the young ones come forth, that the colony "dwindles" down to a mere handful, which handful never gets to be larger (especially if the "spring" is replete with wintry reactions), and finally the brood dies for lack of protection, and the "jig is up."

Of these symptoms which I term "spring dwindling," I will make some positive statements.

1. I have never known these effects to take place after successful wintering.

2. I never knew a colony to dwindle (that had a fertile queen) where the workers were not diseased.

3. I feel confident that the name of that disease is *dysentery*.

For the first few years of my observations, I knew of no other way to look for symptoms of dysentery except *outside* of the anatomy of the bees. I soon learned, however, that there were always unmistakable evidences of the disease *within* the bodies of them, whenever it existed. My eye soon learned to detect it at a glance. I found no trouble in spotting the fated hives that were liable to "dwindle" *out*. But I also found, by observing with other bee-keepers, that the symptoms were almost universally overlooked.

In friend Townley's article, on page 63 of your last issue, he says his first case happened after a "very severe winter;" and the next, after a winter whose severity he does not mention, the bees "stood out unprotected." All of that sounds true to my experience. Let us suppose, for the argument's sake, that pollen-eating is the cause of dysentery. During cold weather, when the bees can not as well change positions in the hive, they, after eating all the honey in their immediate vicinity, naturally make the mistake of using that other kind of *food*, which is adapted only to every-day flights. Thus severe or protracted cold, or both, tend to pollen-eating, and the natural results, dysentery and brooding, as soon as the weather gets warmer. If this action takes place early in winter, and opportunities for voiding are cut off, dysentery will show all over the frames, hive, and sometimes the bees, in dead or living forms, on or before the time of the spring opening. But if, on the other hand, the action occurs nearer spring, or is of less severity, the bees, whose instinct is not to void in the hives, will hold all the fecal matter within their bodies, the same becoming diseased; and the moment voiding and its consequent and coincident activity take place, these diseased bodies succumb very readily. As the bees are on the wing mainly when they give out, all we see is a sort of an "all goneness" in the hives.

I do not claim to *know* what is the cause or causes of dysentery. I do claim to know that most of the causes attributed to it are not the causes here. I claim to believe that the consumption of bee-bread

by the older bees, at improper times, is the cause. I may be mistaken, but I shall give it up only when evidences force me to. If such a time comes, then I shall be again entirely lost in the fog in regard to the problem. I have no doubt but that the disease, and its consequent death, has been present, more or less, whenever and wherever bees have been. But just *now* (counting back about 15 years) I think the disease and its cause, pollen, has been more prevalent than formerly. Forests contain honey and spring pollen. When they are cut away, their natural successors, weeds, contain honey and fall pollen.

Some weeks ago I tried an experiment. I had four colonies almost perfectly destitute of stores. These four colonies were in my cellar. When they had gone as far as I dared risk their stores' exhaustion, I proceeded to feed three of them two 2-lb. bricks each, of granulated-sugar candy, pure. The fourth one I gave one brick of pure candy, and one of about three-fourths sugar and one-fourth flour. All four colonies proceeded to cover the two bricks in each hive. In about three weeks the colony with the brick of flour-mixed candy was dead, with as radical a case of dysentery as I have seen within five years. The bricks, frames, and even the bees themselves, are terribly daubed with their excretions. Not one sign of the disease is to be seen in any of the other 39 colonies in that cellar. I have left every thing just as it stood, and shall do so till spring, because I wish to show it to as many witnesses as possible, and because I know the disease is neither contagious nor infectious. I found, a few days ago, one colony dead, and another sick with it, among the outdoor-packed colonies. I scrutinized the conditions closely. In the dead one I found them as follows: From some cause, overlooked in fall, the colony was reduced to a mere handful, so small they were capable of making but little heat. The hive being thickly packed, they felt the sun's rays but little, if any. They had eaten the honey from their immediate cluster, and then eaten bee-bread, and died upon it, and that, too, before it was time to begin brood-rearing. The other hive had ample numbers, but had evidently eaten a combined diet of honey and bee-bread, which were both handy to them, and showed late signs of use. This colony still lives; but unless they reform, they are "gouers." They have had their fly, but now the "dwindle" is next. Our colonies were, as a rule, very light with bee-bread. These were exceptions. All flew lively four days ago. Those in the cellar have been confined since Thanksgiving, and I shall keep them there till I can set them out to stay, say March 20th to April 1st, when they will have had the ordinary length of confinement, and the same temperature as though the winter had been of last year's sort. I do this to put to test the problem in one of its branches. I have no fears as to the result. Most of my outdoor experiments will prove only partial, owing to the mildness of the winter; still, they show something. More anon.

Dowagiac, Mich., Feb. 9, 1882.

Thanks for the experiment, friend H. We have before had reports similar, and I have also seen something of it, in feeding flour candy to weak colonies, during cool April weather; but in all these cases, if I am correct, the excrement was of a whitish color, instead of the usual brown, or dark yellow—something the color of pollen itself. Was it

so in the case you mention? If so, does it not seem to indicate that the pollen or flour passes from them in a raw, or undigested state? Here is a fact furnished this minute by another friend:—

POLLEN FROM SAWDUST.

My bees are all right yet so far, packed on summer stands. They were carrying pollen on the 6th inst., from sawdust, which I had been hauling in my bee-yard. They had got so thick on the pile of sawdust, from noon until about 4 o'clock, that I could not unload any more until toward evening.

E. J. C. TROXELL.

Fort Seneca, Seneca Co., O., Feb. 9, 1882.

There is nothing especially new in the above, for we have had the same thing reported before; but does this sawdust which they gathered so freely harm them? I think it does not, for some of the best seasons I remember were those when the bees worked ravenously on the sawdust. Friend H. may say, this craving for sawdust showed them to be destitute of pollen, and perhaps it does.

FRIEND MARTIN'S LETTER.

NOISY BEES.

HAVING occasion to visit a friend, who keeps bees, I found him in a downright stew about the musical propensities of a few swarms of his Italians. This friend had about one hundred swarms of bees in his cellar, the most of them blacks. That race of bees were all quiet, while his Italians would every now and then act as though they were holding a grand political meeting, with bands of music and procession. Many get out upon the cellar bottom, and in the spring they were in excellent condition — to dwindle, and did dwindle. I have had just such bees, and we can trace them to a certain strain we obtained from a noted breeder. My friend condemned all Italians, as being hard to winter; but I think it is only certain strains, and especially of the light-colored beauties.

RICH IN STORES.

Another point in wintering is to have your swarms rich in stores. We have a neighbor who uses box hives, and each swarm has probably 40 lbs. of honey. These swarms are wintered in a warm cellar, and hang out in clusters upon the outside of the hives; but being black bees, they do not leave the hive; and, in fact, are as contented as we would suppose a man would who has a good bank account. Those bees know they have something to "fall back on;" still, they would probably winter just as well upon 25 lbs., for bees in a cellar consume but little honey. During the first month of the present winter, our bees, or those we weighed, consumed but 1 lb. each.

DAMPNESS.

Many complain about damp cellars and moldy combs. We would say to such, if your combs mold, put in more ventilators. With thorough ventilation, the dampness will be a blessing instead of a curse. Many bee-keepers having dry cellars provide water for their bees in proper receptacles.

COLOR.

While many are advocating leather-colored Italians, the general purchaser will take nothing but your lightest-colored and handsomest Italians whenever we sell swarms. We have to sell for color, or

the customer is dissatisfied. It is the same with queens: they must be very yellow, and beauties.

ONE-POUND SECTIONS.

The recent action of the N. E. N. Y. Association in relation to the proper size for section boxes, is much like the "poppe's bull against the comet." If the market demands pound sections, and they sell better, why not leave the bee-keeper free to use what size he desires? I think the pound section has been upon the market too long to be now withdrawn. It is safe to say, that over half of the crop of comb honey for the coming year will be stored in one-pound sections; furthermore, as far as I have read the proceedings, I should call it a comb-honey association. The production and sale of extracted honey has not received the attention it should.

Hartford, N. Y., Feb. 10, 1882.

J. H. MARTIN.

CELLAR WINTERING, ETC.

MY 5 years' experience in wintering bees has brought me to the conclusion, that, where there is a dark, dry cellar, free of frost, and which can be controlled as to ventilating, I would prefer cellar wintering every time. It saves in honey; it saves the hives, and especially the covers; it prevents bees starving on one side of the hives while there is plenty of honey on the other; it prevents the outside bees of the cluster becoming chilled and dropping down, to die in a short time during cold weather. If the hives are amply ventilated, it prevents having moldy combs; it prevents the frost from settling on the combs; it makes the bee-keeper feel happy to see them comfortable when an icy north wind blows outside; it enables him to look at his pets any time he feels like it; it saves money, because he can do without chaff hives, which are very expensive and cumbersome, because every house has, or ought to have, a cellar anyhow; and if it is not well ventilated it can be made so at little expense; it enables the bee-keeper to have his bees surrounded by almost the same temperature, sudden changes being so injurious to animal life; it prevents a colony of bees from getting destroyed by the cover leaking unexpectedly; it keeps the thieves from carrying the hives off when you think they belong to you, as you worked hard for the possession of them. As it would make my letter too long to give my experiments during the 5 years, I will simply give you a description of

THE CELLAR.

in which I have not lost a hive of bees yet, except two by starvation. It is virtually on the north-east corner of two cross streets, underneath the store. The noise above does not seem to bother the bees; there is a fire kept constantly in the store, except at night. The cellar is 50x21 ft. inside; it is imbedded entirely in sand; is 8 feet deep under the joists; it is walled out with a 20-inch limestone wall, white-washed all around and above, and paved with pressed brick; for

VENTILATION.

it has 2 openings in the pavement, 2x3 feet, protected with wrought-iron grates, one on the south side, or fro: 1, and 3 on the west side; these openings can be shut up on the inside by windows swung on hinges; with these I can control the temperature by keeping a thermometer in the cellar; on the east side of the cellar are holes along the top of the wall,

connecting with the outer air by passing underneath a building (feed store) having grates in the wall along the east side of this building, and in this way creating a gentle draft overhead in the cellar, if wanted; if not, they can be shut off also. The back, or north side of the cellar, is ventilated by holes connecting with openings underneath and around the dining-room, where there is a stove also; this ventilation makes me think and feel that when the outer air is overcharged with dampness that the air in the cellar is not nearly as damp as it is outside. Now, in the north-east corner is

A CELLAR WITHIN THE CELLAR,

about 14x20 ft., originally partitioned off up to the joists for my wife to keep her preserves, etc., in, with a glass door and window in it; and as it was rather large for the purpose, my wife gave me permission to use it to put the bees in. By putting a curtain on the glass door and window I can make it as dark as I want it without shutting the air out, as it comes in from under the feed store, and connects from between the joists, above the partition, with the main cellar. There is not a particle of dampness on the floor, and the dry dust can be found thereon when we neglect to sweep it off. In the summer we have to shut off ventilation, and sprinkle the floor pretty often to keep it cool and cellar-like.

After all, and with a cellar like this, don't let me be understood that I am ready to shout Eureka! as I have cases of dysentery, without being fatal, in this very cellar; but I think I brought it about by experimenting with different ways of preparing the bees for the cellar. It is a small study of itself; but I think the time is not far off when cellar wintering vs. outdoor will be what the Langstroth frame vs. the other frames is to-day; viz., it will be adopted by the majority of the bee-keepers as soon as the requirements to success are known. I have also tried my hand at outdoor wintering; but as my letter is too long already, I will close and promise to give you further particulars in the future, if you think they can be of any benefit to the bee-keeping fraternity. I can not but admire the similarity with which friend Geo. Grimm and myself prepare our bees for winter.

A. SCHEIDNER.

Louisville, Ky., Feb. 6, 1882.

DO BEES VOID THEIR EXCREMENT IN A DRY STATE?

OBSERVATIONS OF A NOVICE.

JUNE 28, 1880, I put a very small swarm of black bees into a new hive, filled with new frames.

An old bee-keeper remarked to me, on my informing him of the fact, that it would be useless for me to attempt to winter them, as they would not gather honey enough to support themselves until the next spring. My answer was, that I should try and see what I could do with them. After they had built comb in several of the frames, and commenced brood-rearing, I began feeding them, and continued to do so, moderately, until cold weather. On preparing them for winter, I found they had not increased much in numbers, and were apparently deficient in stores. After removing all the empty frames, and those containing comb without honey, I put a frame filled with granulated-sugar candy by the side of the cluster, closed up the space with the division-board, packed them in chaff, and left them.

They ceased flying about the 10th of Nov., and did not fly again until the 7th of March. At that time there was about a dozen dead bees on the bottom-board, covered with cappings mixed with a fine dust-like powder, of a dark-gray color, nearly black. My opportunity for observation was good, as I removed the bottom-board, then under the hive, and replaced it with a clean one; the moisture in the hive having dripped from the frame of candy, and formed a sticky mass on the bottom-board. I feared the bees might get daubed and killed by it. April 7th they commenced flying regularly, and on opening the hive I found the same dark-colored powder, mixed with particles of cappings, and a few dead bees. This dust, cappings, etc., after a transient examination, I brushed off, leaving the bottom as bright and clean as when it was put under in March previous. What was the dust? It does not appear that it could have been composed entirely of cappings, as the particles of wax were distinctly perceptible—coarse, of a yellowish color, and more in quantity than the other matter. No foundation was used in forming the combs; and when examined in spring they were as clean and transparent as when left the fall before. Nor does it appear probable that they had been cleaned, thus early, by the bees, preparatory to commencing their summer's work. The frames were covered with a thick quilt, made from factory cloth, inclosing a thickness of batting, which was snugly propolized down, not even permitting "upward ventilation,"—the empty space at the side of the frames serving the purpose. The bees, though not in large numbers, were perfectly healthy, and, with the aid of *fdn.*, increased rapidly, so that, by the first of June, they had filled 14 frames with brood and honey, and made a good display of comb, with some honey in 24 one-pound sections over the frames—a fair beginning for this climate.

J. F. LATHAM.

Cumberland, Maine, Feb., 1882.

FRIEND ROOMHOWER'S IDEAS ON WINTERING.

WILL BEES BREED IN A CELLAR WHEN THE TEMPERATURE IS KEPT AT 45° AND UNDER?

IN one of your back numbers I think that George Grimm made the statement, that bees will not rear brood in the cellar when the temperature is kept at 45°. If Mr. Grimm did not make the above statement, some one else did, for I have read it in one of your back numbers. Now, friend Root, what is your experience in this case? I want you to tell just exactly what you know about it.

To-day is the 11th of February. The sun is shining brightly. I have just carried out two colonies of bees from the cellar—one black colony, and one pure Italian. The first one carried out is a colony that was made late last fall by uniting two not very strong nuclei of old bees. One of the nuclei had a drone-laying queen from the middle of August until the day that they were united, which was about the last of Oct., and of course the bees were of good age. At the time they were united, a black queen was given them, and November 27th they were carried into the cellar. To-day this colony is strong with bees, and has, by actual measurement, about 12,000 cells of brood, from the egg to the hatching bee; young bees were crawling out by the dozen,

while I was examining them. The other colony, Italian, have 3 frames of brood in all stages, with lots of young bees crawling out, and plenty of bees that look as if they had been out two or three weeks. The temperature in my cellar has not reached over 45°, and has been down as low as the freezing-point for only a day or so. The outside doors had no protection, and one could look right outdoors through the crack around the casing, and the temperature outside was 20° below zero; but the most of the time the temperature will average 44°. The bees in the cellars are very quiet—not a sound can be heard. No bees are dropping upon the cellar bottom, and very few under the hives. Their bodies are but slightly distended, and their excrement is in a dry and healthy state. Some say that rearing brood in the cellar causes uneasiness and dysentery, and spring dwindling; but if this be so, others must have different bees from mine. I have never as yet had a case of spring dwindling, nor any dysentery. My bees rear brood nearly all winter; never get uneasy, and always come out strong in spring. My experience is, that, to have bees winter successfully without loss, and come out strong in spring, without spring dwindling, they must be wintered in such a shape that they will rear brood from the last of December. Where bees can do this, and do it right, my friends, you have the secret of successful wintering. Such is my experience and opinion.

FRANK BOOMBOWER.

Gallupville, Scho. Co., N. Y., Feb. 11, 1882.

If you will excuse the liberty, friend B., I would suggest that your success has been at least partially accidental. You know there are many localities in which spring dwindling seems unknown, and there are many who, after having boasted for years they had never seen any thing of the kind, have afterward had the conceit (this is the word *they* used in telling about it) taken out of them, by most grievous losses. I shouldn't be surprised if even George Grimm should meet with heavy losses some time; but his excellent cellars and management may be proof against it. If you continue to winter with open cracks through that cellar-door, I shall be surprised if you do not meet with losses. I believe it is well known, that bees sometimes rear brood all winter; but it is equally well known, that they at other times do not start brood until they are set out of doors, in March or April; and, if I am correct, these latter are not as apt to "spring dwindle."

EXTRA-PURE QUEENS.

DOOLITTLE ANSWERS QUESTIONS.



ON page 579, Dec. GLEANINGS, friend Hutchinson asks questions, and says, "Now, friend Doolittle, about those extra-pure queens. I have read the references that you gave in regard to the matter, but not one of them mentions a queen whose daughters did not produce one or two banded bees, or hybrids. The daughter of each wonderful queen produced no black bees, but nothing is said as to whether they produced hybrids. Like friend Root, I have seen queens whose daughters produced no black bees, but I have yet to see the queen whose daughters produce no one or two banded bees, if they had mated with a black drone."

Now I wish to speak of this last sentence first, for the reason that friend Root and others used to tell us that, if a pure Italian queen mated with a black drone, a part of such queen's progeny would be black, and a part Italian. This was the doctrine preached by nearly every queen-breeder ten years ago, and I believed it was true till that "wonderful" queen came from H. A. King, then of Nevada, Ohio. She was introduced into a colony the latter part of July, 1870, when there was not another Italian bee within 25 miles of here. From this queen there was not reared a single drone that season, so of course all the 40 queens reared must have mated with black drones, as a consequence. Not one of these 40 queens ever produced a black bee, and thus I was forced to give up the black-bee theory in regard to hybrids. It seems to me that friend H. has made quite a concession on friend Root's part by making him say that he (Root) has had queens mating black drones that never produced a black bee. As this discussion has drawn out others, to show that plenty of such queens do exist, we have gained one point at least, by proving that our queen-breeders of ten years ago were mistaken in their assertions.

Next, friend H. asks, "Now come right out fair and square, friend D., and tell us if you have a queen whose daughters produce no one or two banded bees, even if they have mated with black drones; and also how you can tell what drones they have mated with."

Again I answer the last question first, by pointing you to the above 40 queens.

Now to the first question: I claim that there is no such thing as a one or two banded bee, and I expect that this discussion will draw out enough on that part of the question to again prove me correct, and that all this talk of one and two banded bees of the past was a mistake, as well as the black-bee part has been. If you will turn to page 371, *A. B. J.* for 1881, you will find friend Demaree says, "that the meanest hybrids will show the third band in splotches." Again, on page 395, *A. B. J.*, I say, "I have yet to see the bee that shows yellow on any band that does not show it on all three; so it will be seen, as none of these 40 queens produced a black bee, they certainly must have produced all three-banded bees, which they certainly did." Now, ladies and gentlemen, get your hybrid bees, and place them on a window, as A. I. Root tells you how to do in his A B C, when testing bees for purity, and see if you don't agree that, if a bee shows yellow on any of the bands, she will show it on all three, in about the same proportion as the best yellow bee shows hers; that is, if little yellow is on the first segment next the thorax, still less will be on the second, and still less on the third; yet there will be yellow on all three if any is found on the first. Don't be hasty, and write till you have taken your A B C and applied the test as there given. Now, if you bear me out in my experiments, it will be seen that there is no such thing as a *pure Italian bee*, for those 40 queens referred to above produced what would be called by all parties, *pure Italians*; yet every one of them was necessarily fertilized by a black drone.

Now having demolished this citadel of purity, let us cease this wrangle of words about the same, and breed bees for honey rather than purity. If bees showing the three distinct golden bands are the bees producing the best results in honey, let us breed in that direction; if those bees showing but slight traces of yellow on the three bands (or dark Italians,

if you please to call them so) are the ones which produce the most surplus, let us breed in that direction, keeping an eye to the best at all times.

The reason why I have kept so close to those 40 queens is, that there could be no doubt that they mated with black drones. While I believe many such queens have mated with black drones since then, it would not be so easy to prove that they did so.

In my next I will answer more of friend H.'s questions, and perhaps questions from others.

G. M. DOOLITTLE.

Borodino, N. Y., Feb. 14, 1882.

Why, friend D., it takes only a little stretch of the imagination, from your standpoint, to say that all our bees are either pure blacks or three-banded; there ain't any such things as hybrids any more. Hereafter, when a man complains that his queen produces only hybrids, we will tell him that, if her bees have any bands at all, they have *three*; see what Doolittle says on page 118. I know there is some truth in what you say, for a mixture of two races produces all sorts of sports, as it were, and so we often have bees that have three yellow bands, but with bands that are narrow, or notched, showing the mixture of black; and, if you will excuse me, I think you got hold of this kind. Take robbing bees that have got the fur all worn off, and you can see the dividing line between the black and yellow very plainly. The A B C says the color is in the horny scale. Well, take these horny scales and wash them in alcohol; cut out sections, and paste them on glass slips under a microscope of moderate power, and I think all our readers can agree that hybrids have yellow only on one band, or only on two bands. About ten years ago it was suggested that we adopt, for a test, that none of the workers of the daughter of a tested queen should show any black bees. This was decided to be a mistake, however, almost immediately; for reports came right away to show that, while some queens impurely mated showed evenly marked hybrids, others produced part full-blooded blacks, and part full-blooded Italians. Please, friend D., do not be in too great haste to criticise the brotherhood.

Ladies' Department.

HOW A LADY FIXES STARVED BEES.

I WANT to tell you some of my experience with my bees this winter. The weather has been so rainy or cold, that bees have not flown much; but one day being a little more pleasant, I saw all flying but one colony. I opened the hive, raised the cushion and peeped in, and saw them clustered on an empty comb, and apparently lifeless; but on a close examination I saw them move a little. I took a few to the house and warmed them; they soon got lively, and I then went back to the stand, removed the cushion and division-boards, took them to the house, set the boards before the grate in the sitting-room, and put the cushion in the oven of the cook stove. While they were heating I made a batch of candy, then sprinkled them with sweetened water, while the candy was cooling; then took the cushion,

boards, and candy, to the hive, huddled the boards as closely as possible to the almost dead bees; turned the warm candy over them, and the hot cushion on top of the candy, then left them to their fate. In a few days, or as soon as the weather would permit, I examined them again; found them lively, and in good condition, and but few dead bees on the bottom-board, comparatively speaking. I winter on summer stands.

LIZZIE MCCONNELL.

Ripley, O., Feb. 8, 1882.

A LETTER FROM GEORGIA.

We use a 1½-story hive, all of them exactly alike, for the convenience of hanging the frames. My husband is a carpenter, and he makes all of our hives. He dresses all the lumber nicely, and they are very pretty when finished. It takes 133 pieces to complete a hive, including the pieces for frames. They look like little houses.

The first swarm we had last season made us 90 lbs. of the prettiest white comb honey, besides filling the lower story, and they are full now. I looked at them last week, and every frame was filled and sealed in the upper story, and in the lower story the side frames don't seem to have been touched yet. All of ours are in good condition now, weighing from 75 to 100 lbs. each.

Friend Root, I am in feeble health, and am not able to do much work. I thought I would subscribe to your school as an A B C scholar, if you would accept me. I think I can earn my living by attending to our bees. I have learned to transfer them.

CUTTING A BEE-TREE.

We found a bee-tree nearly on top of the mountain, about a mile from home. My husband, together with three or four of our neighbors, and two or three negroes, went after them; carried a hive, smoker, and one thing and another that we thought we should need, but never thought of anything to fasten the comb in the frames with. The bees were in a large pine-tree. They worked in at a knot-hole about 15 feet from the ground. The men cut the tree down, and blocked out a piece 3 feet long and 6 or 8 inches wide. Their combs were 3 feet long, with the brood in the middle. I never saw such sheets of comb in my life. We laid them down on the log, on the bottom-board of the hive, and cut around the frames, laying them on the comb. I happened to have my knitting-basket with me, and with a ball of knitting-thread fastened the comb in the frames. We filled all the frames, putting in the comb that had the most brood and honey, and then there were two large buckets and a pan full left. We thought we would cut the thread from around the frames, and take it out when they had time to seal the comb in the frames; but they thanked us—they could wait on themselves; for the third day after we hived them I was walking out among the bees, and in looking at them I saw five or six coming out in a line, pulling at something, I could not tell what, when, on going up closer, I saw it was the thread they had cut, and were pulling out. We examined them then, and found that they had cut them all off and carried them out except two or three pieces, so we left them to finish the job themselves. There was a fine swarm of them, so they are full to the top.

I shall begin the season with 12 colonies, if nothing happens to them, and will try to go by your directions; and if you will accept of it, I will report to you how I succeed. We get from 12½ to 15 cts. for honey.

When you start around to see your A B C class, I want you to call on us too. I think we could show you some curiosities on the mountains. There are some of the prettiest rocks, some diamond-pointed, and any size or shape you wish to see. On the top of some of these peaks you can see for miles around, as far as the eye can reach. There are also large springs of cool clear water in the caves, and at the foot of some of them. The people who live near the mountains have the best of health, as a general thing. It is a splendid place for cattle-raising. You must come the first of the summer, if you want the best honey we have, and huckleberry pies. The mountains are covered with them. Our bees gather the best honey from huckleberry.

I will send you a sample of silk. I raise my own sewing-silk. You can present it to some of your daughters.

MARY A. SISTRUNK.

White Sulphur Springs, Mer. Co., Ga., Feb. 6, 1882.

Many thanks for your kind letter, my friend. I must confess I should very much like to make you a visit in your pretty mountain home. If huckleberry pies grow all over the mountain, I shall come down there sure, when George and Ernest get home to relieve me from my post, for I am great on pies. We have some huckleberry-bushes planted down by the pond now, and we hope to have five-cent huckleberry pies in our lunch-room one of these days.—Many thanks for the samples of silk: they are beautiful. I presume you know how dearly I love to see new industries started—something to keep this great army of boys and girls busy, all over our land.

LETTER FROM TEXAS.

HOW I MANAGED THE BEES THAT GAVE 520 LBS. OF HONEY IN 24 DAYS.

IN the first place, they were a very strong colony, early in spring. They wanted to swarm the last of March; kept them from it by giving room, and cutting out every queen-cell they started. The 4th of April I put on a second story, filled with fdn., lifting two of the brood-frames from below, and placed them in top story; replaced the bottom with fdn.; the queen showed a tendency to lay in the upper stories, and desert the bottom altogether. When she filled all the combs above, I would drop them down to the bottom story, and so on. April 16th I set on a third story; the queen took to it at once, and I worked them as before. April 30th I put on fourth story, and the queen acted same way; broke for the upper, or top story, and remained in the third and fourth stories quite awhile, not laying in the bottom ones at all. I kept the brood down until every frame in the hive was partly filled with brood. At about the time the brood all hatched out we were blessed with a "fearful" flow of honey. During the 24 days in which they gathered the 520 lbs., the queen came down to the bottom story, and laid only in 4 or 5 frames. The bees stored honey so fast she had no chance to lay. At about this time we were getting behind with the extractor, and several times they had the three upper stories sealed up solid; and to keep them at work, I took 24 full frames of honey out of the three top ones, and set them away in the honey-house in empty boxes, and left two full frames in each story, and refilled with fdn. In a

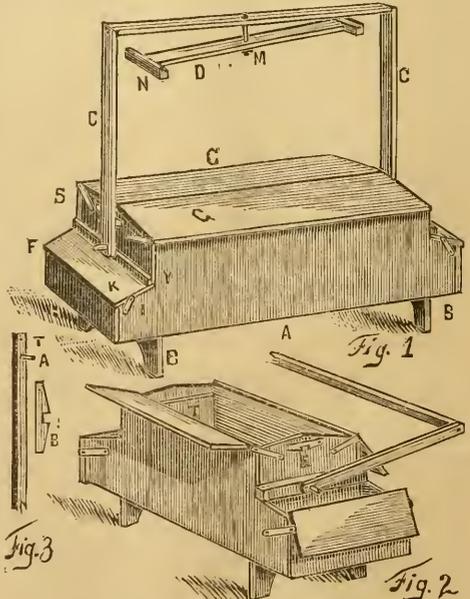
short time the whole hive was solid again, and by this time I had extracted out of the first, and just lifted out full frames and set in empty finished combs. With the two set of combs we kept them at work, occasionally saving a pretty white frame for comb honey. The above is, as near as I can remember, the way we managed them. E. J. ATCHLEY.

Lucaester, Dallas Co., Texas, Feb. 13, 1882.

ANOTHER TOOL-BOX,

WITH MINUTE DIRECTIONS FOR MAKING.

INCLOSED you will find a sketch of my combined comb-holder, queen-stand, work-box, etc. I will give the size of each piece, and you can make one if you wish to. Fig. 1, A, 29x10x1½ in.; B, two pieces of ¾ lumber, 12¼ in. wide, 13 high, with a rabbet 1x¾ at the top, for the ends of the frames; C, C, two pieces 15½x1¼x¾ in. Bore a hole ¾ inch in diameter in each piece, ¾ in. from the end. Put a 1¼-in. screw in one piece, 2¾ in. from the end which has the ¾-in. hole in it. Let the screw project about ¾ in.; D, 19¼x1¼x¾ in.; bore a ¼-in. hole in the center; E, 23x1¼x¾. Bore a ¼-in. hole in the center. F, tool-box cover, two pieces 5¼x13¼x¾ in. G, covers to comb-holder; two pieces, 20¼x7x½ in. H, side of tool-box; two pieces, 13¼x6¼ in. S, hinges to the covers of the comb-holder, 5x¾x¾ in. M, is a bolt 3 in. long, ¼ inch in diameter. D, is a bar with two short pieces of wood rabbeted and nailed on each end of the bar. The bar will hold two combs. It turns on a pivot at M.



HYATT'S COMBINED WORK-BOX AND COMB-HOLDER.

The covers to comb-holder and tool-boxes should have ½ in. slant. The latch, X, Fig. 1; B, Fig. 3, is 4x1 in. It holds the handle, as shown in Fig. 1, when it is to be used as a queen-stand. The tool-boxes are 12¼x4¼x6 inches inside, which is just right for Simplicity cold-blast smoker. The tool-boxes will hold veil, smoker, fuel for smoker, gloves, queen-cages, tacks, screw-driver, scissors, knife,

etc. The strip V, Fig. 1, is $13\frac{1}{4} \times 1\frac{1}{2}$ inches. There must be $\frac{1}{8}$ in. between the bar D, and the bar E, to make room for the fingers, when using E as a handle. When the handle is in the position shown in Fig. 2, and the covers are on the comb-holder, the apiarist can use the comb-holder to sit on.

O. H. HYATT.

Farragut, Fremont Co., Iowa, Jan. 24, 1882.

Juvenile Department.

Every girl or boy, under 12 years of age, who writes a letter for this department will receive one of David Cook's excellent 5-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50.

THIS is my first attempt to write for a paper. I know you will not expect much from a boy 12 years old. Papa calls me his bee-man, and I assist him all I can. I am thankful that I have a pa to help and to love. But I have no mother to love. I read in GLEANINGS of the death of your pa. How sorry I am for you, as I know you must have loved him as I do mine! I forgot to say that pa has 75 colonies of bees, all of them in nice painted hives, and they look nice.

STONEWALL J. OPP.

Helena, Phillips Co., Ark., Jan. 7, 1882.

Pa keeps bees. I am but six years old. This is my first letter. I would like a book. MARY E. BAER.
Vanwert, Ohio, Feb. 5, 1882.

I am eight, and have never written a letter, but pa read the children's letters, in GLEANINGS, so I thought I would write. HENRY W. BAER.
Vanwert, Ohio, Feb. 5, 1882.

I am nine years of age. My pa has bees; some at home, and I don't know how many away from home. ESTA WILLIAMS.
Vanceburg, Lewis Co., Ky., Feb., 1882.

I am 11. My brother-in-law has 4 stands of bees; he is trying different ways of wintering. He bought new queens, but all of them did not get much honey last summer on account of the dry weather. NORMAN HINEBAUGH.
New Paris, Ind., Feb. 3, 1882.

I am a girl 8 years old. I have a sister 6 years old. Her name is Susie, but we call her Stubbie. Pa says we will have to call her Sue. Pa has kept bees 7 years. He has 13 swarms now. We go to school, Susie and I, but not to Sunday-school; it is too far off. This is my first letter. CORA KING.
Baraboo, Wis., Jan. 10, 1882.

My pa was a soldier in the Third Iowa; lost his limb at Jackson, Miss. Pa has 23 swarms of bees. I hope they will winter well. He put 18 down cellar, and left five in chaff hives. He lost a good many last winter, but likes the business so well that he does not get discouraged. THOMAS E. STOCKS.
Nashua, Iowa, Feb. 3, 1882.

My pa is a bee-man, and he has 46 stands of bees. He got a ton of extracted honey in 4 weeks this fall; but I don't help him work with the bees as some little folks do, but I like to eat the honey. I like to read the letters the little folks write. I have three brothers and one sister. I am 10 years old, and go to school. CHARLEY BALDWIN.
Stewardson, Ill., Jan. 6, 1882.

My age is 7. My pa takes GLEANINGS, and keeps bees. He put 99 swarms into the cellar last fall. I go to school; had the mumps last week, and had to stay at home. EDITH A. MORRIS.

Mohawk, Herkimer Co., N. Y., Feb. 5, 1882.

I am ten. My pa has bees, and ma is afraid of them. I like honey, and eat it when I get a chance; but last year the bees did not make much. Pa has lots of empty hives, but only 12 with bees in.

Circleville, O., Jan., 1882.

CHARLIE RIFE.

I am a boy of 10. We keep bees. Pa and my brother C. together have 25 stands. If this letter is too long, cut some off, and throw it away; but please don't forget the book. RAY PHILLIPS.

West Chester, Butler Co., O., Feb. 6, 1882.

It would have been pretty long, friend Ray, but you see I crossed out some that was not particularly about bees, or of much general interest. You see, if we hear from all we shall have to be rather brief.

I am nine. I live in Michigan. We used to live in Ohio, and when we came here we came through Medina, and we saw your bees; but I did not know they were yours until we were past; and if we ever go back again I am going to watch for them, if I think of it. Papa and mamma and my sisters and brother used to live in Medina. My sister takes GLEANINGS, and if she gets some bees you may hear from me again. BERTIE BACHTEL.
Napoleon, Jackson Co., Mich., Jan. 30, 1882.

My pa keeps bees, and he got 50 lbs. of honey from a new swarm, and he has 5 Italians, 4 blacks, and one hybrid. One hybrid swarm went away. I helped pa fix his bees for winter. I have two brothers and two sisters. I go to day-school and Sunday-school. I am 11 years old. Please send me a book out of that wheelbarrow full. WILLIAM JOB CHURCH.

Waterford, Ont., Can., Jan. 5, 1882.

And that we will, friend Job. If letters like that don't make us fly around lively, I don't know what will.

I am eight. Papa keeps 9 hives of bees, and we have lots of honey. We have it on pancakes every morning. My little brother Willie don't like to have mamma steam it when it begins to candy, because he says he likes the little "hummocks" in it. When I was a little boy about three years old I threw a stone into some bees hanging on the outside of the hive, and one stung me on the knee, and I have not bothered them since. My Waterbury watch, which papa got from you, and gave me Christmas, I think is very nice. HORRIE HICKOK.

Bethel, Fairfield Co., Conn., Jan. 10, 1882.

I am five years old. Papa has bees, and one of them is mine. I like bees, but I don't like jackets. Last summer a yellow-jacket stung me on the lip, and I tell you it made me hop. Papa killed them all. Do you think it is a sin to kill jackets? I go to Sunday-school when it don't rain, or is not too cold. I live in Williamsport, Lycoming Co., Penn., and my name is LEE HOFFMAN. Papa told me how to spell the hard words.

It isn't wicked to kill "jackets," or others of God's creatures, when they are doing harm; but it is wicked to kill them needlessly. I think, on the whole, I wouldn't kill them. Quite a bright little letter, Lee.

Pa keeps bees. He has 20 stands. They are all in Langstroth hives. He does not like that kind of hive very well. He was out to see you last summer, but I suppose you do not remember him now. I should like very well to see Blue Eyes. We have your picture with her sitting on your lap. I like the little bees, but do not like them to sting me very well. I have no bees, but have some nice little birds. I have 6 Canary birds. I like to hear them sing. I was 11 years old the 4th day of January.

CLARA E. GRUBB.

Key, Belmont Co., O., Jan. 11, 1882.

THAT SILO, AND THE ENSILAGE.

As you wished to hear more about the silo, I will try to tell you more about it. The ensilage has come out nice and good, and the cattle like it very much. The size of the silo is 2½ feet long, 14 feet deep, and 1½ feet wide. Father thinks it is a great thing for the farmers. He thinks the silo will hold from 75 to 100 tons.

LIZZIE D. FLINT.

Waterford, Oxford Co., Me., Feb. 3, 1882.

Thanks, Lizzie. I wouldn't wonder if some of us older ones are as much pleased about it as the cows and children are.

I am a boy 8 years old. My papa keeps bees, and he has 12 swarms in chaff hives. He does not lose them in the winter time. Summer before last he had 35 swarms in Michigan. I had two. I did not get much honey. I have got 4 now. Last summer papa took one up to grandpa's, and they made 80 lbs. of honey. Papa has bought 4 queens of you. He takes GLEANINGS, and I like to hear him read it. My papa was transferring a swarm of bees, and I went out with him, and some bees went for me, and I ran through the corn toward the road, "hollering" with all my might. I got stung on my nose. The next morning, one of my eyes was swelled shut. I did not go near the bees again in a long while. I have a little curly-headed brother five years old, and a little sister two years old. She has blue eyes, just like your little girl.

PERCY BERRYMAN.

Geneva, N. Y., Jan. 5, 1882.

I am a boy 7 years old. My papa takes GLEANINGS. I go to school. I got the prize for spelling. I got 44 head-marks. My pa has some bees, but they do not do much good. I like to read what the young folks say in GLEANINGS. I have two brothers and two sisters. We all have blue eyes.

GEORGE SMITH.

Halsey, Linn Co., Oregon, Jan. 23, 1882.

I like to read about Mr. Merrybanks and his neighbor. Papa keeps bees, but they don't do much good, as this is not a very good country for them. I have three brothers and one sister. The baby is a month old. I would like to see the picture of your Blue Eyes. I am 11 years old, and my name is

Halsey, Ore., Jan. 22, 1882. KATE SMITH.

Now, George and Kate, I think you will have to tell your father to brush up and do a little better with those bees, if he is going to have two children who write for the papers, because, you see, they might tell about it. I wish you would send me that blue-eyed baby; I am sure we need him at our house more than you do.

I am seven years old. I go to school now nearly every week day, and also to Sunday-school. Papa had one hive of bees, and he got some more in the country, where farmers were going to kill them.

He put one in with his Italians, two in with my brother Lee's, and six with mine. There is now over a peck in each hive. Papa got a queen for Lee's hive from you, and after she was in about a month the bees took a notion not to have her, and they carried her out three times before they killed her. She had one foot off. The bees are now packed in double hives with five inches of straw all around them. I had a little sister 3 years and 3 months old that died last August, and our home is not so pleasant as it was.

HARRY HOFFMAN.

Williamsport, Pa., Nov. 23, 1881.

Now, it is really too bad, Harry, that your letter got passed by since way back last fall; but you can now write and tell us how the hives did, with a peck of bees in each. If your pa gave them all feed enough, I presume they are all rousing big colonies by this time. May God bless you in that lonely home, since the dear little sister is gone.

SONG OF THE BEES.

I am a worker-bee;
Come, fly away with me.
I must work so busily,
All through the day.
My honey-sac I fill
From the sages on the hill;
And I work with right good will.
Come away! Come away.
Once I built up waxy walls,
Once I carried pollen-balls,
Fed the larvæ, capped them o'er,
Jelly made and cleaned the floor.
Buzz! buzz! This the song I sing,
Honey for my hive, and for my foes a sting.
Buzz! buzz! I've no more time to give;
I must work; for six short weeks is all
I have to live.

I am a jolly drone,
No trouble have I known;
I am lazy, I must own.
Yes, I'm a shirk.
No honey do I bring,
So I never need a sting,
But my cheerful song I sing,
"Never work! Never work!"
On a warm and sunny day,
I go out to take a play,
Sport awhile, then rest and dream,
Or fly off to find a queen.
Buzz! buzz! This the song I sing,
Honey for myself, but for my foes no sting.
Buzz! buzz! I've no more time to give;
I must play; for six short weeks is all I
have to live.

I am a queen, you see,
Full-blood Italian bee,
And three yellow bands on me,
Brightly do shine.
A thousand eggs I lay,
Every warm and pleasant day,
In the merry month of May,
If the honey is fine.
When the spring days come out warm,
Then I go out with a swarm,
Leave my oldest daughter home,
With young worker bees and drone.
Buzz! buzz! This the song I sing,
"Fresh eggs for my hive; for royal foes a
sting."
Buzz! buzz! I've no more time to give;
I must work; for three short years is all I
have to live.

C. M. Drake, Santa Paula, Cal.

HONEY FROM CORN.

A "CLINCHER" FROM GALLUP.

IN reply to Jesse Oren, on page 29, Jan. No., I will say that, one season in Iowa, my bees gathered honey very freely from corn, and I mentioned the fact at the time in the *A. B. J.* They gathered large quantities of pollen from the tassels, but the honey was gathered from the silk. The silk fairly glistened with sweet—so much so that you could taste it with your tongue, and also see it with the naked eye. I succeeded in getting four kegs of 150 lbs. each, almost clear corn honey; and when it granulated it was the coarsest-grained honey that I ever saw. It was quite yellow, and had a peculiar taste. I could detect somewhat the flavor of corn silk. Never, in all my experience before or since, have I seen bees work so freely on corn as they did that season. The atmosphere was quite humid and hot, night and day, during said flow of honey.

I introduced the first Italian bees into Mitchell Co., Iowa, and in the fall an old bee-hunter found them at work on a field of buckwheat, just 6 miles west of my place, and lined them to my apiary. He had never seen any Italians before, and did not know that there were any in the country. He had to linc them 3 miles through heavy timber, and he was about two days and a half about it; but he stuck to it like a good one, for he thought he was going to make a fortune by finding a new race of bees. You ought to have seen the change in his countenance when he found them in my hives, and I told him that I had kept them all summer, and got the queens from Wisconsin, and put them into black swarms. He wanted to know how I managed to kill off all the blacks, and raise Italians in their place. He said that he never had followed black bees over 3½ miles.

E. GALLUP.

Santa Ana, Cal., Jan. 16, 1882.

Now we have got it, sure enough, and right from our old friend Gallup too. Bees *do* get honey from corn, and it comes from the silk. I confess this is a new idea to me, for I never saw a bee notice the silk, that I know of. Who can report, during the coming season, bees working on the silk of corn?

MRS. LUCINDA HARRISON AND HER ASSISTANT IN THE APIARY.

SOME KIND WORDS AND SUGGESTIONS ON A VARIETY OF TOPICS.

THE December number of GLEANINGS failed to appear, and it upset us "intirely." We kept musing over our loss, and forgot to sew buttons on our partner's shirts, hunted our spectacles when we had them on, etc. After we had notified you, and it was mailed the second time, it came, after we had received the January number.

CONVENTIONS.

What attraction had Battle Creek over Lexington? Had you cut down all that "power of bushes" around your ranch that need shaking so often? We intend to have revenge, and with that end in view shall 'lectioneer to have the "reunion" meet at Medina, O., in 1883; and if you then find "handkerchiefs" wrapped around "stove-lifters," and "Our Homes" on "sad-irons," and "plaid shawls" pinned

around "bell jack-screws," you may know "who's been there."

Can't you let us have your prayer-meeting room to convene in? When the time came for your appointment we could adjourn, or turn it into a prayer-meeting, with Brother Johnson, of Kentucky, as a leader. We could all feed together at the lunch counter, and wouldn't it be cozy and sociable? And you could—turn an honest penny.

HONEY FROM CORN.

About the middle of last August I was visiting a venerable and intelligent bee-keeper of Passumpsic, Vermont. He remarked, that his bees were then gathering honey from sweet corn. I remained during the month of August in St. Johnsbury, Vt., and noticed particularly the blossoming of the corn. My attention was directed to it by its blooming so late, and the tassel appeared thicker, being covered with more bloom, and continued out longer than at my home in Central Illinois. When we have hot nights, we say, "It is good corn weather;" the bloom comes to perfection quickly, and dries up much sooner than in a damp, cool climate. We should not be too positive, with reference to the value of honey-producing plants, for they most assuredly vary, according to soil and climate. We wrote at one time a description of the Rocky-Mountain bee-plant (*Cleome integrifolia*), as we know it here. A bee-keeper of Denver, Col., reprimanded us for not giving it justice; judging from his description, and other accounts of it, we infer that, in its habitat, it blooms much larger, and produces more honey than in this locality, owing, no doubt, to difference in soil and climate.



MRS. HARRISON'S BEE-DRESS.

Here we are, dressed *cap-a-pie* for work in the apiary. There is one thing lacking in the picture, which we wear when bees are very cross, and we did not put it on; for if we had, you could not have

seen how the cape is made. We put on a linen sack, or a gent's vest is buttoned on, and we then have a perfect head-gear, as no bees can gain access by creeping under the cape or around the arms. Our assistant will wear a long-sleeved apron, fastened around the bottom of the hat, and, if bees are very cross, wear leggins or a long skirt.

The hat is made of green wire gauze, such as screens are made of; the top of pasteboard, and bottom of calico. In making, we are careful to leave no wires to stick our hands or head when we put it on. We first roll up a hem; and if the wires stick through, hammer it upon a flatiron. When all sticking wires are disposed of, it is bound top and bottom, joined at the back, the top and cape sewed on. At the bottom of the cape is a wide hem, through which a string is run; under one arm is left open, and the other is joined with a string, thus forming an arm-hole. We put our arm through this hole, slip on the hat, and tie it at the open side. When we are stooping over a hive, the wire cloth rests upon the back of the head; and, to prevent bees stinging through there, a postal card is sewed on the under side. Our hands are covered with buckskin gloves, which have deming sewed on to the gauntlets, kept in place by elastic. The apron has capacious pockets, which are always handy for a screw-driver, handkerchief, etc.

We never succeeded very well with a veil. If we only wanted to walk around the apiary, it was all right; but when we worked, getting in all sorts of positions, it was sure to get close to our face or neck, and stings were the result.

We see by your letters, children, that you almost all say, that you would like bees better if they "didn't sting." For our part, we like bees that can fight their own battles; they have driven off thievish boys from our apiary several times, when they were trying to steal honey, and they protect our fruit and vineyard better than a dog. Before the busy time comes for work in the apiary, rig up a hat and gloves, so you will be of use there. If you are afraid all the time, you are of no account to work with bees. The expense is trifling—the gauze for the little girl's hat cost only ten cents, and a top was cut from a paper box.

Mrs. L. HARRISON.

Peoria, Ill., Jan., 1882.

By all means, bring the convention here, Mrs. H., and you can have the "prayer-meeting-room," "lunch-room," or any other room, to do what you please with. I would suggest, however, that you might be disappointed to find the former room so filled up with bee-hive frames, section boxes, etc., that you could hardly see the speaker. However, you shall have the court-house free of charge, and it is but a short walk from the factory. The lunch-room shall be free to everybody who comes to the convention; and if we do not give you a very imposing bill of fare, we will give you all the honey you may consume (California mountain-sage included), with hot cakes and coffee to match. The ladies shall have lodging also, free, as long as they choose to stay; and as the time is a long way ahead, perhaps we may be able to study up a place for the gentlemen also, free of expense to them. By all means, have Brother Johnson come, to ask a blessing at the table, and assist in various other ways.—May God bless you, Mrs. H., and the little

girl by your side, whom you have forgotten to tell us about. Has she ever written for our Juvenile Department?

MORE ABOUT LAYING WORKERS.

ALSO A PLAN FOR GETTING GOOD QUEEN-CELLS.

ON page 603, D. A. McCord speaks of a laying worker and a laying queen living harmoniously in the same hive, and you ask if the queen or bees were not of the Holy-Land race. With me, such a case is not unusual with the Italians, where they have been queenless for some time.

It has been demonstrated to my own satisfaction, (1) that laying workers will often be produced while unsealed larvæ and queen-cells exist in the hive, if the colony has been long queenless. (2) That sometimes a great many laying workers will occupy the same hive in harmony. (3) That it is not always difficult to introduce a laying queen to such a hive; and (4) that when the queen gets a firm foothold, her inferior substitutes disappear or stop laying. During the past season I had laying workers appear in 5 or 6 nuclei, each of which was always supplied with either a queen or a queen-cell, and almost always with either eggs or unsealed larvæ; but I think that, generally, several queens had failed in succession. Into these hives several virgin queens from the lamp nursery were introduced successfully, without removing the laying workers, which afterward disappeared. It has been my practice to have my queen-cells built in strong and prosperous colonies, as follows:—

I deprive a good colony of its queen and young brood, and give it plenty of *sealed brood*, and the eggs from the imported queen. As soon as the queen-cells are fairly started over the hatching larvæ, they are given to another strong colony, with *brood in all stages* (the queen of course having been removed) where the cells are completed.

After this colony has finished two or three batches of cells, their brood is all ceiled, and they are given eggs from which to start cells for a fresh hive. Although this system requires intense watchfulness, I think it comes nearer than any other to nature's plan.

But, to the point bearing upon laying workers. After a colony has finished two or three batches of cells, and started several other batches, I have 5 or 6 times found eggs from workers about the time the last brood was hatching. After the workers began to lay, but few if any cells were started, although a large number were promptly started before. Upon introducing queens to these hives, they were generally accepted. In one hive the queen held her own for 3 or 4 weeks, and then disappeared. In another, after the queen had been laying several days, I picked from a single comb (drone) ten workers that I found in the act of laying, within two or three minutes' time. There was no trouble in that hive afterward. In another, queen and workers laid together for several weeks. The latter increased in power until nearly all the brood (several cards) and one-half the population were drones. I gave them 2 or 3 cards of young brood, and very soon the ground around was covered with dead drones black and white. I knew this queen to be an extra good one, and wanted to test her "sand." She did splen-

didly afterward. The quickest way to get rid of laying workers is to shake the bees into a pile 10 rods from the stand, returning the hive supplied with unsealed brood, and a queen or queen-cell. All the bees that can fly will return, but not the laying workers.

Another way: If there are many young bees that would be lost by the above method, give them an unsealed queen-cell, and plenty of eggs and larvae.

OLIVER FOSTER.

Mt. Vernon, Linn Co., Ia., Dec. 19, 1881.

THE UPS AND DOWNS OF THE MAN WHO GOT 565 LBS. IN ONE YEAR FROM A NUCLEUS.

ALSO SOMETHING ABOUT CELLAR WINTERING—WINTERING A COLONY ON $1\frac{1}{2}$ LBS. OF HONEY.

YOU say, in Dec. No. of GLEANINGS, page 597, that you have no doubt that I have been through discouragements and troubles like many of the rest. Yes, that is so. I have had many ups and downs in the few years I have kept bees, and I will tell you about it. I commenced bee-keeping in 1876, with one swarm, which I increased by dividing to 3. It was a poor season here that year. I put them in the cellar in November, and in February I took them out. In March we had terribly cold weather, and a big snowstorm, so I lost 2 of my 3 colonies. In January, 1877, I ordered the *A. B. J.*, and *Magazine*, the first bee papers I ever read, and in May, GLEANINGS. From this I learned a better way of artificial swarming. In the fall of that year I had 18 colonies in good condition for winter, and they all came out of the cellar in the spring, as bright as a new dollar. From these 18 colonies in 1878 I increased to 45, and took considerable honey. I am sorry I did not weigh them in the fall and spring, and keep a record of the honey; now I always weigh the bees when I put them in the cellar, and again when I take them out in the spring. Nov. 7, 1878, I put them in the cellar; March 22, 1879, I took them out. They were as bright and nice as the spring before. They were in the cellar 135 days. One colony consumed only 4 lbs.; 2, $4\frac{1}{2}$ lbs.; 4, 5 lbs.; 2, $5\frac{1}{2}$ lbs.; 14, 6 lbs.; 3, $6\frac{1}{2}$ lbs.; 1, 13 lbs., and the rest 7 and 8 lbs., making an average of 6.8-9 lbs. I sold some colonies, and increased them during the summer to 101, and had a very good crop of honey. Put them in the cellar Nov. 4, 1879, and took them out the latter part of March and fore part of April, 1880. They were in the cellar about 148 days. One colony consumed $1\frac{1}{2}$ lbs.; 4, $3\frac{1}{2}$ lbs.; 4, 4 lbs.; 15, $4\frac{1}{2}$ lbs.; 8, 5 lbs.; 14, $5\frac{1}{2}$ lbs.; 13, 6 lbs.; 4, $6\frac{1}{2}$ lbs.; 1, $10\frac{1}{2}$ lbs.; the rest, 7 and 8 lbs.; average amount consumed, 5.8-15 lbs. Then I had the first spring dwindling. I sold some colonies, and increased to 88. I had only about 600 lbs. honey, nearly all fall honey, as white clover was a failure. Nov. 12, 1880, I put them in the cellar, and April 16, 1881, took them out. They were in the cellar 155 days. One colony consumed 5 lbs.; 2, 6 lbs.; 2, $6\frac{1}{2}$ lbs.; 2, 7 lbs.; 1, $12\frac{1}{2}$ lbs.; 1, 13 lbs.; 1, $13\frac{1}{2}$ lbs.; 1, 15 lbs.; 1, $16\frac{1}{2}$ lbs.; the rest from 8 to 12 lbs., averaging 9.4-5 lbs. per colony. I had 33 dead colonies; the remaining 55 I doubled up, so I had 25 colonies in not very good condition, and 10 nuclei of 1 and 2 frames for queen-rearing. From these 25 colonies I obtained 6027 lbs. of honey, of which 3107 lbs. was extracted, and 2920 lbs. comb,

and increased to 92 colonies. I sold some colonies, and now have 83 in the cellar, and 4 colonies on summer stands packed in hay.

I will report next spring how I succeeded in wintering them. So far they are all right.

H. NEWHAUS.

Burlington, Wis., Jan. 20, 1882.

Thanks for the figures, friend N. It seems to me your colony must have been a very small one, that consumed only $1\frac{1}{2}$ lbs. in 148 days—rather a nucleus, was it not? I once wintered a small colony that I should think hardly consumed more than that; but as I did not weigh them, I can not say exactly. I dare say, that those that used so little stores came out in better health than if they had used four times as much. What a saving it would be if we knew enough to winter a pint of bees and a queen *every time*, and thus save the large amounts of honey consumed by a heavy colony! With our present light, we could easily make the pint into a rousing colony before winter, and may be get a crop of honey besides. Where is Hosmer now-a-days?

THE SEX OF EGGS OF A QUEEN.

SOME THOUGHTS AND FACTS FROM A FRIEND OVER THE WATER.

IN the columns of the *British Bee Journal*, and also in GLEANINGS, I occasionally find opinions advanced on the above subject, which seem barely to harmonize with entomological facts; and if my judgment serves me correctly, Prof. Cook, in his *Manual*, advances the theory, that the sex of eggs is determined, if not by the will of the queen-bee, at least by the amount of abdominal pressure to which she is subjected in depositing eggs in different-sized cells, whilst others, with a semi-claim to the appellation of naturalist, support the idea that the will of the insect in controlling the amount of sperm to each, is supreme in this matter of sex. I am not, however, aware that any definite conclusion has been arrived at, through demonstrative evidence; and a few details of observations, taken in a small apiary in the center of Montrose, Scotland, during last season, may assist your readers in forming an opinion thereon.

During the first days of August, four out of five hives were prepared and sent to the heather above Fasque—a distance of over 14 miles; and some time after their despatch, the remaining hive, which was a stock hive in movable frame, from which a top swarm had been taken, was discovered to be queenless. The brood being all sealed, it was necessary to obtain a square inch of worker comb filled with eggs, from a hive at Rossie Gardens, a distance of over a mile. This was attached to comb with a small piece of wire, and two queen-cells were speedily raised thereon. After a few days, all the ova disappeared from the small piece of comb; and in about a week from the time of giving eggs, a number of drone-cells were filled with the whitish substance common to larvae at this stage. Here the thought suggested itself, that the queen had been overlooked in previous examinations. But then, why these two queen-cells? And on a still more careful scrutiny, and comparison of the number of cells in previously mentioned square with the larvae in drone-cells, a

harmony was obvious, and thus the previous disappearance of eggs was accounted for. It was now perfectly clear, that the all-wise Creator had endowed this insect with a forethought and power, probably unexampled in the animal kingdom. They knew that they wanted a queen, and prepared their cells accordingly. They also seemed to know that, without a male to mate that virgin queen, their colony would become extinct; hence they transferred these eggs from worker to drone cells, to prevent such a fatality. The result was, in the month of October they had a queen performing all the duties pertaining to her position, and several drones were then flying.

One more corroboration was noted. In one hive, a queen was observed dropping eggs, not in cells, but on the top of the comb, whilst a number of bees were, with the utmost order and eagerness, watching and picking up the eggs, and placing them in cells. In this case, could the queen instruct the bees where each egg was to be deposited, if her will regulated the sex, or did they instinctively know the proper cell for each egg? It could scarcely be. The only warrantable and logical conclusion is, that the ova of a fertilized queen-bee, in a sense differing from that of a virgin queen, or even a fertile worker, belongs to neither sex, being for the time neutral, having its future sex determined by the cell in which it is placed, and the treatment to which it is subjected by the bees.

K. EDWARD.

Montrose, Scotland, Dec. 5, 1881.

I think, my friend, you are in error; for eggs have been repeatedly cut out of a worker comb, and transferred to drone-cells, and *vice versa*; but, so far as I know, all experiments have resulted in showing conclusively that it made no difference where the egg was placed,—it produced the same insect it would if it had not been moved. Moreover, microscopical experiments, detailed in that valuable little book, the *Dzierzon Theory*, show pretty conclusively that the egg producing the worker or queen is fertilized, while that producing the drone is not. You found the eggs gone which you gave them, and other eggs in drone comb, and these latter produced drones; but for all that, I do not think the bees moved them there. The eggs in drone-cells were probably the eggs of fertile workers; and these fertile worker drones, I should say, could not have produced the drone that fertilized your queen. First, these drones could not well be old enough; and secondly, it is a matter of great doubt whether eggs from fertile workers ever produce drones equal to the task of fertilization. The fact you furnish, in regard to the bees taking eggs from a queen, and placing them in cells, is an important one; for, if I am correct, we have never had proof of this in print before—only conjectures that it might be so. Whether, in such a case, the bees would know from the looks of the egg which kind of cell it belonged in, or whether the queen called out to them, as they carried the eggs away, the name of the sex, is a pretty deep question; but I am inclined to doubt whether the bees have the ability to judge, further than to call all eggs drones they find in drone-cells, until the larvæ are hatched. I also doubt the queen having sufficient intelligence to communicate any

knowledge of this kind to the bees. When a queen has too few bees to care for her eggs, she frequently exudes them, and the bees apparently eat them up. If they put them into cells, it seems to me a very unnatural proceeding, and I should be rather in doubt that they hatched out into either drones or workers. Did you, friend E., note whether these eggs produced perfect bees or drones? It has been suggested, that caged queens sometimes furnish eggs for the bees to put around into cells; but I believe you are the first one, friend E., who has seen it done.

S. I. FREEBORN'S REPORT.

350 COLONIES IN WINTER QUARTERS A YEAR AGO,
AND WHAT THEY DID.

ABOUT a year ago I reported having 350 swarms in winter quarters. Since then I have said not a word (in GLEANINGS I mean), though I have said several that might have been heard around here, especially when handling hybrids and Cyprians. Well, had I not been ashamed to make a report last spring, it would have been about 145 with live queens the first of May—100 of them the weakest lot ever owned by a discouraged bee-keeper; about 40 that I had in a location where they wintered fairly well, were the salt that seasoned the whole mess, and served as a reserve corps to draw on for bees and brood to restock my empty combs and make a passably fair report out of what seemed in spring a very doubtful chance. The spring, or summer, rather, as we had no spring (only winter followed by summer), was all that a bee-keeper could ask for, as May was bright and balmy, and the nights warm; that enabled many a handful of bees to build up into good strong stocks that in a more unfavorable season would have been lost by brood chilling.

In May I had an opportunity of buying 19 swarms of blacks in box hives; this made 165 to start with; and as I had them in five places I debated whether to get them together in one or two lots, and run for honey, or increase them up to the original number again; but having so much comb on hand, and not liking to have the name of being out of bees, I concluded to increase them again. So I kept them scattered; and when dividing and making swarms I moved all the young ones to a new location, which prevented their returning to the old hive, which they will do more or less when not moved, and they work nearly or quite as well as natural swarms of the same strength.

I had thought in spring, if I could increase as many as I have lost, it would be about all I could reasonably expect, without much of a honey crop; but after getting bees in my 350 hives again, I thought if they could do more than fill up they should have all the comb they could fill, and I kept them supplied according to strength and location; using, on some of the strongest, from 16 to 24 Gallup frames.

The season was in many respects remarkable, especially for heat and moisture. White clover was almost a total failure, as we got no pure clover honey, though there was sufficient of it to keep them increasing. Well, to be ready for basswood and later flowers, we had too much rain during basswood for a large yield, the amount from this source

being about 8000 lbs., and of later flowers 9500, making 17,500 lbs. of extracted, and increase 200 swarms; and while many have reported doing much better than this, I am satisfied with the result, as I did better than I expected, which *ought* to satisfy any one. We watched only one lot regularly, but depended on controlling swarming by cropping all old queens, and cutting out cells, and taking brood from the strongest; and yet we are not positive of losing but three swarms. We have one lot ten miles from home; another seven. Having them so far away, and moving all young swarms, kept three of us so busy through June and July that we had but little time to go fishing or play ball.

In regard to the wintering problem: I see that many think they have solved it, and in their particular location they probably have; but should they try some other, it might be they would modify somewhat their present views, as, in my opinion, location has much to do with success or loss in wintering, and that the wintering depends upon the summer's gathering; otherwise, how shall we account for one lot wintering well and another dying under the same treatment a short distance away? It is possible that, by taking all natural stores away, and feeding sugar, they might all be wintered in a season when they would die on natural stores; but as we can hardly tell when disaster is coming, and as it is a big job to take the honey from them and feed a large lot, I have so far taken the chances of their wintering on their own stores.

I take no stock in the theory that we must have them breed late in winter, for I have known them to winter well without feeding, when all honey sources had failed in August.

I have 102 swarms, chaff packed, outdoors, and 250 in cellars. They seem to be doing fairly so far, both out and in. Those out were carrying water in the warm part of the day on several days during November and December. S. I. FREEBORN.

Ithaca, Wis., Jan., 1882.

HONEY FROM BASSWOOD, AND HONEY FROM THISTLES.

THOUGH my report is not very brilliant, and perhaps, also, a little out of season, I will try to let you know what I have been doing the past summer. When the honey season began in real earnest, I found that I had only 30 colonies out of 39 that were strong enough to make a start in the boxes. At the close of the basswood flow of honey I took off 2130 lbs. of nice white combhoney, an average of 71 lbs. per colony, and double increase. They would swarm and swarm; no amount of boxing would control them. I have doubled up and sold down to 66, which I am wintering in Langstroth hives on their summer stands.

THISTLES AS A HONEY-PLANT.

Now, friend Root, allow me a little space to tell the readers of GLEANINGS who have possession of land where our common thistle grows, not to destroy them, for they are a good honey-plant in just the right time. In looking over my bees after the surplus arrangements were removed, I found plenty of brood, but very little honey. Some time near the last of July I noticed that the bees were coming in heavily laden with honey.

"Hallo!" says I to myself, "Mr. Root need not 'klick up such a dust' about one red-clover queen;

why, my whole apiary is of that stamp. I must really go and see that large clover field."

I put my smoker away, and before many minutes I was standing in a field of red. Imagine my surprise to see very few bees. I started home, greatly disappointed. As I got about half way home my silence was broken by a loud humming of bees passing overhead. They led me to a large thistle patch where I found them so many in number that they were crowding, it seemed, to see how many could get one flower. I beat a hasty retreat homeward, well pleased with my two hours' ramble, and with a strong resolution that I would destroy no more thistles. Day by day they gathered their sweet treasures, and at the end of one month the combs were bulged out with a beautiful golden-colored honey. T. C. CRILLY.

Grafton, Lorain Co., O., Jan 30, 1882.

I haven't a doubt of what you say, friend C.; but if you go to recommending thistles, some of the friends wouldn't sleep nights. You see, it would seed the land of your neighbors; and as the common thistle grows a second year, it would be even worse than the much-abused, but comparatively innocent, blue thistle we had such a time about a year or more ago. I have seen bees get quite a little honey from thistles some seasons, but I hardly think it is a very common occurrence.

A TRIP TO JEFFERSON, WISCONSIN.

BY ONE OF THE "BLASTED HOPERS."

CHAPTER I.

MAY 1, 1881, I had but 13 colonies of bees and 3 very weak nuclei in my bee-yard, where from 60 to 100 colonies usually stand. They looked so lonesome, and I felt so blue after my losses, that I determined to buy more if possible. After corresponding with several having bees to sell, and finding their prices too high for my pocket-book, I determined on a trip to Jefferson, the home of the Grimms and many other quite extensive bee-keepers. For the want of a better conveyance, I proposed bringing them home in the lumber wagon. Under the box, rubber springs were improvised by cutting up old rubber boots and shoes, and in the box was placed hard and tough brushwood upon which boards were laid so that the hives would be level. An hour before sunrise, May 30, I was on the road leading north-westward, and, rough and stony though it was, I was intending to do the 30 miles by noon. The morning was pleasant. The team needed no urging, and my spirits rose as I thought that perhaps to-morrow I might be returning with 20 colonies of nice yellow bees to work on the yellow blossoms of the dandelions with which the roadsides were nearly covered. White clover, too, had also begun to show its small pink and white flowers, on which I saw many bees before arriving at Jefferson. As I passed through a small village, two or three men were seen giving their horses water at the town pump. I, too, drew rein and saluted them with a good-morning, which was pleasantly returned, after which they were asked of the prospect for buying bees in that locality. One of them laughed as he remarked, that nearly every one had gone out of the bee business, and, pointing to a house near by, said, "A bee-man lives there, but he has only one weak swarm left from the forty he had in the fall, and he is a sample of all."

I drove on; and as I did so, noticed that there was plenty of basswood-trees in the woods, and many basswood logs lay by the sawmill, ready to be made into boards and scantling. The fences by the roadside, too, were nearly hidden from sight by the rank growth of grapevines, sumac, and crabapple-trees, the latter of which were then in full bloom, giving forth their strong but delightful perfume. White clover was abundant also, so it must be a fine country for bees. When within about four miles of Jefferson, my eyes were gladdened by the sight of a bee-yard, if yard it could be called, for they were in the open lot, and all in one long straight row—40 of them, and all Langstroth hives, and painted white. Of course, I called. The proprietor, a German, like nearly all his neighbors, was very busy putting on upper stories filled with empty combs, from which he proposed extracting the honey when it came. He had a small honey-house near the bees, on the hillside. Under the house was his stone-walled cellar, where he wintered his bees with the greatest success. "But," said he, "I take great care of them. If they are too warm, I open the door and window nights; and if too cold, I warm them with a fire." He showed me the cellar, but it is not nearly so nice as mine, where the bees nearly all died. His bees were nearly all Italians, and very strong, I judged, by the number passing in and out. He said they were then working on the white clover and dandelions. He could not be persuaded to sell any, so I drove on.

J. L. WOLFENDEN.

Adams, Walworth Co., Wis., Jan. 30, 1882.

HOW TO BUILD UP AN APIARY.

AND ALSO HOW TO ITALIANIZE.

I COMMENCED in the spring of 1880 with one swarm of black bees; increased by natural swarming to three, but got no surplus honey. I wintered all; but two came out strong in the spring, and one weak. The weak one was the old swarm, but I soon built them up strong in the spring by feeding candy, as given in the A B C, and I have taken 250 lbs. extracted honey, and increased to ten by natural swarming. One first swarm filled their hive, containing 12 Gallup frames, in just ten days, with comb honey and eggs, and gave me 40 lbs. surplus honey. The hive they came from was a two-story one, with 24 frames in, and the queen filled them all with eggs, and I tell you there were a few bees around when they swarmed.

Buckwheat did not amount to much with us, on account of dry weather; the bees stored surplus only about four days from it.

HOW I INTRODUCED MY ITALIAN QUEEN.

I got her of you; and as it was the first one I ever introduced, I took out all the frames of brood, excepting one with a few bees and the queen, and put them into a nucleus hive. The next day the queen came, and I caged her on the single frame of brood left in the hive for 6 hours; I then lifted the cage, and let her out. The second day she commenced to lay, and I took out the brood combs and filled the hive with them, after the honey had been extracted. I then fed them up till the combs were filled and capped. I now have a rousing swarm of Italians. I wish to Italianize in the spring, and this is the way I am going to do it: I have 9 colonies of black bees, and I shall make 9 nuclei, giving them each a capped queen-cell; when the cell hatches I shall build them

up strong as fast as I can, at the expense of the nine old swarms. I expect, by the time I get the nuclei built up to strong swarms, the old ones will be pretty weak. I will then remove their queens and introduce laying Italians in their stead. By doing this way, I expect to get the nuclei built up strong soon enough to gather surplus honey. I think I can do it, as I shall have the services of two queens to build up with. Do you think my plan will work, friend Root?

C. E. LARRABEE.

Horton, Jackson Co., Mich., Dec. 19, 1881.

I think your plan a very good one for Italianizing, friend L., providing you start the nine nuclei, say some time in April or May. If you keep on with the zeal you show now, I expect to see you have a rousing apiary ere long.

FROM THE BOX-ELDERS.



FEW evenings since, as we were about to call on Mr. Duster, when nearing his residence we heard music, both instrumental and vocal. The sitting-room was lighted up brightly, and through one of the windows which came down to the floor, over which was a partially drawn curtain, we saw the daughter seated at the piano—the father in his easy-chair, and, with instrument accompanying, they were making the whole house vocal with song, while the wife and mother sat by contentedly listening. This scene was just such a one as *can* and *should* be found in every farmhouse in our land, if we will but cultivate a taste for music. There is nothing so restful, after the toils and perplexities of the day; nothing that so "heals and humanizes our distempered natures," and makes our homes lovely and lovable, as music.

As we stood looking at this scene for a few moments, it seemed almost rudeness to do so; while, upon the other hand, we felt it nearly a sacrilege to disturb them. Mr. Duster appeared rather tardily in answer to our summons, and, by way of apology, said,—

"We had got into the *heavy* part of our performance, and as there were only two of us to carry the four parts, it took our whole attention and efforts to do so!"

I looked at him somewhat amazed, that two persons could sustain four parts in music, when he resumed by saying,—

"You see, my daughter played the instrument, and sung; that's two parts, while I whistled a little tenor, and now and then whined a little falsetto for alto, and then came down on the bass for all I had left—singing ourselves away to everlasting bliss, you see."

We found Mr. Duster in a very happy frame of mind; and why should he not be? Soon our conversation led us to our favorite topic—

BEE CULTURE.

"I see," said Mr. Duster, "that almost all who advertise queens for sale recommend them as being of an improved strain—telling how smart they are at the egg-laying business; how industrious and spy their progeny are, getting up early, and going to bed late; crying when night comes when no bee can work, not even the improved sort; great, good-natured, good-looking fellows (?) that 'never, no, scarcely ever,' sting, etc., etc.

"Now, do not understand me as ridiculing the claims of these parties, for I believe in the

IMPROVED BEE,

and I believe, too, we have been improving them for the last ten years; and so I say, let them advertise and give us the good points they claim. No one expects they would advertise that they had got the old 'black boss bee' of 10 or 15 years ago. They would be looked upon as about on a par with the fish-monger who went on the street to sell fish, crying, 'Stinking codfish for sale! who'll buy?' So I say, cry up the good points you think you have developed, and in this way stimulate others to greater efforts in the good work."

I saw that Mr. Duster was in right-down earnest in his belief in this matter, so I suggested that perhaps he had got an improved strain of bees. As he did not respond at once, we looked at him and saw that he was regarding us in a kind of a quizzical, doubtful way, with one eye partly closed, and the other drawing a bead on us across the bridge of his nose.

"Yes, yes!" he broke out, "I've just that. My bees strain every winter to get through, and they make it, too, by jim-in-y!"

"Tut, tut!" interposed his wife, across the table.

"Well, well; leave off the two last words if you like," said Mr. D.; "but it is the truth, all the same. Some of these fellows who winter their bees outdoors will tumble to my racket in the way of wintering, one of these days, and don't you forget it!"

After going thus far out of the way to give his friends on outdoor wintering a "whack," as he called it, he returned to the improvement question again.

"You don't suppose that, after improving the short-horns that we bought of Johnny Bull until he, Johnny, is glad to come over and pay us a good round price for *our* improved short-horns; you don't suppose, after improving our breed of horses" (and here Mr. Duster arose and struck an attitude) "until we have been able to send across the waters such samples as Foxhall and Iroquois, that cleaned out the whole 'caboodle' of 'em; you don't suppose that we have improved the little Jerseys until they are a far better breed in most respects than those first imported, and *we*, after doing all this, can't improve our bees!"

Here Mr. Duster dropped into his chair with a long-drawn-out "pish," that seemed to let out all the wind there was in him. He, however, soon rallied, by saying, in conclusion,—

"Look at what has been done in the improvement of our poultry. Breeds that we imported thirty years ago can now hardly be recognized as the same, so great has been the change for the better. The hen-fever and bee-fever, I wish to remark, are very much alike. I will not diagnose them to prove it, but will simply say, that I have had both, and am myself a living monument of *thirty years'* standing to the fact! It will take time, some money, and a good deal of patience, to bring this matter about; but it's as sure to come as that the future is before us."

R. H. MELLENS.

Amboy-on-Inlet, Ill., Feb. 4, 1882.

Friend M., please tell Mr. Duster, next time you see him, that our friend Merrybanks has several projects in hand that he would like his opinion on, and one is, whether he don't think the "improved bee" would get along faster if bred in his pail bee-hive. They are so much more comfortable, clus-

tered together in a round ball, as it were, and then in the springtime the sun warms up the pail so readily, and dries out all dampness.

FRIEND DEANE'S SYSTEM OF WORKING SECTIONS FOR COMB HONEY.

A SUBSTITUTE FOR WIDE FRAMES AND CRATES, FOR SECTIONS.

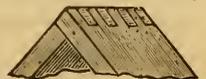
IT does not usually take a bee-man very long to learn the advantages of simplicity and fewness of parts in his appliances for the apiary; and the great favor which the Simplicity hive has obtained is probably owing to its being composed of just two simple parts, bodies and covers. Almost every beginner suggests that a flat board, cleated, would do just as well as a bottom-board made just like a cover; but he soon learns that the advantage of having bottoms and covers exactly alike, and always interchangeable, more than pays for the extra expense. Since our system of gauges, so that Simplicity hives made by one man always fit exactly those made by any other man, have become known, it is now quite common to have single orders for a hundred or more hives. Well, the one-piece section did a great deal in the same way toward simplifying. When there were two or more separate pieces to form a section, somebody was every little while getting too many tops and bottoms, or too few sides, or, as often happened when we had sent them all right, he counted wrongly, and *imagined* he had not got what he should have, which made more trouble, if possible, than the other. Well, not only are all such troubles over, but the one-piece section can be put up ever so much faster than the other; even if a nailed section is wanted, they can be put up faster, for it is a very much easier job to nail it nicely, when every part is held firmly in place while the nails are driven.

Well, the wide frames to hold sections are still made of three different pieces, and the crate that sets over the frames, even the simplest in form, is made of quite a number of pieces. Now, friend Deane proposes to make two simple pieces of wood make pretty nearly the whole of both. Below I give you a cut of the pieces as he uses them.



THE PIECES OF WOOD FORMING THE DEANE SECTION-HOLDERS.

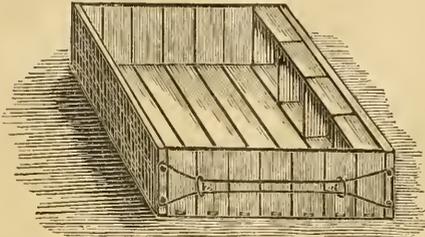
The smallest piece is $1\frac{1}{2} \times 4\frac{1}{2} \times 7-32$. The other is $17\frac{1}{2} \times 1\frac{1}{2} \times 7-32$. You will observe, the former is just the width of an ordinary section in its widest part, and the latter just the width in the narrowest part. The latter is, in fact, only the bottom-bar to an ordinary wide frame. Now, instead of notching them together as friend Deane does, I would put them



together in the usual way of dovetailing, so: If made to drive together hard, they will make a much firmer joint, and yet they can be easily bent back a little, when lifting out the sections. If separators are to be used, they are tacked to these short pieces. I

would suggest, that the prices for these sticks be about \$3.25 per thousand, for the small ones, neatly planed, and about double the amount for the large ones. This will make the four-box case, which it really is, just \$15.00 per thousand. We will now let friend Deane tell how he uses these little cases:—

In answer to the many calls for information in regard to the new Deane system for comb honey, I have taken this opportunity to arise and explain through your valuable journal.



CASE ILLUSTRATING FRIEND DEANE'S SYSTEM.

The arrangement, as shown above, is composed of seven wide cases, holding four $4\frac{1}{4} \times 4\frac{1}{4}$ sections each, and clamped together by means of two thin boards, one on each side of the cases. It will be noticed that there is a wire passing around the screws in ends of the boards, and that this wire has 2 small wire loops around it; now, by pushing these small loops toward the screws, every thing is made so tight that the wires sing like fiddle-strings. Tighten the wires at each end of the cases in the same manner, and you can then handle the cases like a solid box. By bringing the small loops to the center, every thing is made loose, and any one case can be lifted out without trouble. Place strips $1\frac{1}{4}$ wide by $\frac{1}{4}$ inch thick all around the hive, and right on top of the brood-frames, and then set this case right down on the strips. Make all tight by means of these strips, so no heat or bee can pass up from below, except into the sections. When the bees get well to work and you want to tier up, just raise the whole combination, and place an empty one under it; but be very careful to get the cases *exactly* over each other so the bees can pass from one to the other. The cases have no top-bar, and when they are trussed up the sections are firm and solid, being the same width the cases are. When used *without* separators, the whole thing can be sent to market just as it comes from the hive, simply by placing thick paper on bottom and top, and screwing a couple of strips across the top and bottom and into the sides. This arrangement of the new Deane system I use on Simplicity and Star chaff hives, and it leaves about $\frac{3}{8}$ of an inch to spare on the sides of the Simplicity, so you can use the regular body to slip over it, or it can be used on any 10-frame Langstroth hive, or the principle can be applied to any movable-comb hive.



THE HOOP-IRON WIDE FRAME.

This device is made of hoop iron, and will hold two of the above cases, as can be seen by the cut.

Its use is to suspend the cases on each side of the brood-chamber, and when the bees get well to work in them, raise them to the upper story and put empty ones in their places. When the cases are used *without* separators, you must use a perforated metal division-board on the sides of the cases in the *body* of the hive. You can nail separators on the cases, if you wish; but in that case they would not do to send to market, as the cost would be too great. Trusting this system may prove of great value to the readers of GLEANINGS, I remain,— C. H. DEANE.

Mortonsville, Woodford Co., Ky., Dec. 28, 1881.

Now, as we have considered the advantages, it may be well, before going into it too strongly, to look at the other side. The plan for drawing up the frames by sliding the wires, is an old device, and, I believe, was discarded, as being too much bother, and also too frail. Those who have had experience in shipping, know how quickly such devices are torn into bits; and even when handled in the apiary, by ordinary help, I fear they would be all the while "tumbling to pieces." The case costs just about the same as our combined shipping-case, and does not have the observing-glass on each side, either. Two objections present themselves to the hoop-iron frame. The one set us weighs nearly $\frac{1}{2}$ lb., and, at the usual price, 6 cents per lb. for hoop iron, the iron alone costs more than we sell complete wide frames for by the thousand. The other objection is the bottom-bar extending right through between the upper and lower tier of sections, separating them $\frac{1}{2}$ inch further than with the usual way. This latter objection may be, perhaps, done away with; but at present I hardly know how. Now, after all this, I still think friend Deane has made a start in the right way, and that his system will doubtless be adopted by many, and probably greatly improved during the coming season.

WATER FOR BEES IN WINTER.

FRIEND BOOMHOWER ONCE MORE.

CHAPTER II.

IN my letter to you which was published in Sept. No., I stated that my bees were supplied with water during their confinement in winter, and that I thought it was the main point of my success in wintering, and that I would give my method of supplying them with water while in the cellar. As soon as Sept. GLEANINGS was sent out, I began to receive postals and letters from bee-keepers from all over the country, far and near, requesting me to give them my plan of supplying bees with water, and my method of getting 286 lbs. of white honey from one colony of bees. As I was at the time in Vermont, running one of A. E. Manum's apiaries and queen-yards, and also at the same time giving almost daily instruction by mail to my family in New York State concerning the management of my apiary and affairs there, it was beyond my ability to find time to write to GLEANINGS, giving methods and plans. And also after friend Doolittle thought that I was casting shadows upon our old pioneer bee-keepers, I thought that I would not write any more letters to GLEANINGS or any other paper pertaining to bee culture. But I guess friend D. thought perhaps I

was hitting him a little, for I think I have heard that he does not winter his bees very well, and so wanted my shadows to hit Langstroth and Quinby; but, friend D., such was not my intention. But, to return to the water question.

From my first experiment and first winter in wintering bees, I can't tell exactly how it came about, but I got the idea in my head, that bees need water in winter, for I remember, when a small lad, of seeing my brother-in-law's bees go for water when first carried out in spring, and I guess from this I first got the idea of water for bees while in the cellar or winter repository; and as my experience grows, this idea becomes more and more established and confirmed within myself.

One day last spring I received a visit from a gentleman living in the southern part of the town who keeps bees. He had about 40 colonies in his cellar. He related to me that he had taken extra pains to have his cellar very dry, and free from dampness. I asked him how his bees were wintering. He told me that for some time they had been very uneasy, and one day, as he was in the cellar, the idea came to him that perhaps they needed more under ventilation; and as there was nothing handy to put under the hives, he took potatoes; and as his hives were all box hives, and very heavy with honey, the potatoes were somewhat smashed, and the juice from them collected in a little puddle of water. The next day he was again looking at his bees, and every hive that had potatoes under, the bees had collected down and sucked up every particle of moisture that could be obtained from the smashed potatoes. He asked me what I thought made them so eager for the juice from these potatoes. My friends, what do *you* think about it? Does this not look as if those bees were very thirsty? I think it does.

One more point, and then I will drop the water question for the present. About a mile and a half from me is located a bee-keeper by the name of E. Haverly. He has, for wintering his bees, a house partly set in a bank of dry soil. He has it well ventilated, and the air inside, when the bees are in, is very dry—so much so that every thing is fairly dusty; 90 colonies of bees were put in last fall; in the middle of the winter the bees began to get very uneasy, and began to crawl out and drop upon the floor in such numbers that it began to look quite serious. About the first of March, if I recollect right, in the morning of a promising, sunny day he sent word for me to come and help him carry out his bees to give them a fly. I went and helped him do so; and upon looking at quite a number of colonies that were nearly destitute of bees, I found lots of dead and apparently starved brood. All had plenty of honey. What was the cause? I think it was this: That the bees had begun to rear brood, and were in want of some moisture; and as all surroundings were as dry as a powder-house, none could be had, and the bees became uneasy and discouraged, and had left the hives, and dropped upon the floor. Out of the lot, he managed to save about 40; and the most of these were so weak that it took until late in the summer before they could rally so as to be of any use. I believe that Mr. H. has provided water for them this winter, and that his bees are wintering well.

HOW I SUPPLY MY BEES WITH WATER IN WINTER.

As my bees are carried into the cellar, and set in place where they are to remain through the winter,

each hive is raised up from the bottom-board about $\frac{1}{4}$ of an inch, by means of four little blocks of wood. After each and every hive is in place, the covering, or honey-board, is taken off; then I cover over the top of the hive with common cotton cloth, or cheap factory; then I lay the honey-board tight down upon this cloth. After a few days, the moisture from the colony will draw through the cloth, and collect in little clear drops upon the under side of honey-board; and often little drops, like very small peas, will be on the upper side of the cloth, or between the cloth and honey-board. The bees can help themselves to this water at any time, without any inconvenience, or leaving the cluster, as it is only $\frac{1}{4}$ of an inch from the top of frames to the under side of honey-board, and the bees generally cluster over the tops of the frames; so you see that water is always within their reach. When too much moisture collects upon the under side of honey-board, I turn it over, and so keep doing through the entire winter. This water I have often collected and tasted. I find it to be as clear and pure to the taste as good spring water. Some colonies gave much more moisture than others. The fewer the bees, the more moisture is given. The cloths never get wet or damp, but are always dry. I never give any upper ventilation. It don't agree with me or the bees. I never have any moldy combs in spring, nor do I carry out any dead colonies, and but few dead bees upon the bottom-boards. I have 25 colonies under ground, covered up tight with from six inches to one foot of earth, with no ventilation except what can pass through the ground packed tightly over them. In the spring I will report how they come out.

HOW I GOT 256 LBS. OF HONEY FROM ONE COLONY.

The reason that I got this amount of comb honey in such a very short space of time was this: The colony had good care, lots of bees, did not waste their time swarming, or preparing to swarm, for the reason that they had no queen in the hive, nor material to rear one from, and that they had perfect surplus arrangements. As this was only an experiment, I will not yet give to the public how I managed this way of preventing swarming; but so far it has worked well, and the two colonies that I experimented with gave the largest yields of honey of any in the yard.

I wish to say, through GLEANINGS, that whoever wrote to me for information concerning what I have written in this chapter, and did not get an answer, will please excuse me for so doing, as I was then overrun with work, care, and anxiety.

In Chapter III. I will tell you how I stir up my bees in winter, and whether it harms them or not, and also something about buckwheat and its cultivation, and mellilot clover. FRANK BOOMHOWER.

Gallupville, Scho. Co., N. Y., Feb., 1882.

It would seem from the many facts in this direction, that bees do need a little water occasionally, when wintered in the cellar; but I really do not see, friend B., that your plan of giving it to them is materially different from that of a good many others. You simply stop most of the upward ventilation, and take the chances of the condensation furnishing just enough and no more. I think this would be greatly dependent upon the temperature and dryness of the cellar.—Your plan of getting an extra crop of comb honey by making the colony queenless at just the right time, is essentially the same as the one

suggested by some of our York State bee-keepers. If I am right, it works sometimes, and at others it don't. Did you not have fertile workers, and hordes of these useless drones, as a result of keeping them queenless, with no means of rearing a queen?

CYPRIONS, ETC.

HOW THEY WINTER.

I HAVE been experimenting with bees, and reading up bee literature for a few years, but have had no honey. Commenced with black bees, but the moths crippled them, and the robbers cleaned me out last spring. Last June I bought two nuclei of Cyprians, of three combs each, one in a Langstroth and the other in what is called here a Mitchell hive; filled both with frames furnished with fdn. In an incredibly short time both hives were filled with bees and honey, and they commenced storing a surplus, when the drought closed their labors in that direction. I left them, for the winter, on their summer stands, setting up a few boards, to break off the north and west winds. The Langstroth had its honey-boxes on, and the other a super, with three frames, the ones immediately below them being uncovered. I was careful not to disturb these upper arrangements after the close of the propolis season, as the bees would not then be able to shut off upward ventilation. Remembering Mr. Langstroth's experience, I provided them with a large amount of downward ventilation, the Langstroth having an entrance of $\frac{3}{4}$ of an inch, the width of the hive, and the other $\frac{7}{8}$ by $\frac{3}{8}$ inches. Yesterday they cleaned out their hives, and are very busy to-day cleaning each other off. There were but few dead bees in the Langstroth, and about three times as many in the other. Both hives feel about as heavy as they did in the fall.

The Cyprians are certainly great honey-gatherers, and their courage and pluck are simply wonderful. I no longer fear either moth or robbers. While very carefully handled, they are as gentle as kittens; but upon the slightest false move they boil out and "pitch in." Smoke is of little account, as they make no provision for retreat, ever ready "to die" upon the wound, and leave the sting behind. I think they are just the bees to keep for storing honey in boxes or glasses above, and, for this purpose, I will change all my hives to Langstroth. This will require but little handling of them; and while my sheep are lying in the shade in the heat of the day, I can hive the swarms that come out — if they will let me.

I want some of those "flat-topped glasses," represented on page 61 of GLEANINGS, when you get them; and, also, with them a pair of gloves, which latter, surely, is admissible in handling, ever so little, these spunky little yellow jackets.

In former years this was a "land of honey," and may be again. C. S. CALLIHAN.

Jem, Clark Co., Mo., Feb. 6, 1882.

And this reminds me, friend C., that the strongest colony in our apiary is the Holy-Land one we have mentioned. They are almost the only ones that are wintering on natural stores, just because they had abundance of stores without any sugar feeding. Well, as a matter of course they spot their hive, while the others do not; but for all

that, they are still the strongest colony in the apiary. With 200 all like this one, I almost feel as if I could supply the market with bees by the pound, without buying any, even if friend Burch does not come forward and help at all this season.—So, friend C., you are expecting to avoid the stings by using large glasses and gloves. I presume you will let the glasses stand on the hives until the frosty weather has driven the bees all out of them, and then you can quietly march off with your spoil. To do this, you will need to set your bell-glass on a thin bottom of wood, having only one opening in the center. When it is to be lifted off, just revolve the glass around this center, and it will come loose quietly, and can be raised without irritating their "majesties." A house apiary would be beautiful for this work, and it would then be a splendid place to show to visitors. I have submitted the glasses to two glass-factories for prices.

CASTLES IN THE AIR, ETC.

PLANNING YOUR WORK FOR THE COMING SEASON.

ON reading Banner Apiary Notes in Feb. No. of GLEANINGS, I see that there was some one else besides myself going after that "forty-colony" craze. Somehow it makes me think that I have something on my mind which seeks an outlet in GLEANINGS. On turning to my note-book I find the following under the head of specialties:—

"Select six best colonies, and make three divisions of the same. No. 1 to be run for comb honey, as that is the oldest method of obtaining honey from bees. No. 2, for extracted honey, the next step in order after comb honey. No. 3 for that 'bonanza,' eighty colonies from the two, although I do not expect to get much above one-fourth of that number, which will be doing very well, if I could realize six dollars apiece for the twenty in the fall, providing expenses were not too heavy. If I were in the queen business I should have a No. 4. As it is, I shall leave that to W. Z. Hutchinson or some one else."

Now for No. 3, as reviewed from notes.

HOW TO INCREASE TO THE GREATEST NUMBER OF GOOD COLONIES POSSIBLE.

I will speak of only one colony, as an illustration. Keep the colony together until the hive seems a little crowded; then remove three frames with adhering bees, two of sealed brood, one of eggs; place them together with one empty comb, in an empty hive on a new stand. If there does not seem to be bees enough at No. 2, shake one or two frames in front of it (a good many bees will return to the old stand, so be sure to have enough); leave queen at No. 1, and fill vacancy with empty combs or fdn. Now give to No. 2 a queen-cell about ready to hatch (these queen-cells I shall take from other colonies, for the reason that, if I were running enough colonies on the principle of "make as many as you can," one colony would furnish queen-cells for a number of new ones); let them remain in this state until No. 2 has a laying queen; then add 3 more frames of brood and bees from No. 1; this would give to each, seven frames of brood and honey. Fill space in each hive as before. In a few days the same can be gone over with, working on both No. 1 and No. 2, which should be kept about equal in strength; and

so on through the whole season. By the above method the laying queens are always kept in a full colony, where they can do the most good. "In union there is strength; in division, weakness." One queen in a strong colony will produce more eggs than two queens in two weak ones.

TAKING NOTES.

Perhaps my method of reading bee journals will be new to some. On sitting down to read a bee paper I do not try to take it all in at one mouthful, but "bite" off what I can "chew." With pencil and note-book in hand I commence reading; when I find anything that I want to remember, I put it down under the heading it belongs to. Headings read something as follows: Wintering; Hints on handling bees for comb honey; Uniting colonies; Introducing queens; Work to be done this winter, etc. I find after pursuing this course for a short time, I have a complete A B C, or bee dictionary. Very often the note gives only the No., page, and heading of the article in reference. If every beginner would adopt the above plan, he would save to himself a large amount of anxiety and worry, besides a great many blunders and losses, and, if I am not mistaken, a good many of Mr. Root's postal cards, to say nothing of the time consumed in writing them.

SEPARATORS TO BE USED BETWEEN BROOD-COMBS.

I do not remember of ever seeing the above mentioned. If any one has used them, will he please state with what success? I have had a great deal of trouble in getting foundation drawn out evenly, when hung by the side of an empty comb—the bees bulging the latter so much that it prevented getting a perfect comb from the sheet of fdn.; also necessitating the trimming of the bulged comb. I presume others have had the same trouble. Now, it occurs to my mind that, to use a separator of thin wood about three inches wide, hung between the two, would make every comb as smooth and neat as section-box honey. To make the separator, get out pieces the right width, and one inch shorter than the hive it is to be used in. Clasp the ends with folded tin, one end of which has been clipped and turned back to form the projection, and you have it. When finished, it should hang about half an inch below the mat covering the frames. L. D. GALE.

Stedman, Chaut. Co., N. Y., Feb. 9, 1882.

Your plan of increase, friend G., is exactly the one I pursued in increasing 11 to 48 in a single season. At present I do not know of any better way, including, of course, the aid of empty combs, or fdn., and the lamp nursery for hatching the queens.—Professor Cook, at the convention, suggested a similar way of taking notes, and I think it is by all means to be commended. You will observe that GLEANINGS has broad margins, and the paper will admit of writing nicely and plainly on it, with ink.—You will find, in the first volume of the *American Bee Journal*, exactly your plan for getting straight combs, given by Mr. Langstroth, with illustrations, over 20 years ago. He used sheets of both tin and wood. Notwithstanding this, the Patent-Office afterward granted a patent on tin separators for getting straight combs. The plan was abandoned, because it took up so much room in the heart of the brood-nest, and because the bees would often swarm out and desert such hives.

WINTERING ON SUGAR.

ABSENCE OF POLLEN, ETC.

JANUARY 23d the mercury fell as low as 12° below zero. It gradually got warmer up to the 27th, on which day it was 60° in the shade at noon, and the bees had a regular jubilee. I made an examination of all my colonies; laid out the packing, which is rye straw and lawn-mower clippings, etc., and let the sun dry out all the moisture; looked to see if there were any dead bees on the bottom-board, and see if they had enough stores, etc. Well, I found them in good shape. Two-thirds of them were fed last fall on thick coffee A sugar syrup; and they did not have a grain of pollen, so far as I know. When I looked at them they did not have any brood either; neither did those that had pollen. Those that were fed on sugar were some I got in the country, and saved from being brimstoned. I put several of them (seven in one instance) into one hive on full sheets of foundation. I mean to test the point, whether it is possible to rear brood without pollen. My hive is similar to the Doolittle, so arranged that I can pack five inches all around the brood-chamber.

MEASURING BEES' TONGUES.

Will you or Prof. Cook tell us the best way to measure the length of the worker's tongue? Why should we not try to breed a race of bees that can get the nectar from the most thrifty red clover? I think that, with the required skill and energy, this can be accomplished.

In the matter of

DRAWING OUT FOUNDATION,

it has been my experience that the black bees are ahead. Last fall I had a colony of Italians that I feared were not strong enough for winter, as they covered but four Gallup frames. I turned in a colony of blacks with them, and put three full frames of foundation in the center. Two days after, I found nearly all the blacks on the foundation, drawing it out in nice shape, and but few Italians among them. The latter were lounging around in a sort of lazy way on the other combs.

According to my notion, the

SHEPARD SWARMING-BOX

is far superior to the improvement of Rev. Mr. Jones (see page 78). The "improvement" has too many places for limbs, etc., to catch on; and if I got the bees in it, I would be afraid a stray limb would tip it up, and throw them all out again before I got them to the ground. J. S. HOFFMAN.

Williamsport, Pa., Feb. 6, 1882.

At the convention, Professor Cook had a queen-cage which he said was the one used in measuring bees' tongues. You can doubtless get one from him on application.—The matter of taking bees that are to be brimstoned, and wintering them on sugar and fdn., is quite an important one. Let us see to it, that no more bees are brimstoned in this fair land of ours.—Is it not possible that your black bees were young ones, and the Italians old, that made the difference you mention? I am inclined to think we shall find there is no great difference in the two races in working fdn., only that certain stocks will go at it with much more vigor than others. The extra energy of the Italians would seem to make them go ahead, as a rule, I believe.

Heads of Brain, From Different Fields.

I AM thinking of moving to Southern Dakota in the spring, and if I go I should like to take my bees along with me. I have three colonies in chaff hives, which I got from you, and I wish to know the best way to arrange them for shipping 50 miles by railroad. Will there be danger of combs breaking down? and if so, how can I prevent them from doing so?
W. PLATTS.

Davenport, Iowa, Jan. 23, 1882.

If you adhere strictly to the following, friend P., I think you will get your bees through safely: 1. Move them when the weather is moderate, when the combs will be in the best condition for shipping, and the least danger of the bees being injured by heat or cold. 2. Leave only 9 combs in the lower story of chaff hive; space them evenly, and fasten them securely, by placing sticks between the ends of the frames from top to bottom, making the last one wedge tight; nail a piece across the top of the frames at each end. 3. Fasten wire cloth over the entrance and top of the hive, giving the bees the upper story to *play in*. It would be well to go on the same train, and look after them a little.

PLANTING POPLAR-TREES.

A great many of your readers have waste land that is uncultivated, and is doing them no good, while they could, with but little cost, plant it in poplar, and within a few years the land, for the timber alone, would be greatly enhanced in value, to say nothing of the vast amount of honey it would yield. There are trees near me not over eight years old that are fully 10 inches in diameter, and have been blooming 4 years. With these considerations, together with the fact that the trees can be bought at \$1.00 per 100, I think the subject worthy of your calling attention to it.
CHAS. KINGSLEY.

Greeneville, Tenn., Jan., 1882.

HANDLING BEES IN WINTER, ETC.

Can you tell me if bees need attention? Does looking into the hive at any time do them injury or benefit, when all seem quietly asleep this cold winter weather? In other words, what is to be done for bees this month and next? I wish some bee journal as good as GLEANINGS would tell the A B C class what to do each month, or a synopsis of what may be done each month. It would satisfy some very much.
L. C. DONNELLY.

Vermont, Col., Jan. 17, 1882.

While I am not *sure* that it harms bees to remove the cushions and take a look at them in cold weather, I would rather advise that the hives be not touched, when the weather is too cold for them to fly.—I have often thought of monthly directions; but you see GLEANINGS goes all over the world, and the directions for you would not do at all for our friends in the South, to say nothing of those the other side of the equator. Even if it did, much of it would be a repetition of the A B C, or of former years. Nevertheless, I will try what can be done.

WANTED—A PROCESS FOR MAKING DARK HONEY LIGHT.

I find, in selling, that white honey will sell twice as quick as dark, and at a far better price, even if the dark is better in flavor and quality. I consider it, therefore, of great importance to bee-keepers to find a way by which they can convert their dark extracted honey into white. It seems to me that scientific men, thoroughly posted, might find an easy, practical way (that is, practical to the bee-keeper) to convert the dark honey into white, without destroying the flavor or any of the good qualities, if a sufficient inducement were offered to them. Now, I think you should discuss this question in your journal; and if you can find 99 bee-keepers who are willing to offer \$5.00 each as a premium to any man who invents such a practical way as above stated, let them pay the \$5.00 into your hands and I will send mine, with the understanding that you offer the \$500 so received as a premium to any man who will fill the bill, subject to your decision, that the process wanted is practical for the use of common bee-keepers, that it is simple, and that the honey passing through this process will become as white as basswood, without losing any of its flavor or any of its good qualities.
CHAS. H. GROTE.

Mauston, Juneau Co., Wis., Dec. 20, 1881.

Thanks, friend G.; but I hope you will excuse me for being a little incredulous as to the possibility of any such process, without adding any thing to the honey that would subject us to the charge of adulteration. Also, if I am right, dark honey usually has a flavor rather inferior to our light clover, basswood, and sage honey.

HOUSE APIARIES.

Five years ago I visited your place, and took my first lesson in bee business. You then had a house apiary full, or nearly so, of bees. I would like to know if it was a success, and whether you have one or more.

HOW TO GET BEES FROM WIDE FRAMES, IN TAKING OUT SECTION HONEY.

Take a box 2 feet high, and long enough to hold 20 or more frames, they to be half an inch apart. Make the box wide enough so the frames will just hang in the top; then take any metal dish, put in fire and rotten wood, enough to make a good smoke; set this in the box, and you are ready to take out honey by the wholesale. Bees are driven from the frames at once, and you can keep one man busy carrying honey. No trouble with bees clustering on, and uncapping the honey; no danger from robbers, as your hive will not be open long enough for them to get a start.
L. U. TODD.

Vermillion, Erie Co., O., Jan. 28, 1882.

Our house apiary is now vacated, friend T.; but we propose to stock it up again as soon as we can get bees enough ahead to spare. It is not as pleasant working with bees in it, as in the open air, and our bees, you know, are all pretty thoroughly worked.—If your box were carried right beside the hive, I can readily see that it would be a pretty good thing, for the bees would have but little time to uncup the sections while you were lifting out the frames full, and placing them in the "smoky box." Many thanks for the suggestion.

MAKING THE BEES BUILD OVER THE TIN BAR, IN THE WIRED FRAMES.

In putting foundation into wired frames, I tried the experiment of cutting each sheet into two equal parts, and then lapping one half on one side the tin center-bar, and the other half on the opposite side the bar. By this means I induced the bees to build the frame full the whole length, and not to leave a space over the bar. This is but little more work; takes no more foundation, and makes a much nicer-looking comb, than by putting all on one side the bar. I tried it with six frames, and found them all well filled out. The idea is new to me, although it may not be new in itself. If considered of value, let the friends know of it in GLEANINGS. I like, if I have any thing I think good, to let the world know it.

J. E. POND, JR.

North Attleboro', Bristol Co., Mass., Feb. 2, 1882.

Thanks, friend P., for the idea. When honey is coming in briskly, we have no trouble in getting the bees to cover the tin bars completely; but at other times they do build out the fdn. on the side where it covers the bar, and leave the other. Your plan will fix it nicely. And, by the way, you have started another and very important matter. Rubber plates, to fill a frame complete, are pretty heavy to handle, and rather expensive. One to make a half L. frame full, would be quite pretty to handle, and could be worked perhaps enough more rapidly, besides the smaller expense. I will at once see to getting some out for a half L. frame. The query may come in here, Why have the tin bar? I would have it, my friends, because it enables us to make a frame very much lighter, and, as a matter of course, with a much greater area inside for honey-cells. Our wired frames are made of such light strips of pine, that we are enabled to dispense with a great amount of heavy wood that has heretofore encumbered the very heart of the bee-hive.

DOLLAR QUEENS.

As complaints are continually made by parties interested, doubtless, in keeping up high prices, against the dollar-queen business, perhaps a few words in reply will be permitted from a buyer and producer of queens who does not sell any. A few years ago, in the National Convention, a speaker, deploring the degeneracy sure to result from the low price of queens, asked what would become of our herds of choice cattle and sheep, if bulls and rams were offered for a dollar! The reply was, that if bulls and rams could be produced for one dollar, they would sell at that, or nearly that price. Now, if such parties would but reflect, they would see that an untested queen can be sold much cheaper than one kept till its progeny appears; also, that some men have a greater aptitude for such a pursuit than others, and can therefore produce good queens much more cheaply than others. So long as careful breeders are content to furnish untested queens at one dollar, or even less, and claim that they can make more money at that than in honey production, who should complain? It is true, that careless, shiftless men may sell queens not properly reared; but may not that be done at three dollars, and more to the injury of the buyer, than by him who sells at one dollar? That good queens may be reared for one dollar, is now beyond question. The public, by patronizing

those who do the best, can regulate this matter in a far more satisfactory way than by trying to create a monopoly.

J. W. PORTER.

Charlottesville, Va., Feb. 4, 1882.

GOOD FOR TEXAS.

There are some stocks kept here, but mostly in old cross-stick hives; but the yield of honey is good. One old-style bee-keeper has sold 4000 lbs. of honey this last season (1881), from 125 stands. In February, 1881, I bought 6 hives — 4 in Simplicity frame hives, and two in cross-stick; transferred the latter, and increased, by natural swarming, to 17 hives; used an extractor, and obtained 500 lbs. of honey; sold at 12½¢; sold all the hives for \$40.00 (their first cost was \$18.00), and bought Italians to stock up with this year. I think the investment paid me 100 per cent. My bees are gathering some pollen now — the first about a week ago.

West Falls, Texas, Jan. 28, 1882.

S. A. ELAM.

BEE-MEN AS A CLASS.

In all conscience, there has been enough said in the Burch matters. One well-authenticated case of such treatment as Mr. Merrick narrates in the last number ought to stamp any dealer as unworthy of confidence. I think every business man will say that. No professions in the column for "square men" can relieve a man from a stain of dishonesty. A man is either honest or dishonest. Every man can tell which class he belongs to, if he will give the time for study. To be sure, it is human to err, and it is divine to forgive. Few just, right-thinking men, would refuse to pardon an error or forgive a wrong, if that error or wrong be acknowledged, and forgiveness asked. What excuse *can* there be for such conduct? A man may be embarrassed, but he need not be dishonest in consequence; and what else is any one who receives and appropriates money to his own use which belongs to another, which was intrusted to him for a specific purpose? The bee-keeping fraternity will compare favorably, so far as my varied experience goes, with any other for probity and liberality. The sooner we are freed from impostors entirely, the better it will be all around.

J. W. PORTER.

Charlottesville, Albemarle Co., Va., Feb. 4, 1882.

NECESSITY OF VENTILATORS FOR CHAFF HIVES, ETC.

Last fall I went to work and made chaff cushions, and packed my ten colonies of bees all down snug for a long winter, overlooking entirely any escape for dampness, supposing the chaff in those cushions would absorb all moisture that might arise from the breath of the bees. To-day I went to my library and stood for a moment to choose some book of interest. I finally took up the little red cover, A B C of Bee Culture. As I intend to make all chaff hives in the spring, my attention was drawn to that subject on page 97, "How to make the gable ends." No sooner had I read this than I said to Mrs. B., "I must see to my bees," and that I had just been reading in A B C we must not omit ventilation in chaff hives. I threw the book down on the table, and as the day was very mild I went to work at once. I found the nice new cotton chaff cushions rotten — not only the cloth, but the chaff too, which looked more like manure than chaff. One or two were all right. I soon took off the miserable wet stuff, replacing it with fine hay, as I had no chaff. I may not have done right; but this I know, it is fresh and dry; the bees are all booming, and look as slick and clean as in June.

Now, had you not put that clause into the book, it is not likely I should have attended to the bees until April. I regard it as a timely warning. I am intensely interested in the little workers. They have done well for me. From every dollar I have invested thus far, I have received *four* in return. My best hive made me 106 lbs. in the 1-lb. sections last season, which I sold at 20 cts. per lb. I paid only \$4.00 for the colony in the spring. In the fall I gave 68 lbs. of honey for four good strong colonies, and each as much as one could lift. Thus far they are wintering well — no dead bees of any consequence in any of the hives.

C. S. BURKE.

Albion, N. Y., Feb. 6, 1882.

HOW TO KEEP SQUARE.

Place me along with the "square men," every time. Why! I expect to live *eternally* with that class of persons. Here is one way I have been trying to keep square with every one for two years past: Upon receiving an order from a customer, I "book" his order upon his envelope, and leave his money, postal order, or draft, with his letter in the envelope, until his order is filled. If I can not fill the order at once, he is informed; and if he wants his money back, it is returned as he sent it, postpaid. I have no right to use it until the order is filled. This saves getting a new order, and prevents bankruptcy (?).

QUESTION.

I should like to ask Mr. George Grimm how he controlled natural swarming in his five apiaries, with one assistant. I am thinking of establishing a new apiary this spring.

AT HOME.

While we were reading in Mr. Frank Benton's article about his "little prize queen" that came to his "home in Cyprus," Sept. 5th, my dear wife looked up with glistening eyes and said, "That was the same day that our little Victor was born"—a bright, ruddy little "king-bee," or bee king, as he might have become. But, Mr. Root, we hope some day to know why it was best that the angels should come and take him home just as our hopes had become almost unbounded.

OLIVER FOSTER.

Mt. Vernon, Iowa, Feb. 7, 1882.

EXCREMENT OF THE BEES IN HEALTH.

One bright sunny forenoon in Feb., 1880, my hive of bees (blacks) were taking a flight, after having been confined for a long time. I was perched on our grape-arbor at the time, about 15 ft. from the ground, trimming the vines. A bee alighted on one of the slats of the arbor, not two feet distant from the tip of my nose, passed its excrement, and flew off again. The excrement, which, I judge, was over $\frac{1}{2}$ inch long, looked, in shape, like that of a dog (on a small scale, of course); as the bee was voiding it, the end broke off and rolled from the slat, which is fastened to the arbor slantingly; the remaining piece of excrement also rolled from the slat, when the bee had finished. At that time I was only a beginner; and although I watched the proceedings closely, I did not know that this was something about which there was any uncertainty.

F. HAHMAN, JR.

Philadelphia, Pa., Feb. 9, 1882.

BEES IN A GREENHOUSE.

Do I understand that friend Merrybanks, in Feb. GLEANINGS, had more than one hive in one apartment? Is there no danger of bees getting in wrong

hive or fighting? I shall put two hives in my greenhouse the 1st of March, for an experiment. What temperature should the house be so that they can work *fdn.* inside the hive? It was an open winter here, until about the middle of January. Now the hives are completely buried in snow. All right Jan. 26th. Two nights in January the thermometer went down to 25° below zero, but they came through it.

CHAS. O. MELOON.

Portsmouth, N. H., Feb. 7, 1882.

Your humble servant had three colonies in a greenhouse, or under glass, and all returned to their own hives just as well as they do outside in the summer. Let the temperature run up until they begin to fly pretty freely, and then hold it there. Give plenty of fresh air, and they will, after they get a little used to the surroundings, work all right.

WINTERING WITHOUT POLLEN.

Bees are apparently wintering all right in Root chaff hives. No good free flight since Dec. 18th. Those without pollen keep the quietest, and have the fewest dead bees, and this was our experience last winter. We have several stocks without pollen; and if these are the strongest, when we get clear "out of the woods," then good-by pollen for wintering, as far as our bees are concerned. Last winter, one stock which we put up with but very little pollen never showed a live bee at the entrance, from some time in Nov. till the 19th day of March (when they had a good purifying flight), sent out a good strong swarm on the 27th day of May, which, so far as we could learn, was the earliest swarm in the county.

G. W. JONES.

West Bend, Wash. Co., Wis., Feb. 6, 1882.

A SWARM THAT WOULDN'T BE "BOSS'ED."

I sometimes get "bee on the brain." As there is no rush of honey or swarming [cold, and 10 to 12 in. of snow], I wish you or some apiarian to look over the following, and see if any one has had like torment or experience. June 15th, large swarm issued; did not cluster, and went back; I supposed the queen was lost. On the 24th, out again; returned as before. July 6th, alighted on a cherry-tree; very cross; used water freely; went in hive nice; in about an hour they commenced coming out slowly, and going back until all were at their old home. On the 10th, out again; hived them; they did not stay; about one-half went back, and the others clustered again; put them in hive, and about half of them came out and made an effort to leave; the queen and part of the bees remained in the hive, and the most of the others went to the old hive. On the 12th, I put them in hive; went back as usual; 15th, hived them; came out, and alighted again; hived again; came out, and struck for the mountain, and I was glad of it, as they were mean, small, cross hybrids. I have had bees for 55 years, and was always "boss" until this swarm got ahead of me. I never had many; 89 is the highest at any one time.

THOS. G. WILLIAMS.

Shartlesville, Berks Co., Pa.

Why, friend W., yours is the old-fashioned way of managing, it seems to me. I have had colonies try to act the same way, but I soon cured them by dividing them up small, and making them rear queens, or do something else useful. I believe putting colonies

back is not a very profitable way of doing, in any case. If they stay, they seldom work much; and, if I am not mistaken, it is generally thought better to humor them enough to give them a new place to work. If a colony goes out, and then comes back to the old hive, I would take it as an indication they were dissatisfied, and I would divide them at once. Give the discontented bees a new hive, with a comb of unsealed brood, and just as soon as you can see queen-cells started on it, give them a queen, and then, if you like, give them all the brood from the old colony. You see, you can by this means make a good colony of Italians out of "the meanest hybrids" you ever had in your apiary. Never let a colony waste its time as you did, in any such "foolishness." The bees you mention might have stored nearly, and may be quite, a hundred pounds of honey, while they were engaged in swarming out those eight times.

"WHOPPERS," ETC.

I had almost made up my mind not to take your journal. You would say, "Why not?" Well, because some report such—such—such—"whoppers," that I think I am nowhere in the business. But for all that, you will find inclosed one dollar for GLEANINGS. Send it on. I like to read big things. A little about my experience with bees: In the spring of 1879 I bought two swarms. In the fall I had five, wintered in the cellar. In the spring, they were all dead. I then bought three in the spring of 1880; that summer two swarms went to parts unknown. One I lost by transferring, which left me six. Last spring found me with 4—one so weak it gave but little surplus. The three, by artificial and natural swarming, increased to ten. I have now 11 that I call good, and had about 260 lbs. of cap honey. I winter them on their summer stands, in dry-goods boxes, packed in chaff. I am waiting for spring.

JACOB SNELL.

Frey's Bush, Mont. Co., N. Y., Jan. 9, 1882.

Now, friend B., you must keep right on, and presently you yourself will have a "whopper" to report, and then you will feel better, you know.

CHAPMAN'S MACHINE FOR PIERCING FRAMES FOR WIRES.

Having, the past two seasons, demonstrated the superiority of wired frames over the unwired, I have come to the conclusion to use no other kind. Since the adoption of very fine *tinued* wire (No. 30 is the best), we have no more of the trouble of brood being killed where the wire passes through the comb. But if the wire is not in the center of the frame, and, consequently, of the comb, then we have trouble; hence the importance of having the holes pierced exactly in the center of the top and bottom bars. With those who, like you, have steam power, it is cheapest and best to pierce the holes before the bars are ripped out; but as the majority of bee-keepers have not the facilities you enjoy, and as the labor of piercing the frames by hand is considerable, as well as very slow, which is quite an item, and as it is almost impossible to punch the holes correctly, I think I am doing the brotherhood a favor in calling their attention to the "bar-piercer" invented by F. B. Chapman, and described by him in Oct. No. of GLEANINGS, 1881, page 479.

After piercing by hand over 2000 bars, each having six holes, I concluded there must be some better way to do it; and remembering the description given above, I asked friend C. to make me one of his piercers, as I confess I was not (without one to work from as a guide) equal to the job. He did so, and I have found it all and even more than he claims for it. It is simple, effective, practical, accurate (which is one of its best features), and easily manipulated. A boy of ten years can work it with ease. I pierced over 600 bars with it in one hour, without fatigue. It can be arranged to fit any frame, to pierce any number of holes desired, at one operation. Frames can be pierced after they are put together, though it is better to pierce the holes first. I could say much more in its favor, but you "don't want long articles." I do, however, advise all who make or use wired frames, to get or make one of Chapman's bar-piercers, and I am sure you will thank me for calling your attention to it. E. T. FLANAGAN.

Belleville, Ill., Feb. 1, 1882.

DAMPNESS; HOW TO BANISH IT FROM BEE-HIVES, OR ANYWHERE ELSE, IN A "TWINKLING."

I proceed to give my plan for wintering bees. If strictly followed, I would be willing to pay all losses. In the first place, make bricks of common red clay, two inches thick, and just long and deep enough to fill the hive, and use them instead of division-boards. Of course, the bricks must be burned like those for building purposes. Now make bricks, of the proper length to cover brood-frames; these bricks must be slightly arched in the center, to allow the bees to pass over the frames; now have your hives so constructed that you can remove the bottom-board. Place your hive on a floor of hard brick; that is, not directly on the ground—say on rocks or wood, and have your bees surrounded with hard brick, and I guarantee that no moisture can ever be in the hive, for each one of these bricks will absorb nearly a quart of water, without showing the least signs of moisture. I learned this idea from putting hard bricks in large bulks of wheat, or damp corn, to save the trouble of sunning. Now, if any of the friends don't believe this, just put a few hard bricks in damp wheat, and see if it don't absorb all the water very quickly. This will never be patented, for it originated with me, and I shall not charge anything for it. I give it to bee-keepers and wheat-growers, hoping thereby to be of some benefit to my race, and nothing more.

Atlanta, Ga., Jan. 23, 1882.

A. S. SMITH.

Friend S., I feel more sure you have given us something of great value for many general purposes, than I do that it is just the thing for bees. You know we have had several articles of late, strongly favoring the idea that bees need water in winter. I am sure it would effectually do away with the dampness; but I do not know how long it would take the bricks to get saturated, so they would have to be dried out. Take a piece of porous sandstone, during a hot dry spell, and by pouring on water slowly from a pitcher, you will find the stone will take up almost its own weight of water. Bricks slackly burned would be comparatively warm to the bees, and would take up an enormous amount of water, without question.

WHAT 36 WEAK COLONIES DID.

I started in the spring with 33 very weak swarms. I had old combs to supply 15 or 20 new swarms. I ended up in the fall with 88 swarms; sold 5, put 83 into winter quarters in fair condition, not overstocked with bees, but, I think, with plenty of honey. I sold 1500 lbs. of comb honey, and from 15 double hives I extracted 1000 lbs., making in all the yield of 2500 lbs. of honey. My extracted honey I put in one and two lb. jars; sold at home market for 16 and 20 cts. per lb. wholesale; retailed at 20 and 25 cts.

DR. JOHN MAXSON.

Whitewater, Walworth Co., Wis., Feb. 1, 1882.

DIARRHŒA, OR DYSENTERY — WHICH ?

I notice in several of our bee journals a discussion of the dysentery question. I have looked in vain for a characteristic symptom of dysentery. While it may be true, that a "rose by any other name would smell as sweet," yet dysentery and diarrhœa are different diseases. The first is a specific disease, and has a specific cause; and if we may judge by analogy with the human species, must have an atmospheric or bacterian cause. Diarrhœa may be caused by over-distention, improper food, poor ventilation, exhaustion from starvation, unnatural food, etc. Would it not simplify this discussion, in attempting to find out the cause and remedy of this disease that is decimating our apiaries, by calling it *diarrhœa*, and then looking for the cause in some improper food or condition of the bee? We can readily understand how over-distention, moisture, fermented honey, or bee-bread, or their being compelled to live on bee-bread, might produce diarrhœa; but we are not ready to adopt the "*de novo* bacterian theory," that the above-named causes must generate bacteria, and thus be a cause of dysentery — at least until the microscope demonstrates that the disease is dysentery. I make these remarks in aid of the diagnosis and cause of the disease. Give us the cause, and the remedy will be found.

W. R. S. CLARK, M. D.

Bluffton, Ind., Feb. 6, 1882.

A good point, friend C.; and the idea of it, as I see it, is whether the bees have something like the smallpox that is catching, and might be cured by vaccination (?), or whether it is something like the troubles we have in the summer, when we have been imprudent in eating green stuff and the like. I would suggest, that, as it seems pretty well conceded now that a healthy person is much less liable to take even contagious diseases, our treatment of the bees would be pretty much the same in either case; viz., to keep them in the best health possible by having many bees, much pure food, and pure air.

BEES AND GRAPES.

We publish the following by request: —

At the annual meeting of the North-Eastern Beekeepers' Association, the question of bees puncturing grapes was brought up. This is important among bee-keepers, and it is one over which legal difficulties have often been threatened. It was the unanimous opinion of all present, that honey-bees never, under any circumstances, puncture the skin of a grape. Tests have been repeatedly made, and in no case has any bee ever been known to touch a grape that was not punctured. Black ants are the enemies of the grapes. Two bills were introduced in the California Legislature to do away with all bees on this account. A careful examination, and an extended debate, proved that there was not a single case of bees puncturing grapes. The society placed

itself on record on the matter by adopting the following resolution:—

RESOLVED. After due investigation of well-known and numerous cases, the Convention unanimously asserts, that the honey-bee never punctures the skins of perfect grapes or any other fruits; but that the sucking of juices from fruits is only from that which has been punctured by other insects, birds, or natural causes.

BY ORDER OF COMMITTEE.

The above may be true; yet I am inclined to think bees are of more annoyance to the grape-growers, sometimes, than one would gather from it. When cross-examined in the recent Krock and Klason case, I was asked to mention substances that bees could bite through. I mentioned cloth, stout manilla paper, etc. And why not the skin of the grape also? was the next question. Because bees get through cloth and paper by pulling out one minute fiber at a time; whereas the grape-skin is smooth, and presents no fiber at all. A bee's mandibles would slide and slip over the smooth grape-skin in spite of any thing he could do. My impression is, his only chance with a perfectly sound grape would be to make a starting-point right at the stem. If he could get the least taste of the juice there he would probably be able to insert his tongue where the juice came out, and he would then soon make way with the whole berry.

WINTERING TWO COLONIES IN ONE HIVE.

I put away 42 swarms last fall. I looked through a few of them to-day, and do not find any brood yet; 26 of them are on summer stands, and the rest in cellar. I think those in cellar are doing best. I believe I shall put some more in cellar yet. My bees are in the Mitchell hive — 2 swarms in one hive, with division-board in the middle. I do not like that way of wintering. When they fly out they are apt to crowd one end, and leave the other with not enough. I got a tested queen from J. B. Haines, Bedford, and have Italianized all my stocks from her, so you see I am all ready for queen-raising. As far as pure drones are concerned, those in my own apiary are Italians, as are most of the bees in this neighborhood. I guess my queen is one of Doolittle's kind, for all the queens that I raised early enough to be tested produced all three-banded workers. JAMES FORBES.

Macedonia, Summit Co., O, Feb. 6, 1882.

I believe yours has been pretty nearly the general experience, sooner or later, in regard to wintering two colonies in one hive, friend F. One hive for each colony or nucleus seems to be the final decision.

PLUCK AND TACT.

I have 34 colonies, all on summer stands in movable-frame hives (Langstroth). Some of my neighbors are watching my bee-keeping with considerable interest. They like the old way best, and call modern bee-keeping fooling or tinkering with bees. As we have had two such poor honey seasons, no surplus at all hardly, they begin to think they are about as well off as I am; but they miss it badly, as some of them (in fact nearly all), 2 or 3 years ago had three times as many bees as I had, and now it is just the reverse, only more so. Some have only a lot of old gums to show. The first good honey season we have, I'll "bet" I'll make them open their eyes, for I think I know my "biz," and have got the pluck and tact to put the bees through. J. W. LAMB.

Pellsville, Verm. Co., Ill., Jan. 28, 1882.

Friend L., if were you I would make

them open their eyes during a *poor* season. Raise queens, and bees by the pound. This will pay for the feed you may have to buy.

"MANY MEN OF MANY MINDS."

How much per hundred do you charge for drilling holes in L. frames to receive wires? Have tried several kinds of fdn., including Given and flat-bottom wired, and it has *all* proved to be a delusion and a snare. I want to try hand-wired next.

M. FRANK TABER.

Salem, Ohio, Jan. 30, 1882.

Why, what a fellow you are, friend T. ! Fdu. "a delusion and a snare"? The above illustrates how differently we look at things, if nothing more, and should, I think, help us to have more charity for each other. I would just like to come to your house in "honey time," and show you what I could do with either the Given, flat-bottomed, or, in fact, any other fdn. on the market, that I know of.—We consider it worth about 25 cts. per hundred frames to drill the holes, with the gang of drills we have for the purpose.

QUEENS REARED OUT OF SEASON, ETC.

I must say, that I feel very much encouraged. My bees, 26 colonies, to-day, Feb. 8, are flying briskly, and are bringing in great loads of pollen. I have just finished examining them, and find they are in fine condition. I have brood in every colony; 7 had spread their brood on 5 frames; 9 on 4; 5 on 3, and 5 nuclei that were packed on two frames, each had a good-sized batch of capped brood on each frame. Some of the queens that are in the nuclei were reared in September, and saved on account of their fine points. Now, friend Root, what are such queens worth? I see that some queen-breeders claim that queens reared out of season are not as good as when reared in the swarming-time. Why are they not? I have one in my apiary that was reared between the 2d and 25th of September, 1877, and she is as good, or superior, to any I have that were reared in April or May, the swarming months in this latitude. Now, if queens reared in September produce worker bees that live as long, and gather as much honey as queens reared in April or May, why not rear our queens later in the season, so as not to disturb our bees at a time when they should be storing large quantities of honey?

W. S. CAUTHEN.

Pleasant Hill, Lan. Co., S. C., Feb. 8, 1882.

I do not know what such queens are worth, friend C.; but I will give you \$2.00 apiece for a dozen such that produce pure Italians. Or I will give \$1.25 for all dollar queens any of the friends in Florida or elsewhere can deliver to me alive this month. We have been sending out queens already, and a good many of our colonies are queenless.

A KIND WORD FOR GEORGE GRIMM.

As per promise, I will now report my last year's success with bees. But first I will say, that J. & I. Crowfoot lost all of their bees except thirty swarms in the years 1880 and 1881, of which I took three, and bought of George Grimm 22 and increased the 25 to over 200, of which nearly all are now alive and strong, with plenty of honey to carry them through. I am wintering on summer stands, and shall never, hereafter, winter otherwise. If it were not looking too much like advertising for Mr. Grimm, I would

say that he has got his bees bred up for business, and not for looks. I was at his place twice last spring, and I see that he inherits the principles of his father; that is, give every man what he pays for. I got from the 25 swarms about 3000 lbs. of extracted honey.

I. S. CROWFOOT.

Hartford, Wis., Feb. 14, 1882.

THE HONEY-BEES.

Of all the insects which God in his wisdom has created, there is none that is so industrious, and useful to man, as the honey-bee. From early morning, until late at night, they are busy bringing sweets from the flowers, with which to enrich their stores; and when night with her sable robes comes on, they do not, like us, cast aside their labors, and lie down idle, to sleep away the hours of darkness, but, rather, they work all the night, and place in order what they have accumulated through the day. What an example they place before us! We never were created to live a life of idleness, and the honey-bee was given us as an example of industry, which we should do well to imitate. Like the honey-bee, our lives are short at best; and if, like them, we strive to improve each shining moment, we shall in the end reap a most liberal harvest. By furnishing them with our improvements in hives, frames, boxes, and the like, we aid them in carrying on their work with more system and expedition; and in the fall, when they are obliged to rest from their labor, and we take from them their store, we are proud of them; and if the little things had ears, they would hear some good words of praise and commendation for their energy and zeal, throughout their season of work. So is it with us. God gives us just such improvements to aid us throughout our lives, by furnishing us with the means whereby we may improve our minds, and duties for us to perform, which, if we suffer to remain undone, will cause us to fall far below the honey-bee in the estimation of our great Master. If misfortune comes, and our bees suffer from it, and we meet with losses which greatly impoverish us, do not let us despair, and place curses upon our little helpers, but assist them to build up their forces and give them a new start, trusting and feeling that it is all for the best, that God gives us all these trials and disappointments for our especial good. Let us ever be as diligent and persevering in all our efforts as these little workers. Long live the honey-bee !

HYBRID.

Bees are wintering well here, and prospects are good, for strong colonies at least. To commence the season with, we shall start with about 150 or 200 colonies, and shall try the real merits of the Italians pretty thoroughly, as we shall have a fine lot of early queens to breed from. Last winter we lost 85 out of 89 colonies, and the 4 that were left were very weak; but last night we saw some hives with eight spaces crowded with bees. We have just received a letter from a man from whom we bought a large amount, saying that his 135 swarms are all living, and in fine condition.

G. W. STANLEY & BRO.

Wyoming, N. Y., Feb. 17, 1882.

BEEES IN A GREENHOUSE.

Bees commenced bringing in pollen, Jan. 3, and are now bringing in some honey, which is enabling them to build rapidly up. About Jan. 15th I put a very fair colony of bees on foundation only, inside our greenhouse, and so arranged them that they

could fly only on the outside. I kept no fire, therefore they were sheltered only from the cold winds and the sun's rays. I commenced feeding honey, and in about 15 days was enabled to take away two frames two-thirds filled with brood, leaving two others partly filled, and now they are "booming" as if it were the month of April.

THOS. BALCOMB.

Luling, Caldwell Co., Texas, Feb. 11, 1882.

LOSSES THE PAST WINTER.

Pa has had quite a loss with his bees this winter. I would like to tell you all about it, but I haven't any room.

S. E. GREGORY.

Crooked Lake, Wy. Co., Pa., Feb. 18, 1882.

Why, I supposed every one's bees were alive this spring, for I think this is the first bad report we have had, unless, indeed, it is Neighbor H., who has lost about half a dozen that gathered enough without any feeding. All the sugar-fed bees are all right. He fed one, however, on maple sugar, contrary to my advice, and that one died. It will do very well to feed maple sugar after the bees can fly freely. A very nice grade of maple sugar would do to feed them, I presume, even in winter.

My bees in the yard had a fly Feb. 14 and 15. They came out very strong. The snow, the fences, and the clothes that hung in the yard were spotted with yellow spots. I looked at them, and the frames looked all clean, except in one hive, and that was besmeared a little on one frame. Do you call this dysentery? and is it usual for this time of year? Do you think I shall be troubled very much with this? Do you think I shall winter them through in this condition?

B. E. ANDREWS.

Brooklyn, N. Y., Feb. 17, 1882.

It is dysentery; but you will probably have no trouble with those having clean frames. If the one that daubed the frames does not get better, I would give them some lumps of pure granulated-sugar candy.

TELEPHONES FOR BEES SWARMING.

Our telephone is sort of three cornered; has three ends,—one at the house, one at the shop, and one at the barn. At either point I can hear the bees when they strike the wire; can hear a call to dinner while sitting at my desk in the office, and, in fact, have heard the hens cackle in the barn from the shop; so you see we know when to go after the eggs. It is a triangle, with a single wire running from each point, making 55 ft. from house to shop; 60 ft. from house to barn, and 80 feet from shop to barn. The house is brick, and I could not well cut a hole through, so I just raised the window about five inches and put a board in the opening; where the wire passes through the board is a one-inch hole, covered with soft sheep leather; the wire through the leather is in the center of the hole, so the cold air and the bees are kept out. I think friend Gallup is needlessly alarmed about the bees killing themselves on the wire. I have watched them, and all I have seen strike have been rising from the hives, and it merely turns them from their course a little. I have not seen one fall to the ground.

SQUARE MEN.

As to that list of "square men," if you will drop the word "square" and put *prompt* in its place, and also leave out "we do not know of a single customer

who is not satisfied," I think it would just fit me. Although I do not know of one of my customers who is not satisfied, I do know that money will not satisfy some when there has been a delay, or goods not just as expected; and then if that clause were out, friend Root might have his name in the list.

BEES ON THE MAPLES IN FEBRUARY.

An hour ago I visited some soft-maple trees in this neighborhood, and the bees were working on the open blossoms, making a noise as if on a basswood-tree in time of the honey-flow. How is that for winter? Bees flying from every hive that had bees in last fall when they were fixed for winter.

JAMES A. NELSON.

Wyandott, Kansas, Feb. 13, 1882.

Notes and Queries.

BOX-HIVE NEIGHBORS IN THE REAR.

I HAVE 18 swarms of bees in the cellar in good condition at this date—12 of them in your 1½-story hives, and the rest will be next May if we live until that time. I took 250 lbs. surplus honey last year; my neighbors keep bees in box hives, and did not get any.

AMASA HOLCOMB.

Southwick, Hampden Co., Mass., Feb. 8, 1882.

Bees carried in pollen to-day. What does it mean? Will not bees and bluebirds get fooled yet this season?

S. H. MOSS.

Colechester, McDonough Co., Ill., Feb. 15, 1882.

ONE-PIECE SECTION.

I made and used one-piece sections more than seven years ago, similar to those now in use, except the ends were glued and tacked together.

J. L. WOLCOTT.

Bloomington, Ill., Feb. 17, 1882.

MULTUM IN PARVO.

I got 10,369 lbs. of honey from 72 stands and their increase, 25 stands; 97 in all; 2341 lbs. of it comb honey.

P. LOUCKS.

Kingsbury, Fresno Co., Cal., Jan. 24, 1882.

[Well done, friend L., even for California.]

CHAFF HIVES.

I have at present 18 colonies of bees, all in good shape; 12 in your chaff hives, and the rest in cellar. I prefer the chaff hive to any thing I have seen. I have been keeping bees for over three years. I have the first swarm to lose yet.

JOSEPH BALL.

Chillicothe, Wapello Co., Ia., Feb. 1, 1882.

HORSEMINT.

Our last season's success encourages us to push forward next season, and the idea is, to be in time. It is as warm as spring here; grass is green, and I notice our great honey-plant, horsemint, is already coming in abundance, 2 or 3 inches high. We are going to do our part, by the help of God.

Hallettsville, Tex., Dec. 13, 1881. DR. J. E. LAV.

Send GLEANINGS as usual to Olmsted, as my wife lives there and tends to the bees. I go home every Saturday and Sunday. I sold my extracted honey, 450 lbs., at 17½ cts.

M. R. KUEHNE.

Cairo, Ill., Feb. 3, 1882.

[Friend K., give my respects to your wife, and tell her we should be glad to hear from her in the Ladies' Department.]

SURVIVAL OF THE FITTEST.

I united two stocks—a stronger whose queen I had removed two or three days before, and a weaker one with a yellow queen. I gave them decisive handling, to take the "fight" out of them; but the stronger killed every bee of the weaker, except the queen, which they saved alive to be their own queen.

JOHN FOTHERINGHAM.

St. Mary's, Ont., Can., Nov. 25, 1881.

HOME-MADE HORSE-POWERS.

I have made a horse-power according to directions given by M. H. Hunt (p. 487, Oct., 1881), and it works "bully." My wheel is 15 feet in diameter. I use a chain. Friend Hunt says it is hard on a horse. Well, just put in two, one on each side, and a "small boy" to drive, and things will hum, "you bet." If you want to amuse the children, just remove the chain, set them on the rim, and whirl it. It makes a splendid "living Dutchman." F. W. STEVENS.

Moore's Hill, Dearborn Co., Ind., Jan. 10, 1882.

I have a letter inclosing a small amount of money, signed Edson Hains, but not a sign to tell where it came from; even the postmaster forgot to ink his stamp. Date of letter, Dec. 7, 1881. Another dated Feb. 5, 1882, with money, and signed L. Beckwith, Berlin, but doesn't say where Berlin is. Both claim to have seen ad. in GLEANINGS. Will you please call attention to this in your next issue? No reply necessary. C. H. DEANE.

Mortonsville, Ky., Feb. 13, 1882.

[We have a man by this name at Berlin, Wisconsin.]

AN APOLOGY; SEE P. 33, JAN. NO., AND 83, FEB. NO.

No, friend Neuhans; if I had such a large yield, I should not be ashamed to tell of it. I was perhaps a little hasty; but when I hear of such big yields, it fairly takes my breath away. Now, I have always thought that if I could get 100 lbs. of surplus, and a swarm from one colony, I was doing nicely; indeed, if I could average that, I would be satisfied. At any rate, I offer you my hand in apology, and doubt not that that you will take it, owing to the gentlemanly manner in which you answered. JUNO.

La Porte, Iowa, Feb. 13, 1882.

MR. MERRYBANKS AND HIS NEIGHBOR.

I have been young, and now am old; yet have I not seen the righteous forsaken, nor his seed begging bread.—PSALM 37: 25.

AFTER Christmas, things seemed rather dull, and Mr. Jones, for the first time in many weeks, found it hard to find some work to do. The roads were bad, and every opening to earn even 25 cents a day seemed to have been closed, for no one got out away from home. All that the surrounding farmers had to do, they did themselves; and there were so many offering to work at the sawmill, at whatever price the owner would give them, during the winter months, there seemed no kind of a chance there. To tell the whole truth, he began to feel a great longing for his pipe during these dull days, and Satan kept whispering there could not be any thing so very wrong in a simple matter like this, until he was in very great danger indeed of getting back into his old ways.

He did very wisely indeed in telling his wife all about it. I hardly think he would have done this had it not been for a very warm friendship that had recently sprung up between the two. I dare say, some of the friends may smile at the idea of a friendship springing up between man and wife; but, if I mistake not, there may be others who know something what a friendship of this kind is. Young folks often form friendships (if you will excuse the word) before marriage; but they do not then know each other as they do after a few years of acquaintance amid the sometimes monotonous duties of home life. Well, the great friendship between John's father and mother commenced about the time they formed a habit of kneeling in prayer together the last thing at night, and asking God for all they felt they needed. After both voices had been lifted up to God, each felt a new trust and confidence in the other; and it was after such an exercise that he ventured to tell her he feared he was losing trust in God a little, and also felt a longing for his old tobacco. The little Bible soon supplied the text at the head of our chapter, and her bright woman's faith and trust soon made him feel ashamed of any such feelings. They were all regular in attendance at all Sunday services, and no Sabbath passed without *something* being contributed to the cause of God's work. The utmost economy was practiced in all their expenditures, and so she felt she had a right to plead with her Savior, on the strength of the promises in his holy word. She was but a small, weak, feeble woman; but her faith in God was bright, and she *knew* their prayers would be heard. She didn't know, however, after all, and I presume never dreamed, of the way in which God would use those prayers, nor of the cares and trials that would come through the answer to them. Sometimes God sees fit to answer our prayers so quickly that we are fairly startled. At other times it may be years before it would be best for us to have them answered, or even safe for us. This one came very quickly.

"Mr. Jones, I want you to help me right away, this morning."

It was Uncle Billy, and he seemed in a great hurry as he stood in the door on that stinging cold morning. The husband and wife exchanged glances.

"All right, sir; what tools shall I bring?"

"Bring all the tools you used in cutting that under-drain in the rock."

"But, isn't it pretty—"

Here he stopped abruptly, because of a look of pain in his wife's face, as she shook her head at him.

"What is it, my man? out with it!"

"I beg pardon, Uncle Billy; I was just going to ask if it wasn't pretty cold for such work; but I want to take it back, and to say that I will gladly go anywhere, and do any thing you bid me, to earn an honest living."

"Spoken like a man, Mr. Jones. Here is my hand on it, and you just stick to that and we will be friends."

Do you see how nearly he came to rejecting the answer to their prayers, when it was

brought to his very door? Uncle Billy was a man who did not stop long to coax one who was afraid of frost or cold weather.

The work was over on the hill near their home. Mr. Jones did as he was bid, and asked no further questions. Before night, rough blocks of stone were got out, and in rough sheds, hastily built of boards, masons were getting ready to cut them into shape. Mr. Jones was called on in a good many ways at once; and because the business was new to him, he got some very unkind, harsh words; but he remembered the prayer of the night before, and also the kind words of Uncle Billy, and he some way felt sure Uncle Billy would interfere if the abuse went too far. For his part, he decided to do the best he knew how, quietly, and trust — yes, trust God to take care of him.

Many surmises were made as to what Uncle Billy wanted of such stone; but to all inquiries he only replied he thought they "might come handy some day;" but the question was, Why should he take such a sudden notion to commence such work, right in the middle of winter? As they were gathering up the tools at night, he said,—

"Mr. Jones, you have had it a little hard to-day; but after the men know you, and you know them, I guess it will be all right." That was all, but it did him a great deal of good.

As the weather moderated so the stone could be handled and worked, the new stone-quarry began to be quite a busy place; and as most of the hands from both the quarry and sawmill passed the little house beside the watering-trough, going to and from their meals, quite a little trade started up in tin cups, pails, honey, maple-sugar candy, etc. While John was at school, his mother was obliged to sell the things; and, to make it more convenient for her, John and his father arranged a kind of stand each side of their front door, for the utensils, so they would be in sight from the road. This stand was such as you sometimes see for flower-pots,—a sort of steps, as it were, one above the other. Besides the 25-cent pails for honey, John had made some $\frac{1}{2}$ -lb. pails, to be sold full of honey, for only a dime. These he made one Saturday; and as they seemed just right for a lunch, the workmen who carried their dinners took them off in no time.

While Mr. Merrybanks was one day waiting in the city, he came across a stock of small jelly tumblers, holding just about $\frac{1}{2}$ lb. of honey. By purchasing the lot, he got them for 24 cents per dozen. John soon made tin caps for these, at a cost of $\frac{1}{2}$ cent, and there they had a glass package for honey, that could be sold at a profit for 3 cents. The whole neighborhood made a run on them, until every family had one or more of these pretty little tumblers; and after that they allowed 3 cents each for all that were returned. Well, friend M. also found in the city some little tin pie-plates, 6 inches across, that he got so John could sell them for 3 cents, and a larger size for 5 cents. John's mother was an adept in making pies, and it was not very long before a brisk trade had started up on 5-cent pies, and this paved the

way for some beautiful light gems, to go with the honey, that the workmen always found smoking hot, just at dinner time, at the house beside the spring. Two gems and a dish of honey were only 5 cents. Did I tell you they had a fine crop of beautiful white beans, where that old slop-hole once used to be? Well, they did; and as there had been no good offer for them, they had not been sold. Well, altogether they some way contrived to fix up some most tempting-looking little tin dishes of baked beans, each one having a tiny piece of nice pork in it, that just captivated the quarry-workers; and when hot coffee (for only 3c) was put on the little bills of fare that Tom printed, the workmen, almost in a body, decided to have dinner down at the "Temperance Hotel," instead of either carrying their dinners or going to town. When they got tired of beans and pork, Mrs. Jones gave them "hulled corn" in such good-sized dishes, and so daintily cooked and served, that some of her customers told her she would lose money in furnishing a dish like that for 5 cents.

After some talk on the matter, the man told her he had quite a family, and they had hard work to make both ends meet. He had told his wife he could get a good dinner of corn and beans for 10 cents, and they could not understand how it could be done. Mrs. J. told him, smilingly, to buy a bushel each of corn, beans, and wheat, and she would show him how to cook them so that 10 cents would come pretty near paying for the materials for his whole family.

Just here friend Merrybanks came in, with samples of maple sugar and molasses that he had been making during the month of February.

"Surely," said Mrs. J., "this is honey."

"No, it isn't honey. Taste it."

A small glass dish of it was given to all present, and the exclamations of surprise and pleasure were satisfying. Each one declared it was the most beautifully flavored sweet that had ever passed their lips. The sugar cakes were about as white as cream, and had this same wonderfully fine flavor, reminding one of buds and blossoms, and possibly of their earlier days, away back in the woods on the old farm.

"Now," said our friend, "I have long had the idea, that as much or more progress is possible in making maple sugar and syrup, as in getting nice honey, and a nice price for it. This cost me a good deal, it is true; but I just wish to leave these samples here, and let your customers taste of them. The syrup you are to sell the same as you do honey, which will be about \$1.50 per gallon, and these little two-ounce cakes, for 5 cents, which will come to about 40 cents per lb., you are to have one-third for selling."

I need hardly say, that, even in that community, both sold readily, while the ordinary dark sugar and syrup sold slow, at usual prices.

It was Saturday, toward evening, after a mild day, very near the first of March. They had stopped work at the quarry early, as they usually did Saturday, and, at John's urgent request, his father and mother were

going over to the sugar-camp. Mrs. M. was to go too, and the children were fairly boiling over with fun and merriment, as only good school children can "boil over." It was an unusually pleasant day for the season, and even the mosquitoes were buzzing about. As Mr. M. had a pretty fair roadway made down to the woods, their walk was a very pleasant one. Before they got fairly into the woods, they heard some one singing. It was our old friend; and as they stopped a moment to listen, they recognized the familiar words, "Only an armor-bearer," that he was in the habit of singing through the telephone.

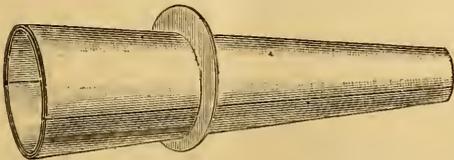
"Mother, mother!" said John, "don't you see? He has all of his sap-pails covered with wooden covers, so there can't a bit of rain water, or a leaf or bug get into the sap; and don't you see some of the covers are painted white and some red? Well, now just look here!"

At this, John approached a tree, and lifted the cover, showing that one side was white and the other red.

"Look, mother; when he has emptied a pail, he turns it the other side up; see? and you see he knows just how many pails he has emptied, and he can't skip any. Isn't it funny?"

"And just see, too, mother," said Mary, "he has these little short sap-spiles that go right through the side of the pail, so not a particle of sap can spatter over or get blown away by the wind."

"Yes," said Freddie, "and the spiles are made of double tin, and then dipped in tin all over, so it can't rust anywhere, and make the sugar and molasses black. See here!" and Freddie took one out of his pocket like this:—



MR. MERRYBANKS' SAP-SPILE.

They had now got near the boiling-house; and as pails were scarce, a few tin pans were used, where they could be emptied often. One small tree had only a 5-cent pail hung to the spout, and Freddie volunteered the information that this was his tree, and that it would run a pail full in just an hour, a spell in the forenoon. His mother suggested he should pass the sap around; but he replied they would take the dipper and go down to the "old sweet tree," for there was one tree sweeter than any other in the woods. I told you once before how nicely friend M. kept his sap-pails and all his tinware. The sap from this tree was relished and praised by all, after their rather long walk.

By this time they were near friend M., who was gathering sap on a sort of sled, or stoneboat, carrying a clean tin can, covered so no sap could slop over. They noticed his pony was trained to go over a particular path, and that he made him go on, or stop,

by simply talking to him, very much as he would talk to a person. In fact, the pony looked and acted as if a part of the sugar-camp belonged to his horseship, and as if he was proud to have visitors admire it; and I don't know but that such was the case; for, in truth, he had helped to make almost every thing about it.

"O pa!" said Freddie, "mayn't I show them how he likes sap?" Permission was granted, and the pony plainly showed, by pawing and nodding his head, that he knew that sap is good as well as anybody. Shall I show you how friend M. empties the sap, without lifting the pail at all?



THE WAY MR. MERRYBANKS EMPTIES HIS SAP-PAILS.

I really can't show you the painted cover to the pail, for Freddie has got it, very busily explaining to Mary how it is made of three thin boards, with the grain crossed to prevent warping. The middle one is a little larger than the two outside ones, and this makes it fit down into the pail so the wind can not blow the covers off. These covers can be made very cheaply at a cheese-box factory.

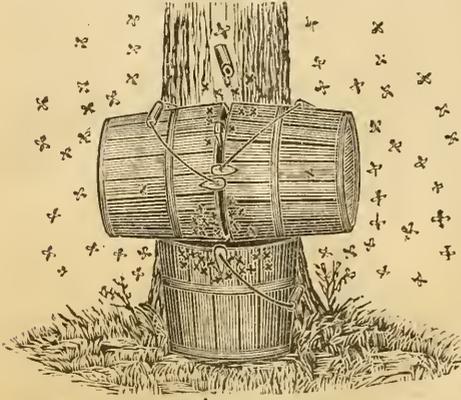
"Listen!" said some one. All stood perfectly still. The most apparent sound was a musical tinkling, produced by the sap dropping into the pails, all over the woods. Some of the pails had just been emptied, and the drops striking on the tin bottom, made a comparatively loud note, while the dull thud and bubbling sound of those nearly full combined to make a pleasant music. As it echoed through the woods, more than one heart in that little company was raised in thankfulness to God. But John interrupted,—

"Hark! I hear bees; I know I do."

There was a twinkle in friend M.'s eye as he suggested, "Don't you think you imagine it, John? Perhaps you have got 'bee on the brain,' and that is what makes the buzzing."

"No, sir," said John, with vehemence; "I know I hear bees." At this he started off; and as he looked behind a large maple-

tree but a little distance off, he fairly danced and shouted for joy. He didn't shake any thing off the table this time, for he stood on solid ground. Of course, the rest were soon on the spot, and this is what they saw:—



MR. MERRYBANKS' COMBINED BEE-HIVE, SAP-PAIL, AND MAPLE-SUGAR EVAPORATOR.

Sure enough, there was the pail bee-hive that had stood in the greenhouse, but they had been built up so that two pails instead of one were required to hold them all. The sap was conducted on to the comb: and as it dripped down through, the bees ordinarily took it all up; but during the best part of the day, if it was quite a favorable one, it would come too fast for them, and drip into the upright pail below. This pail was furnished with a full set of combs, also, so that the sap dropped into these combs, and could be taken up by the bees at their pleasure. The colony was so strong that the bees clustered, during warm weather, clear down into this third pail also, so you see they were well prepared to take all the sap a large tree would furnish. You will observe he has here in this case used pails, without even removing the bales.

"Why, husband, why did you not tell me of this before?"

"Well, I did not know how it would work, for one thing; and for another, I thought you could see it better than I could tell it; do you not?"

"Why, Mr. M.," said John's mother, "you do not mean to say that nice syrup and sugar came from this bee-hive?"

"No, it did not; it was made in the pan I will show you presently. I expect to get



"How doth the little busy bee improve each shining hour!"

TOM'S PICTURE.

nicer maple syrup from this hive than any thing that has been seen yet."

Just here Tom, the doctor's boy, came with some labels he had been printing for John's 10-cent pails of honey. John thought he would like some kind of a picture on the labels, and Tom thought he could engrave it. Here is a picture of the sample label he showed them, and the words he had printed under it.

Of course, there was a big laugh all round at "Tom's picture;" and after they had laughed, they went up and had some warm sugar. If I should tell you how they got some snow, and made wax, and all that sort of thing, I am afraid it would make you feel bad because you were not there too; so I think I won't say any thing about it. I declare, I shall have to put off telling about Tom's printing-press, and the way he made bronzed labels, until next month.

Humbugs & Swindles

Pertaining to Bee Culture.

We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.

PARTIES here are selling a hive constructed similarly to the Simplicity hive, with permanent bottom-board, movable lid, division (or adjustable) boards. They correspond in size, shape, frames, and entrance, to the Simp. hive. These parties are representing them as "Mitchell's patent." The question we desire answered is, Has Mitchell such a hive patented, or is this bogus? Please answer at once, as a suit is pending to enforce payment of claimed right for use of said hive.

Cornelia, Mo., Feb. 1, 1882. JOHN J. HOLLAR.

Our older readers will hardly need a word of caution, after hearing "Mitchell" mentioned in the matter; and we can briefly say to the new ones, that Mitchell has almost monopolized this department for the past four or five years. Of late, we had heard so little from him we hoped he was getting an honest living somewhere; but it seems that he needs to be taught, a few times more, that "the way of the transgressor is hard."

Who is Kirk Kidder? He sold to a man up the French Broad River, in North Carolina, near Marshall Co., a right to make and sell his hives, he, Kidder, to fill orders, I believe, for hives in flat at certain prices, etc., from somewhere in Kentucky. Kidder got a note for \$50.00 for it, and one J. J. Gudyer discounted it, and the man claims that he has been unable to hear any thing from Kidder since. I understand that Kidder was through here about a year ago, doing that kind of business. I live at Chattanooga, Tenn., and like this country much better than Ohio. It is a very beautiful country; pure water and climate; fine fruit, etc.

Big Creek, Tenn., Feb. 1, 1882. B. O. EVERETT.

Letters of similar import, that have appeared in back volumes, it seems to me, point out pretty clearly who Kirk Kidder is, or, rather, what he is not, friend E.

Our Homes.

And whosoever shall lose his life for my sake, shall find it.—MATT. 20:25.

ALADY once came from quite a distance, to work with us in the apiary, to learn bee culture. She was to assist in the apiary, enough to pay for the knowledge she obtained, so that she had the freedom of the apiary, with few or no restrictions. She also had entire charge of perhaps half a dozen hives. After a few weeks, it was mentioned to me that the boys who worked in the apiary were not always as accommodating and respectful to her as they should be. I felt sad to hear this, and remonstrated with the boys. It seems this did not entirely cure it, for the same friend mentioned the matter to me again, and asked me if I did not think it too bad that she, a stranger, and a lady of culture, should be so used. I assented; but as I had been watching things a little, I could not but feel that the trouble was a little, at least, on both sides. As I did not like to say this, I was silent. After a little reflection, I replied in substance as follows:—

“My friend, you are a lady; you have taught school, and had experience with boys and men, and people in general. You know the world pretty well, as we generally find it. Well, keeping this in view, suppose you were to go out among the men in the fields, for the purpose of studying up some branch in agriculture; or, if you choose, suppose you, a stranger, were to come into a factory like ours, or go out among a lot of boys like ours, would you not expect,—nay, are you not sure,—you could win their respect and friendship, and kind treatment?”

She looked up with a sort of smile, and replied,—

“Why, yes, I think I could; in fact, it seems to me I almost *know* I could.”

I knew she could too; and, my friends, dare I say I know you could? I ask this question, because it is in regard to winning your way in the world by just this same spirit I have been talking about, that I wish to speak. Well, when this matter is presented to one in trouble with somebody, or with the world (it amounts to the same thing, for the world is made up of people of which you and I are a unit), the first reply is, that they are willing to accept any thing in the bounds of reason, and you might quote to me that forbearance sometimes ceases to be a virtue. My friends, I suppose there *are* cases where forbearance ceases to be a virtue; but these cases come so rarely in your life and mine, I should advise practically counting them out. There is a kind of gambling by throwing dice, where a gold watch is given to the one who throws ten dice so that each one of the ten has six spots up. The proprietor says, and says truthfully, that it is possible to do this and get the watch; and thousands of young men have wasted their time and money in trying to throw “No. 60;” but I have never yet heard of one who did it. The keeper knows by experience that his watch is just about as safe on No. 60 as in his pocket.

et. A mathematician will work out for you, by the rule of chances, that, if you throw dice day after day, say for a year, you would not be likely to hit No. 60. Well, I should say the times when forbearance ceases to be a virtue will be about as rare, especially if you wish to lay claim to being a Christian.

Are there any quarrels in your neighborhood? did you ever know two Christian people who couldn't agree? May be you have in your life had a chance, once or twice, to listen to the account of it from both sides. If it is an old feud, each one has been doing ever so much for the other for years past, in a most self-sacrificing way, in cases of such great number that it would make quite a book to tell it all; and even then, ever so much would have to be left out. When you hear one man's story you say, at intervals, “Why, is it possible? Who would ever have thought that possible, of neighbor A? It is really monstrous!” But when you go over to talk with neighbor A about it, and hear his side, you are tempted to use the same expression. Well, where is truth and where is justice? Is the world really so bad? No, the world is not so bad as these two friends have perhaps, in a sense, honestly made it out to be. They are both in the power of Satan, and their own sins are greatly lessened, in their eyes, while the sins of their opponent are magnified and distorted to a fearful extent. If you get into a quarrel you will do just the same way. I know, for I have tried it. There are two remedies for such a state of things, that suggest themselves to me. The first is to recognize that you are sick, and unable to reason intelligently and reasonably in the matter, and put the whole case into the hands of some disinterested friend, and demonstrate that you have a little good sense left, by doing exactly as he directs. Jesus pointed out the way in the 5th chapter of Matthew. If you are a Christian, or even a reasonable man, you will show it by cheerfully submitting to such a case, rather than by going to law, and, may be, getting some one who is not a Christian to settle these differences for you. Jesus said, “They that be whole, need not a physician.” If you are in trouble with any one, you are sick, in Satan's toils.

The second way is not to have any trouble with anybody. I do not mean by this that you are to give way to everybody in every thing, and go crippled through the world, but, on the contrary, I mean you should fight your way, step by step and inch by inch, to the attainment of every thing good and noble in the universe. There may seem a contradiction here, but I think there is not. Instead of fighting your neighbors, you are to fight against the temptations of your own heart. If you whip in the latter, you will whip the neighbors, in the best sense of whipping them. You will win them. When you can whip out the evil in your own heart as fast as it springs up, and go through the world thus, transacting all kinds of business with all kinds of people, you will not only win neighbors, but towns and cities, nations and continents; yea, the whole world shall you have for your inheritance. Is that a pretty large promise? See:—

Blessed are the meek, for they shall inherit the earth.—MATT. 5:5.

And,—

Ask of me, and I shall give thee the heathen for thine inheritance, and the uttermost parts of the earth for thy possession.—PSALM 2:8.

Since I have given you quotations from the Bible for the same thing, I fear you will say you knew all about that before, and so let it lose its force; but I pray you, friends, believe me when I say you do not know all about it; or at least you have not proved it by actual experience. Satan is wily. You may be a professing Christian, and you may think your life is very good; but for all that, you may be a great stumblingblock to all about you.

Some years ago I attended a conference meeting where all seemed harmony and peace and good will, until some difficulty arose in regard to parliamentary rules. It seemed to come from a minister from a neighboring town, who was not quite satisfied. After a considerable waste of time, a brother suggested they should sing a hymn, with a view of having it break the profitless discussion, and restore a better feeling; but no sooner was it started than he jumped to his feet, and declared he would not be "sung down" by anybody.

Do you think, friends, such a spirit will be likely to rise in the world, or to win souls to the Christian religion? As he would not be sung down, the whole audience wisely, as I think, gave the floor, and allowed him to talk as long as he wished. I was quite young in Christian matters then; but at the noon intermission I approached him and ventured to suggest he had not shown the spirit of the Master.

"Oh! yes, to be sure," said he; "any thing in the bounds of reason; but when people make asses of themselves, it is a different matter."

Now, it might have been quite pat to the purpose to have told him who I thought was making an ass of himself; and I confess I relish as hugely as any of you that way of speaking plain and apparent truths; but by so doing I should have lost all possible hope of doing him any good at all. He stuck out for his rights, and would not submit, or be taught of any one, because he was old and wise. He was, in fact, old, wise, and learned; but for all that, he had not learned to be as little children; and before the afternoon's exercises were half through, he got mad again. (I guess I have used the right word, haven't I?) and gathered up his books, overcoat, and manuscript, and swept out of the room without even delivering the address assigned to him on the printed programme. As he got down the stone steps of the church, he ran against one of our prominent lawyers, who made no profession of religion, and, stirred up as he was, he commenced detailing to him his grievances, and appealed to him to know if he wasn't right. The lawyer, in a mild, gentlemanly, and, I guess, Christian-like way, declined passing any opinion, saying that if we Christians got into quarrels in our church matters, *he* really did not know how he could help us any. Boys, how much do you suppose this inci-

dent did to help the cause of religion? Everybody who heard it would almost at once decide in favor of the lawyer, and (I shudder while I think of it) in favor of skepticism rather than the churches. Yet this poor man, minister though he was, was so blinded by Satan he could not see his awful inconsistency.

One of my great objections to attending bee conventions was because this kind of wrangling and waste of time is so apt to be the case. Do you not see how much we need the spirit that would prompt us to come to help, not to stand up for our own personal rights? In the language of our text, if we would be of use, we need to lose our lives for the good of the people. The two neighbors who were quarreling, needed to get rid of selfishness; and Christ, in his teachings, recognizes so fully the importance of this, and the great probability that we will err, even the best of us, in this same matter of selfishness, that he says, when we are struck on one cheek, turn the other also, and get struck a second time rather than return evil for evil; and, also, if we are sued at law, and lose clear down to our coat, let the cloak go also, rather than disagree with a neighbor. Well, we sometimes make ourselves miserably by worrying about matters that are not blows, nor coats and cloaks either. We get a notion in our heads that we have done a great deal for the world, and that it has done but little for us, and we brood over it until we are actually incapable of seeing the truth as it really is, and so we go through life blinded by selfishness, as it were. What shall we do? Some will say, I know, we should ask the Holy Spirit to enlighten us, and we shall then see ourselves as we really are. I grant this, providing the prayer is supplemented with strong, earnest, willing work. The man who prays, and at the same time gets up from his knees thinking he is liberal, and all the rest of the world selfish, will not profit very much by his prayers, if I am correct. God gives wisdom, but it comes only through hard and searching labor. Moses, with all his great wisdom, and nearness to God, would have made the blunder of wearing himself out had he not listened to and heeded the voice of his father-in-law Jethro. The great lesson we have to learn, is that we are human and selfish still. We want to so learn this that it will be "rooted and grounded" in us; and as we recognize we are selfish, just in proportion shall we see the good qualities of others, and so shall be ready to have love and charity for all.

We want to be just. We say we do, and I guess we are honest in it, as a general thing. Well, how shall we manage to be just, when we are so prone to selfishness? By accepting it as a fact that we are, have been, and always shall be, selfish; and, therefore, deciding to give more to the world, constantly, than it seems to us we ought to. To be sure we are not taking more from the world than we give back, make it a point to do kind services to everybody, at every opportunity; and after that is all done, just "fling in" a lot more of kind services, so as to be positively sure we have given a full equivalent

in this uncertain and hard-to-compute commodity, of the common courtesies of life. In other words, "Do good and lend, hoping for nothing again."

When I was only a boy, "out lecturing," as I have told you about, somebody put the idea into my head that I wanted a watch. The man who suggested the idea, strangely enough had one for sale, and I bought it in about five minutes, giving him all the money I had, and promising the rest out of the next evening's receipts. When I got home to my boarding-place, they laughed at me for paying \$14.00 for a brass watch.

"Why," said my landlord, "I will sell you my watch for \$10.00, and it is solid silver. See there! I would take it right back."

I took it back, and asked for the money so I could buy the silver one.

"A silver one! why, I will sell you a silver one for only eight dollars. It is the celebrated 'Quartier' make; see?"

I closed the bargain at once, and in great glee took my silver watch, that cost only \$8.00, to my boarding-place. When I showed it, they laughed at me more, and the landlord said, in a bantering way,—

"Why, my young friend, they sell 'Quartier' watches in New York for \$2.50 a bushel; and if a man is dissatisfied then, they just put in a couple of shovels full free of charge."

Although I used to believe then pretty much all that was told me, I don't think I quite believed all that; but I have often thought of the expression; and, my friends, it just now occurs to me that, in serving the world, we want to cultivate a disposition to do just about that. Give good measure, in courtesy and politeness, and then just put in "a couple of shovels full" extra, to counteract selfishness.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give into your bosom. For with the same measure that ye mete withal it shall be measured to you again.—LUKE 6:35.

When at the Centennial, we stayed over Sunday; and in my eagerness to attend as many of the Sabbath-schools as possible, some of the guests of the hotel laughed at my enthusiasm. One in particular said he used to be a great Sunday-school worker, but he found the people all so ready to "ride a willing horse to death," that it broke down his health, and he was obliged to give it all up. It was all very well for one who had not been "through the mill," but that I would get wiser after a while. Thank God, I haven't yet got any wiser; and, thank God, I know, too, that the man's words were false. It isn't so. Such speeches and such thoughts are only one of Satan's subterfuges. When you hear any one make any such speech as that, you can set him down as a very selfish if not a very wicked man. When a Christian says or thinks such things, he or she is assuredly off the track, and is in great danger of being led entirely away. It is true, you may have to labor some little time before the world comes to know and recognize you, and you may have to be patient and kind with your neighbors and associates for some little time before they un-

derstand and realize that you are really a true and sincere friend; but if you persistently watch and pray for opportunities of doing them kindnesses, you will in due time reap a bountiful harvest.

You are not responsible for the whole world; you are responsible only for yourself and your own heart; and while you can not change the world, you can change yourself, which really amounts to the same thing. Two men were talking about their wives, and one said he would really like to hear his wife scold, just for the fun of it.

"Do you really want to hear her scold?" said the other.

"Yes, I do."

"Well, you just draw her a load of crooked firewood; for nothing in the world makes my wife scold so badly as does crooked firewood."

Our friend went to the woods, and selected all the crooked sticks he could find, until he had made out a load, and very quietly put them in the usual place, and awaited results. Days passed; but not a word was said, until finally one day she spoke:—

"Husband," said she, "our wood is nearly out, and if you should happen to have any more like that last lot, I would much prefer it, because it fits around the pots and kettles so nicely." Do you not see? One woman was looking for troubles in every thing that turned up a little different from usual, while the other was always looking at the bright side of every thing, and turning every little item to some good advantage. You, my friends, are to turn the crooked sticks, the crooked men, the crooked troubles, and all else in life to some good purpose, and try to find the good there is in them all.

A letter has just been put into my hands that explains so well what I mean, I will give it to you:—

I want to tell you how much good the Home Papers have done me. It was through their influence that I gave up using tobacco, swearing, and a great many other careless ways that I had got into; but still I did not join the church; I thought that I could be a Christian without doing so. I went on in my own way till a short time ago, when I experienced my first real disappointment which made me so miserable, and enabled me to see my own weakness so plainly that I determined to trust in my own strength no longer, but to put my trust in Christ for every thing. So I joined the church, and tried to do what I could to help the work along. It was not long before I found out that it required a great deal of prayer to live in any way consistent. Often I have come in at night, after work, feeling down-hearted and discouraged, because I had been trying all day to keep my temper, and failed, sometimes thinking it was no use trying to be a Christian, and often wishing that I had never joined the church at all. One night I came in from work in one of those moods, and I thought I would try your plan of praying about it. I accordingly went into my room, and down on my knees, and prayed. I had been praying some time when I thought of the Homes. I went to the pile and picked up one at random (I did not know which one it was, for it was dark). I brought it to the light, and read it. It was the one in which you describe your visit to the minister, and the

trouble about swine, and the demons, etc. I can not tell you how that number (May, 1879,) of the Homes encouraged me; it made me happy again.

I have often been unhappy since, and I have gone to the same source in the same way, and have got rid of my unhappiness. Not only that, but I have felt twice the amount of energy about my work—so much so that I have looked around to see what I could do to make things better around home, and have found myself down cellar, sorting out the rotten apples from the good. May God bless "Our Homes"!
E. GRAINGER.

Dear Park, Ont., Can., Feb. 20, 1882.

And may God bless you, my young friend and fellow-traveler; and may he be praised, that these same Home Papers have had a hand in the work of pointing you to the Lamb of God, who taketh away the sin of the world. I am the more thankful for your letter just now, and its closing words, because my wife has been criticising neighbor Jones in the Merrybanks story. She said that she feared even religion, although it should do so, did not often give a man energy to work, as well as strength to resist temptation. Now you have struck the point exactly, where you say it gives you energy to go to work, even to going down into the cellar to sort the rotten apples. I wonder how many there are whose eye rests on these words, who need just this very kind of energy. If you are faithful with the rotten apples, God will certainly give you something more to do, when they are finished. One of my most constant prayers is for energy and zeal in distasteful duties.

Now just a word in closing. Some of the friends have wished me to take more room in this department to discuss Christianity and infidelity. Is it worth while to use valuable space for such a purpose? Through the influence of my monthly Home chapters to you, the young friend who has just written has given up tobacco and swearing, and is growing happy in good, steady, honest work. He has been won, as I have tried to tell you this month, you must win your way among men. With the love of God in his heart he will win others, and they in turn others still. Do discussions ever bear such fruit? Will it not be better to discuss in our hearts the evil we find there continually, and fight it out on bended knee before God, as did he? If we do this, we shall be able to win souls and to rule nations.

Create in me a clean heart, O God; and renew a right spirit within me. Cast me not away from thy presence; and take not thy Holy Spirit from me. Restore unto me the joy of thy salvation; and uphold me with thy free Spirit. Then will I teach transgressors thy ways; and sinners shall be converted unto thee.—PSALM 51: 10—10.

He that overcometh, and keepeth my works unto the end, to him will I give power over the nations.—REVELATION 2: 26.

Every nation on the face of the globe is now open to the teachings of the gospel, and never before since the world began was heathenism so rapidly giving way to the enlightening influence of the Bible. My friend, is your lamp trimmed and burning? Are you ready and willing to lose your life, for the sake of that glorious and heavenly awakening?

FLOUR CANDY IN WINTER

NOT NECESSARILY DETRIMENTAL.

MY hives are frame hives, something like the Langstroth. I winter in cellar, and remove the cap on top of brood-chamber. I use two boards crosswise of the hives, and when I put the bees in the cellar I spread these boards apart so that the bees can come on top of the hive any time. This leaves a good draft, and keeps the combs dry. I always spread the combs in the center of the brood-chamber, so that the bees can cluster together and keep warm. I hardly ever lose any bees, unless they starve to death.

One year ago last fall I was not at home; did not get home until it was too late to feed, and my bees were very light. Some did not have any honey at all. But I put them all in the cellar—37 swarms. I put the light swarms so that I could feed them. I fed sugar and maple molasses and candy, but they would crawl all over the hive and die; 5 swarms died, and I thought that I should lose them all.

I will tell you how I saved the best. I took 10 lbs. of white sugar, and put it in a tin pail; set the pail in hot water until the sugar melted in good shape. When melted, let cool a little, and put in 1 lb. of wheat flour. I took thin burlap and put inside of the frame; made two or three holes in the center for the bees to crawl through. Now I spread on the sugar and flour. When hot, it will stick to the burlap; but when cool, I put it in the hives. The bees will do better on this than honey. I did not lose any more bees, and those that I fed sugar did better than those that had lots of honey. They swarmed the first, and made the most honey. I call it Brown's feeder. I shall feed all of my bees this spring in that way.

I have 53 colonies in cellar, all in good shape. I had a swarm given me last October, if I would give back the honey. I took them home and fed them sugar. I put three frames of sugar, two frames of empty comb, and they went to work, and are as good a swarm as I have got. My feeder is not patented. I think that is the best way to feed sugar. You can put it into the hive any time, cold weather or warm. When you melt the sugar, do not put water in it.

G. S. BROWN.

Salisbury, Addison Co., Vt., Feb. 20, 1882.

When reading friend Heddon's article on p. 115, it occurred to me that if flour candy did kill his bees, it does not always kill them for other folks. A few years ago I built up a late natural swarm on this flour candy in frames, and I showed the bees to Professor Cook, when he paid us a visit the last of December, and we saw plenty of brood in all stages. The queen was fertilized in October; but the next spring, when a customer paid for the best colony in my apiary, he selected this one. We have had many other similar reports. Friend Brown, who gives the above plan for putting the candy into the frames, has, I think, by his sheet of burlap, done away with the objection I have mentioned to frames of flour candy. The burlap, you see, will prevent the bees from building a comb, when the candy is all taken. Many thanks, friend Brown. By melting in water as you suggest, I presume we can mix the flour and sugar, without the addition of

any water, and thus get a candy not burned in the least, but of always the same consistency. Did not friend Heddon burn his candy just a little?

COMB FOUNDATION, AND WHERE IT STANDS AT THE PRESENT TIME.

ALSO SOMETHING IN REGARD TO RECENT IMPROVEMENTS IN ITS MANUFACTURE.

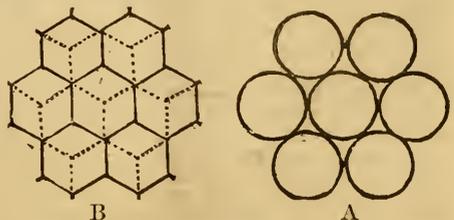
WHEN the bees build comb, we see such a multitude of them, with (to our eyes) a multitude of different notions in their different little heads, it seems impossible that any thing good or regular should come of it. Well, in looking back over the years since I first told you comb fdn. should be made on rolls, it seems to me we bee-keepers have been behaving much like the bees. There have been a multitude of notions, and many things have been taken up, and then dropped again, for years, it may be, until somebody came along and took up the same old thing, and, lo and behold! after brushing off the dust and cobwebs of age, and adding a few very simple touches, it is exactly the thing after all. When I first told you, after a couple of months of work, that sheets of wax would come out of rolls as we wanted it to, what a breeze there was! Our first experiment was with quite light walls, for we wanted it like natural comb; but before we had rolled out many hundred pounds, I got the idea into my head that we should give the bees wax enough to make the whole of the comb, and proposed to put it in heavy walls they could work down. At just this stage our friend Perrine came along with his patent, as you know; and before he took the mill away, I told him my plan. He so far fell in with it, that Mr. Washburn worked the mill over by his directions. The fdn. produced was almost exactly like that now called Dunham fdn., as we can show by samples of the work we have yet. The walls are high, and the tops of them level, almost like the top of a board; and, in fact, the sheets came out of the mill almost like a board out of a planing-machine. The mania, however, that soon sprung up, to have as many square feet from a pound of wax as possible, induced Perrine to have his mill worked over, and induced us, also, to make our subsequent mills with the light narrow wall. Before discarding the heavy wall, I did try it in hives; but, unfortunately, I used bleached white wax for the experiment, and it was so hard, in that April weather, that the bees could not handle it. You know white wax was all the talk then.

Well, as mills were necessarily very high then, as Mr. Washburn is a mechanic who commands high wages, others commenced to make mills. It was found, about this time, that our fdn., although it worked nicely in cool weather, stretched and bulged badly in the heat of July and August. I believe Mrs. Dunham was about the first to make mills after us, and, for some reason, she commenced to make the original thick wall. It was soon found that, with yellow wax and hot weather this worked all right; and, still more, the heavy walls held the

sheet up from stretching and sagging. She did not try to make a great many square feet to the pound, but rather to make a good stout comb that would stand hot weather. As her mills were nice, and low in price, they have obtained, I am glad to say, a great sale.

Now another nice little point comes in here: In trying to get fdn. as thin as possible, we made sheets without any side walls at all; and as the bees worked these into nice comb honey, it was thought to be a great saving. In using such for brood-combs, however, it was found some colonies of bees took hold of them very reluctantly; and, in fact, some bees were so poorly posted as to what was going on in the world, they would not touch them at all. They couldn't see the point, until they had learned, at least, unless some kind of a side wall was given them. We found this out by the dipped fdn., which gave a sheet with walls on one side, and not the other. The bees worked one side, and left the other plain. To get them to take right hold quick, we must have a good fair wall, and it wants to be soft wax, and not compressed. The base of the cell may be as hard as you please, providing it is as thin as natural comb. Bees handle the walls with comparative ease, because they can get their "thumb and finger" each side of the wall, and pull it up, as a potter pulls up the clay in turning a crock. The only way they have of making the bottom thin, is by scraping them down, which is necessarily a very slow operation.

Now another point: When we commenced making dies for the rubber plates last season, we decided, of course, on the heavy walls. We made a nice sheet from our best mill, but could not get a plaster cast to come off without breaking. The walls were too high, and too straight up. We must make a new mill, to get a single sheet of wax for these molds, or we must buy a sheet of some one who had a mill producing a sheet that would "lift" from plaster. A sample, received from friend Dadant, we found would lift. We sent to him for some whole sheets, and from these our rubber plates are modeled. Now, the very point that makes the Dunham fdn. lift from the plates, while ours would not, also makes it come out of the rolls, and, I think, very likely keeps it from sagging in the hives. What is this point? I think I can make it plain to you by a diagram from the A B C book.



Our fdn., and, indeed, all that is made that I know of, except the Dunham, is made after the natural comb, as at B. Mrs. Dunham, while making the bottom of the cell as we all do, makes the wall to these cells

something like A. It would seem that she uses a round punch in making the walls. This is much easier to do than to use one producing a hexagonal wall; and a mechanic incapable of making a pair of rolls like B might easily make one like A. Isn't it funny? A comparatively rude machine, producing an unnatural cell, seems, at the present date, to be really better for our purpose than the laborious ones we have been all these years working at! No disrespect intended to our friend Mrs. Dunham here, but, on the contrary, we owe her a vote of thanks, not only for the excellent mills and fdn. she has given to the world, but for showing, too, that women are capable of ranking side by side with the benefactors of our race in the mechanical world. There is one thing, however, against which I would like to protest a little. It is the following note, from her new circular:—

CAUTION.

Having obtained letters patent No. 246,999 for Dunham Foundation Machine, making comb foundation with base of cells of natural shape and side walls brought up to form an even surface, also on the foundation made on said machine, I hereby give notice to all parties infringing my rights either by manufacturing said machines or foundation, as well as to all parties purchasing machines as above other than those of my manufacture, that I am prepared to protect my rights, and shall prosecute all infringements to the full extent of the law.

In regard to the round cells: When Perrine took our first mill away, he said the man he had hired, Weiss, had made a small mill with rolls of brass, and that the cells were first drilled with a hollow drill. He tried to get a patent on this, and failed.

The Given press is a very rapid means of putting fdn. in wired frames, but it can not at present be very well worked on metal-cornered frames, if I am correct, and therefore we do not use it. I am inclined to think, too, that it is difficult to make the sheets of fdn. as thin as we do with our rolls, and to have it go clear up to the wood of the frames as we use it. The fdn. is much like the Dunham, and may be made exactly like it. The rubber plates work nicely now, but we do not get as full a wall with them as by the rolls, neither can we get as thin a base; but the bees work the soft wax more readily than any rolled fdn. Samples of the fdn. made by them will be sent free on application. The rubber plates are mounted by placing them in frames like an ordinary slate-frame. Small screws are put part way into the rubber, at intervals of perhaps two inches. The whole is then backed with plaster of Paris, being careful, of course, that the plates are in contact at every cell. When dry and firm, they are hinged together and worked like the plaster plates. To make starters, pour on so little wax that, when the plates are closed, it does not come to the outside; then pile up a lot of these irregular sheets, and cut up in the usual way. To make whole sheets, you must cover the entire lower plate, and close quickly. Trim off the surplus wax around the edges, and your sheet is ready to lift out. Of course, the plates are dipped in water to cool them. The water must be warm, or the sheet will break. The time occupied in trimming off the surplus is the great drawback. If some way could be devised for pouring in just enough wax for the sheet, and no more, and having it quickly distributed over the plate,

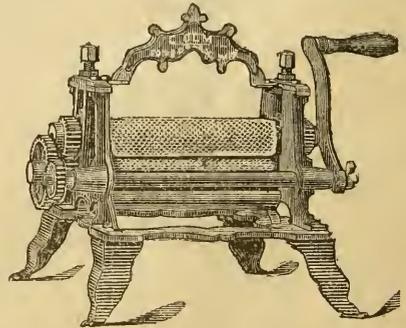
it would then be the most rapid process known, and there would be no hindrance in making it right in wired frames. We can furnish a machine for starters, just right to fill a 1-lb. section, for \$2.00; and if it does not please, you can return it for what it cost.

PRESENT PRICES OF FDN. MACHINES.

Below are the prices of the different machines now in the market:—

	Dunham.	Root.	Olm.	Vanderv't.
14-inch mill.		60 00		
12-inch mill.	60 00	50 00	40 00	45 00
9-inch mill.	40 00	30 00	25 00	35 00
6-inch mill.	25 00	20 00	15 00	25 00
4-inch mill.		16 00	10 00	

It will be seen from the above, that friend Olm is the only one who has enterprise enough to dare make a fdn. mill for \$10.00. We have samples of the fdn. his mills make, and they are very nice, having a side wall that comes clear up level. Below we present an engraving of one of his mills.



THE OLM FOUNDATION-MILL.

We have ordered one of the \$10.00 mills, and also one of Mrs. Dunham's 12-inch nickel-rolls. I presume they are only nickel-plated for only \$10.00 additional, although her price list does not say so.

Now, friends, we will furnish either the Dunham mills or Olm mills at their prices, or we will furnish you our own. To show you that we do not mean our own mills shall be behind any in the world, we will send samples of all kinds of fdn., free to any address.

Here are some seasonable hints in regard to dipping plain sheets, that we take from the Feb. No. of the *Bee-Keepers' Magazine*:

DIRECTIONS FOR DIPPING.

Make your dipping tank 4x12 inches and 2 feet deep; set it into a larger one with water between to regulate the temperature. Melt your wax in another boiler (a common wash boiler will do), have water in to prevent burning the wax, dip into the deep tank as fast as the wax is melted.

Make 4 or 5 thin boards of seasoned basswood the exact width when dry, you want your sheets. Nail cleats on top to prevent warping, and make a handle. Have them thoroughly water-soaked before using; the boards will swell as much as the sheets will shrink. Wet the boards before dipping, but shake off all the water you can. Put the board in the wax as deep as the length you want your sheet, repeat as soon as the wax stops dropping, dip 3 times for brood foundation and once for boxes, hold the board perfectly plumb while cooling; as soon as the wax stops dropping after the last dip, set it one side and take another board. By the time you have dipped four the first will be ready to peel off. If the boards are smooth and edges perfectly square, your sheets will need no trimming. When the wax begins to seum around the edges of the tank the temperature

is right. If sheets crack in cooling, your wax is too hot. By the above plan the sheets will be tapering. If started with the thin end of the sheet in the mill you will have no trouble, and the sheet will be long enough to cut off the thin end.

This paste made of rye flour makes the best lubricator for the rolls that I know of. Sheets should be made at least two weeks before milling.

We will furnish dipping-plates, as described above, made from clear straight-grained basswood, for any width, for 3 cents per inch in width. If your tank is wide enough to take a 12-inch dipping-board, you can dip 4-inch strips for starters, 6 at a time, by having a similar board divided into three parts by broad saw-cuts. Each board will then be about $3\frac{1}{2}$ in., and every dipping machine 6 narrow sheets.

THE COLOR OF WAX FOR FOUNDATION.

Now a word in regard to the color of wax: It is well known, I believe, that very dark wax is just as good for brood-combs as any thing else; but for all that, some will complain, unless all the fdn. is of a bright yellow. To fix this all pleasantly, we will, in the future, furnish fdn. for brood-combs, made of the darkest wax, for from 3 to 5 cts. per lb. less than our regular list prices. If you want to take advantage of this offer, give us a little time ahead; for we do not always have dark wax on hand. If you want to see samples of the nicest fdn. for all purposes, including the extra-thin flat-bottomed, send for our free box of samples.

Just as we close our forms, comes the following in regard to the rubber plates:—

After having tried the rubber plates thoroughly, I pronounce them a success, inasmuch as they make good fdn. that runs 4 tr. to the lb., and that answers my purpose fully. It took me about two days to learn to make full-sized sheets that would not erick. Getting the wax the right temperature is the main point. It should be just melted, and no more—about 120° is the right temperature; if hotter, it will stick. The water should be about 60° or 70°. I can not do good work to slap the plates together, but succeed best to exert an even pressure on the middle of the upper plate, keeping the hand on till ready to open the plates. If the pressure is removed sooner, it admits the air, and causes the sheet to crack. This was the point that gave me more trouble than all the rest. The plates must be kept wet all the time. I use a common clothes brush, and brush off all the surplus water before applying the wax. I find it easier to get sheets of an even thickness if the holes in the fountain are made smaller in the middle than at the ends, as some wax runs off at the ends. I can not do a very large day's work at it yet, but consider 3) lbs. a fair day's work.

C. B. THWING.

Hamilton, Mo., Feb. 22, 1882.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, MAR. 1, 1882.

God is our refuge and strength, a very present help in trouble. Therefore will not we fear, though the earth be removed, and though the mountains be carried into the midst of the sea; though the waters thereof roar and be troubled, though the mountains shake with the swelling thereof.—PSALM 46: 1-3.

We are told Mr. Burch's residence has been destroyed by fire, but that it was fully insured.

The *Kansas Bee-Keeper* is a very fair little journal, for only 60 cts. a year; but the print is poor, and so far it has been rather slow in getting out on time.

A GREAT amount of matter I should have been glad to have printed is again left out for want of room, and much of it has now become unseasonable, unless some special need should call it up again.

If you wish to deal with some one who always has every thing right, every time, and never makes a mistake, don't send to us. If however, being always ready to make good every error, the minute it is discovered, will do, send along your orders, and we will be glad to serve you.

We have 4072 subscribers, and 196 colonies of bees. Don't you think we have a right to be happy? Only two colonies are lost up to date, and one of them swarmed out. We have already sold a number of queens this spring, and united, but as 6 of the above are still queenless, we are ready for some queens from the South.

The Elwood & Co., who advertised in last No., it seems have left Starkville, N. Y., without filling orders. As I have advertised and sold their ink powders for some time, with quite general satisfaction, we had no reason to suspect any thing wrong. If all who sent them money without any return will notify us by postal card, we will fill the order from here.

The *British Bee-Keeper's Guide-Book*, by Thomas W. Cowan, second edition, is at hand; and as it discusses and illustrates improvements clear up to Nov., 1881, it will prove quite an addition to our bee libraries, in this country as well as England. The price is given as "one shilling and sixpence," and I presume we could get it so as to be sold for about half a dollar.

THAT bees do in health void their excrement in the form of a comparatively dry powder, is, I should think, fully proven by the reports that have been sent in. The statements made have called to mind facts from my own experience, enough to satisfy me, unless something more be brought forward to the contrary, that Mr. Quinby was right in his position. Doubtless some of our friends think those who have reported have been needlessly definite; but I think it won't hurt us, if we succeed in having the controverted point settled.

A PAMPHLET on foul brood, by Albert A. Konke, of Youngstown, O., is on our table. It treats principally of the salicylic-acid remedy, and I should judge friend K. to be well capable of handling this remedy in a truly scientific way. The price, 25 cents, I should object to, for 1000 such pamphlets could easily be printed for \$20.00. A 25-cent book ought to contain all that is valuable that has ever appeared on the subject. Besides the high price of the pamphlet, the winding-up seems to result in an advertisement of a \$5.00 "medicine-chest" for the cure of foul brood. Isn't this a little out of the spirit of modern bee culture?

CONVENTIONS.—A meeting of the bee-keepers of New Jersey will be held at New Brunswick, March 15, 1882.—The Champlain Valley Bee-Keepers' Association at Middlebury, Vt., May 11.—The Texas State Bee-Keepers' Association at McKinney, Collin Co., April 25, 1882.

ITALIAN BEES AND QUEENS

Full colonies, 2, 3, and 4 frame nuclei. Tested Queens, in May, \$3.00; in June, \$2.50; July, August, and September, \$2.00. Untested queens, in June and July, \$1.00; Aug., 90c; Sept., 75c. All queens will be reared from imported and home-bred queens. Please send for list to **GEO. W. BAKER,** Lewisville, Henry Co., Ind.

G. M. DOOLITTLE

Says **STANLEY'S VANDERVORT FOUNDATION**

for sections is *even thinner than natural comb, and is the very best fn. made.* See GLEANINGS for Jan., pages 14 and 15, and *A. D. J.* for Jan. 3. We also make high-walled Vandervort fdn. for brood-chamber, to fit any size frame. Send for samples and prices, or send \$10.00 for 20 lbs., 10 sq. ft. per lb., to 2-4d **G. W. STANLEY & BRO.,**

WYOMING, - WYOMING CO., - NEW YORK.
 25 cents per lb. in trade for good yellow bees-wax, delivered here.

WARRANTED

ITALIAN QUEENS

My queens are all bred from imported mothers. Send for circular free. **L. C. MCFATRIDGE,** Carroll, Carroll Co., Indiana.

100 Colonies of

ITALIAN BEES FOR SALE IN SIMPLICITY HIVES!

ALBINO, CYPRIAN, AND ITALIAN QUEENS; ROOT, VANDERVORT, DUNHAM, and GIVEN FOUNDATION FOR SALE, with every thing needed for a first-class apiary. Send for a circular, to 3-2d **E. T. FLANAGAN,** Box 819, Belleville, ROSE HILL APIARY. St. Clair Co., Illinois.

IMPORTED QUEENS.

In April, - - - - -	11 francs in Gold.
May and June, - - - - -	10 " " "
July and August, - - - - -	9 " " "
September and October, - - - - -	7 " " "

Queens which die in transit will be replaced only if sent back in a letter. 1-6d
CHARLES BIANCONCINI & CO., Bologna, Italy.

BE SURE

To send a postal card for our illustrated catalogue of

Apiarian Supplies

Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICES.

Italian, Cyprian, and Holy-Land Queens and Bees. **J. C. & H. P. SAYLES,** 2-7d Hartford, Washington Co., Wis.

I. R. GOOD, Nappanee, Elkhart Co., Indiana,

Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land apiaries, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

Albino and Italian Queens and Bees, and Supplies for 1882.

HEADQUARTERS FOR THE ALBINO BEES.

If you have any taste for beauty, desire pleasure in working, and want large yields of honey, buy the Albinos, for they are the "coming bee." In order to meet the demand for queens, I have increased my stock, and will be able to furnish several hundred per month after May 1. Also furnish hives, Noyce's extractor, and apiarian supplies in general. Send for price list. **S. VALENTINE,** 3-5d Double Pipe Creek, Carroll Co., Md.

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AT REDUCED RATES.

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LEWIS' IMPROVED ONE-PIECE SECTION.

Price (\$4.50) per 1000; any size to 6x6. No. 1, first quality dovetailed sections, any size to 6x6, \$4.50. No. 2, second quality dovetailed sections, any size to 6x6, \$3.50. No. 2 is planed smoothly one side, same as No. 1, but lumber is not as clean and white.

Lewis' one-piece boxes of white basswood, all sizes, *very low.* No charge for boxing or crating sections. Send for new price list.

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3d WATERTOWN, JEFF. CO., WIS.

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The celebrated Ohio Raspberry; Sharpless and Crescent Seedling Strawberry. Any one wishing to save money will do well to send for descriptive circular, free. Address **J. IRVIN JOHNSON,** 3-4d Brookside Nurseries, Palmyra, N. Y.

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Italian, Cyprian, and Holy-Land Queens,

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Before June 1st, $4\frac{1}{2} \times 4\frac{1}{2}$, at \$4.50 per 1000; $5\frac{1}{2} \times 5\frac{1}{2}$, \$5.00 per 1000. Sample of either, by mail, for a 3-ct. stamp. Italian queens, and bees by the pound at A. I. Root's prices, with packages included. Two-comb nucleus, with Gallup size frames, after June 1st, \$2.00; with 4 combs, in full-sized hive, complete, \$4.50. Add price of queen you want. Full colonies, with tested queens, May and June, \$9.00 each. It will pay you to try our bees!

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No circulars. **O. H. TOWNSEND,**
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TESTIMONIALS:

I have the bees on summer stands, and I will say for you that I never saw a finer lot of bees.

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Last May I sent \$75.00 to friend Townsend, of Hubbardston, Mich., for bees. They came the first week in June, and the hives were full; each hive containing 12 combs, with brood in 8 combs. If friend T. does as well by every one, he deserves to be patronized.

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Rogersville, Mich., July 1, 1881.

[Taken from August Gleanings, 1881.]

Hubbardston, Mich., Feb. 13, 1882.

TO WHOM IT MAY CONCERN:—We, the undersigned, citizens of Hubbardston, Mich., take pleasure in recommending O. H. Townsend, of Kalamazoo, formerly of this place, to the favorable consideration of bee-keepers and others, believing him to be reliable and straightforward in his dealings.

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W. J. Tabor, Grocer.

3d

1882. TWELFTH YEAR. 1882.

Italian Queens!

Tested Queens in April and May, - - -	\$2.50
" " in June and after, - - -	2.00
Untested Queens in April and May, - - -	1.25
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By the $\frac{1}{2}$ doz., 5 per cent off above prices. By the dozen, 10 per cent off above prices. Also, Syrian and Cyprian Queens (bred in separate apiaries), at same price. Sent by mail, and safe arrival guaranteed. Address **W. P. HENDERSON,** 2-5d Murfreesboro, Ruth. Co., Tenn.

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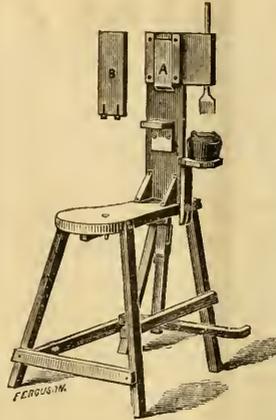
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DURABLE,
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Address **W. S. CAUTHEN,**
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For terms, inquire of **H. NEUHAUS,**
3d Burlington, Wis.

BEE-KEEPERS, Save your money and do your own printing with Rubber type and stamps. Circulars free.

3d Address **A. H. DUFF,**
FLAT RIDGE, - - GUERNEY CO., - - OHIO.

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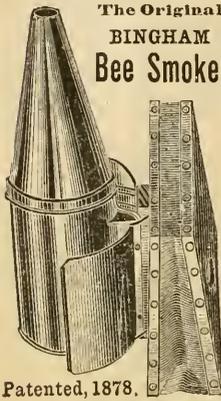
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Circular on application.

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Patented, 1878.

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To sell again, apply for dozen or half-dozen rates. Address T. F. BINGHAM, P. M., or BINGHAM & HETHERINGTON,

3d ABERONIA, MICH.

BEE-KEEPERS' EXCHANGE

The MARCH No. of the "EXCHANGE" contains a full official report of the meeting of the North-Eastern Bee-Keeper's Association, held at Utica, N. Y., Jan. 25, 26, 27. The discussions and essays treat on the most vital points of apiculture; are by able and successful bee-keepers, and should be perused by every progressive bee-keeper in the land. This one number is worth the subscription price for a whole year. Single copies 10c each, or 3 months on trial for 25c; 6 months, 50c; one year, \$1.00.

Address HOUCK & PEET, Canajoharie, N. Y.

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I have 75 four-frame Italian nuclei, all last August queens, from Root's imported queen; \$3.00 each. Safe arrival guaranteed. RICH'D CADLE, 3-4d Shawneectown, Gallatin Co., Ill.

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 Tested queens in April, May, and June, - - \$2.50
 " " " in July, - - - - - 2.00
 Dollar queens in April, May, and June, - - 1.25
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S. R. BRIGGS,
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 Shaftesbury Hall, Toronto, Canada.

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has advantages over all other. My new machines make it very perfect. Thin fdn., warranted 10 to 11 ft. per lb. See free samples, and price list of fdn. molds, Bees and Queens. OLIVER FOSTER, 3d Mt. Vernon, Linn Co., Iowa.



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 LUMBER CITY,
 CLEARFIELD CO., PA.
 3-11d.

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We make a specialty of our "Boss" One-Piece Sections. Patented June 28, 1881. We have not sold any right to manufacture, therefore we caution the public against buying any One-Piece Sections not bearing our stamp. Send for new price list. JAMES FORNCROOK & CO. Watertown, Jeff. Co., Wis., March 1, 1882.

WANTED!

Every reader of GLEANINGS to send at once for a copy of my new Illustrated Circular of Bee-keepers' Supplies. It may pay to see it before ordering.

BEESWAX WANTED.

J. V. CALDWELL,
 Cambridge, Henry Co., Ill.

2-7d

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HOLY-LAND AND CYPRIAN QUEENS.

Tested Holy-Land Queens, in March and April, \$5.00. Selected, \$7.50.

ALL BRED FROM MOTHERS IMPORTED BY D. A. JONES.

Cyprians at the same price. Reared in separate apiaries. H. B. HARRINGTON, Medina, Ohio.

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I will sell, and deliver to Louisville express office from 1 to 20 swarms of Italian and hybrid bees at the following prices: In 10-frame 2-story Langstroth hives, each \$10.00; in 8-frame 1-story L. hives, each \$7.50. Pure Italians, \$1.00 per colony more. They have all straight worker combs, young queens, and are as strong as any that I have at the time of shipment. I will guarantee safe arrival to your express office, and am determined to give satisfaction. No order filled unless accompanied by the cash. No discount on the above prices. Address A. SCHNEIDER,

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Foundation all ready for business. Every sheet wired and bound around with a light wooden rim ready to adjust instantly into your frame. No advance in prices. Small sample for 6c. I shall also breed Choice Italian and Holy-Land Queens, practicing a new stimulative process. Write now for prices and particulars to JOIN H. MARTIN, Hartford, N. Y.

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Must be experienced and reliable. No person using intoxicating liquors, tobacco, or cigars, need apply. A married man preferred. Must be industrious. Address DR. ISAAC EDWARDS, Omaha, Nebraska. 12tf

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The Oldest Bee Paper in America—Established in 1861.

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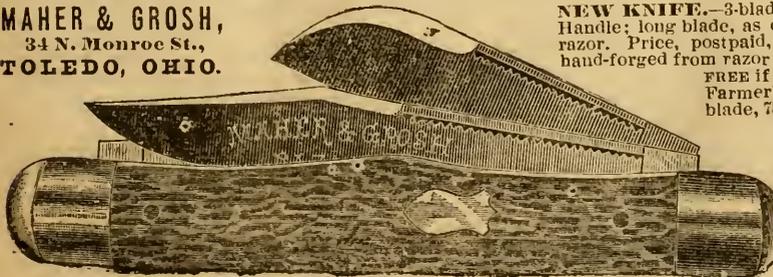
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Will pay 21c per lb. cash, or 23c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 27c per lb.

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P. S.—Unless you put your name on the box, and tell how much you have sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by Express. A. I. ROOT.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 4tf
- *Paul L. Viallon, Bayou Goula, La. 4tf
- *S. F. Newman, Norwalk, Huron Co., O. 4tf
- *Wm. Ballantine, Sago, Musk. Co., O. 4tf
- C. H. Deane, Sr., Mortonsville, Woodford Co., Ky. 4tf
- *J. O. Facey, New Hamburg, Ont., Can. 2-7
- *D. A. McCord, Oxford, Butler Co., O. 3-2
- *C. C. Vaughn, Columbia, Maury Co., Tenn. 3-8
- *J. P. Sterritt, Sheakleyville, Mercer Co., Pa. 3-8
- *Otto Kleinow, opp. Fort Wayne, Detroit, Mich. 3tf
- Mrs. B. H. Lowe, Hawkinsville, Pulaski Co., Ga. 4-6
- *C. B. Curtis, Selma, Dallas Co., Ala. 4-6
- *J. H. Reed, Orleans, Orange Co., Ind. 4-9
- *E. B. Plunket, Atlanta, Fulton Co., Ga. 4-9
- S. C. Perry, Portland, Ionia Co., Mich. 4tf

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Who agree to make such hives, and at the prices named, as those described on our circular.

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- P. L. Viallon, Bayou Goula, Iberville Par., La. 4tf
- S. F. Newman, Norwalk, Huron Co., O. 4tf
- M. S. West, Flint, Gen. Co., Mich. 2-7
- F. A. Snell, Milledgeville, Carroll Co., Ill. 3-2
- Jno. M. Kinzie, Doon, Ont., Can. 4tf

Department for those who wish to be considered SQUARE MEN.

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

If thou bring thy gift to the altar, and there rememberest that thy brother hath ought against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.—MATT. 5:23, 24.

We whose names appear below do not know that we have a single dissatisfied person with whom we have had deal; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- Paul Viallon, Bayou Goula, Iberville Par., La.;
- Otto Kleinow, opp. Fort Wayne, Detroit, Mich.
- I. R. Good, Nappanee, Elkhart Co., Ind.; 3tf
- E. M. Hayhurst, Kansas City, Jackson Co., Mo. 3tf
- E. A. Thomas & Co., Colerain, Mass. 3tf
- J. P. Moore, Morgan, Pendleton Co., Ky. 3tf
- G. W. Stanley & Bro., Wyoming, Wv. Co., N.Y. 3tf
- Hiram Roop, Carson City, Montcalm Co., Mich. 3-3
- Oliver Foster, Mt. Vernon, Linn Co., Iowa. 3tf
- D. A. Pike, Box 19, Smithsburg, Wash. Co., Md. 3-5
- Rev. J. S. Woodburn, Livermore, Westm'd Co., Pa. 3-8
- J. H. Myers, Saratoga Springs, Saratoga Co., N. Y. 3tf
- Byron Walker, Capac, St. Clair Co., Mich. 3tf
- J. A. Osborne, Rantoul, Champaign Co., Ill. 3tf

- Chas. D. Duvall, Spencerville, Mont. Co., Md. 3fd
- J. O. Facey, New Hamburg, Ont., Canada. 3-7
- J. T. Wilson, Mortonsville, Woodford Co., Ky. 3fd

THE FOLLOWING ARE IN THIS MONTH FOR THE FIRST TIME.

- C. W. Phelps, Tioga Centre, Tioga Co., N. Y. 4fd
- O. H. Townsend, Kalamazoo, Kal. Co., Mich. 4fd
- C. B. Curtis, Selma, Dallas Co., Ala. 4-6
- J. J. Kiser, East Des Moines, Polk Co., Iowa. 4fd
- C. S. Larkin, Lockport, La Fourche Par., La. 4fd
- S. P. Yoder, Vistula, Elkhart Co., Ind. 4
- S. D. Buell, Union City, Branch Co., Mich. 4fd
- R. Stehle, Marietta, Wash. Co., O. 4fd
- Bright Bro's, Mazeppa, Wabasha Co., Minn. 4fd
- T. C. Crilly, Grafton, Lorain Co., O. 4fd
- S. C. Perry, Portland, Ionia Co., Mich. 4fd

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Those whose names appear below agree to furnish bees by the pound, and at the prices given in our circular.

- R. Stehle, Marietta, Wash. Co., O. 4fd
- S. C. Perry, Portland, Ionia Co., Mich. 4fd

FOR CHOICE QUEENS, and for bees by the lb., or in any other shape, address S. C. PERRY, Portland, Ionia Co., Mich. 4d.

WARRANTED ITALIAN QUEENS A SPECIALTY.

All who expect to buy queens this season, be sure to send for my circular. My queens gave perfect satisfaction last year. Warranted Italian queens, bred from choice imported mothers, in May, \$1.25; six, \$6.00; two, \$11.00. Holy-Land and Cyprian queens, crossed with Italians, at the same price. Tested Italian queens, \$3.00.

4d CHAS. D. DUVAL, Spencerville, Mont. Co., Md.

Basswood or Linden Trees!

One foot and under, \$2.00 per 100; by mail, \$3.00; 2, 4, 6, 8, and 10 ft. high, for 4, 6, 8, 10, and 12 cents each, respectively. Special rates by the 100 or 1000. Dandelion plants, 50c per dozen by mail.

4d GEO. E. HILTON, Fremont Center, Newaygo Co., Mich.

CALIFORNIA APICULTURAL

The only bee journal published on the Pacific coast is the illustrated monthly CALIFORNIA APICULTURIST. It is devoted to the interests of the Apiarists of the Golden West, and is an able exponent of the Bee-Keeping Industry everywhere, and is edited and published by practical bee-keepers. IN SHORT, it is bright, spicy, and reliable; the information contained being interesting to apiarists the world over. \$1.00 a year; 3 mos., 25c. Sample copy free. Get one before you forget. Address, 4 APICULTURAL PUB. CO., Oakland, Cal.

WANTED.

A bee-breeder of experience. One who can come well recommended; must be competent to take charge of an extensive breeding apiary of 500 hives. Must be sober and industrious. To such a one, a first-class opportunity is offered. Also, an apprentice in bee culture. Address C. H. LAKE, 4d P. O. Box 815, Baltimore, Md.

FOR SALE!

- 10 one-story Langstroth hives, with brood-frames; 8-inch cap, each.83
 - 15 two-story, nearly new, 8-inch cap; brood-frames below, and narrow or broad above, painted inside, and 3 coats outside, each. . . \$1 12
 - 4 colonies Italian bees in 10-frame Langstroth hives. 7 00
 - 1 Everett extractor (cost \$12.00). 8 00
 - 60 new chaff division-boards (a la Root) each. . . 12
 - Tin separators, heavy, per 100. 1 00
- 4d A. FAHNESTOCK, TOLEDO, OHIO.

WANTED

Motherwort seed, of the crop of 1881. A. I. ROOP, Medina, Medina Co., O.

GET JUST WHAT YOU PAY FOR.

Bees by the pound, April, \$2.00; May, \$1.50; Hybrid Queens, \$1.00; pure Italians, \$3.00. Stores and combs, 15 cts. per lb. No charge for package. Frames either L., or 10% x 16%. Safe arrival at last express office guaranteed. Will sell bees without queens.
J. J. KISER,
East Des Moines, Polk Co., Iowa.

HIVES AND SECTION BOXES,

wide L. frames, tin separators, brood frames with metal corners. All kinds of hives; chaff hives with movable upper story.

Send for price list.
A. B. MILLER & SON,
3-5d Wakarusa, Elkhart Co., Ind.

Italian, Cyprian, and Holy-Land Queens, Bred from the D. A. Jones importation; also VANDERVOORT COMB FOUNDATION, made on the same mills that made the 10n, that took the prize at the Northeastern Bee-keepers' Association at Utica in 1881 and 1882, over the Van Deusen, Flat-Bottom, and thin Dunham, for surplus boxes; also the thick over all kinds for brood-chamber.

J. L. SCOFIELD,
3-8d Chenango Bridge, Broome Co., N. Y.



FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 14 square feet to the lb. Circular and squares free. J. VAN DEUSEN & SONS, Sole Manufacturers, Sprout Brook, Mont. Co., N. Y.

100 Colonies of

ITALIAN BEES FOR SALE IN SIMPLICITY HIVES!

ALBINO, CYPRIAN, AND ITALIAN QUEENS; ROOT, VANDERVOORT, DUNHAM, and GIVEN FOUNDATION FOR SALE, with every thing needed for a first-class apiary. Send for a circular, to 3-2d E. T. FLANAGAN, Box 819, Belleville, Rose Hill Apiary, St. Clair Co., Illinois.

ITALIAN BEES AND QUEENS

Full colonies, 2, 3, and 4 frame nuclei. Tested Queens, in May, \$3.00; in June, \$2.50; July, August, and September, \$2.00. Untested queens, in June and July, \$1.00; Aug., 90c; Sept., 75c. All queens will be reared from imported and home-bred queens. Please send for list to GEO. W. BAKER, 3-9 Lewisville, Henry Co., Ind.



SEND FOR ILLUSTRATED CIRCULAR OF CHAFF AND SIMPLICITY BEE-HIVES, SMOKERS, COMB FOUNDATION, QUEENS, BOOKS, ETC., ETC.
S. C. & J. P. WATTS,
LUMBER CITY,
CLEARFIELD CO., PA.
3-11d.

WANTED!

Every reader of GLEANINGS to send at once for a copy of my new Illustrated Circular of Bee-keepers' Supplies. It may pay to see it before ordering.

BEESWAX WANTED.

J. V. CALDWELL,
2-7d Cambridge, Henry Co., Ill.

ITALIAN BEES

By the Pound

in April and until the 15th of May, \$1.00 per pound. After May 15th, 80c per lb. in lots of 5 lbs., and 75c in larger lots. Express charges are very little more on 5 lbs. than less. Dollar queens at \$1.00 after May 1st. Hybrid queen with lbs. of bees, in April, \$1.00. Satisfaction guaranteed.
G. W. GATES,
4-5d Bartlett, Tenn.

PRINTED, 100 Envelopes, 100 Letter-heads, 100 Business Cards, postpaid, \$2.00. Fine Chromo Floral Cards, 15c per 25; 25c per 50. Hand Bouquet, Cat and Gold Motto, 25c per 25; 40c per 50. All kinds of job work neatly executed. Send for Price List and Circular of thoroughbred Land and Water Fowls. Fancy Poultry a specialty. If your hens don't lay, feed Imperial Egg Food. Trial package by mail, 50c and \$1.00.
J. T. FLETCHER,
3-4 West Monterey, Clarion Co., Pa.

C. OLM'S COMB FOUNDATION MACHINE.

SEND FOR SAMPLE AND CIRCULAR.

4-6 C. OLM, Fond du Lac, Wis.



1882. QUEENS! 1882.

I am now booking orders for warranted Italian Queens; each, \$1.00; six, \$5.00. Tested, after June, \$1.50. Cyprians, unwarranted, \$1.00; six, \$5.00. Send for circular giving description and recommendations from P. M. and county officers. Money-Order office, Versailles, Ky.
J. T. WILSON,
11fd Mortonsville, Woodford Co., Ky.

IN THE FRONT RANK

of Queen-Breeders. Our handsome 24-page

Illustrated Catalogue

of four races of BEES, QUEENS, and BEE-KEEPERS' SUPPLIES for 1882 is now ready. Secure a copy before you purchase elsewhere. Address

E. A. THOMAS & CO.
(Successors to E. A. Thomas),
2-7d Coleraine, Franklin Co., Mass.

SMALL FARM AND APIARY FOR SALE CHEAP. Property worth about \$1500. For particulars, address J. B. COLTON, Waverly, Bremer Co., Iowa.

BY SENDING YOUR NAME AND ADDRESS on postal card I will send you my 16 page circular of Italian, Cyprian, and Holy-Land Bees, Queens, and Apiarian Supplies, etc. H. H. BROWN, 4ftd Light Street, Col. Co., Pa.

NUCLEI! Three frames brood and honey, 1 lb. bees, 1 untested Italian queen, shipped in my S. hive, \$4.00; with 2 lbs. of bees, \$5.00; for each additional pound, add \$1.50. All orders received in April filled in May in rotation, or money returned.
4d H. BARBER, Adrian, Len. Co., Mich.

KIND WORDS FROM OUR CUSTOMERS.

Please send GLEANINGS. I don't think my bees would work without it. DR. G. A. DEMING, Amboy, Lee Co., Ill., Jan. 9, 1882.

The ABC that I purchased of you is the nicest book I ever saw. JOHN ELLINGER, Hopkins Station, Allegan Co., Mich., Jan. 4, 1882.

Frank is growing faster, and walks straighter since he has the Waterbury. It does finely. Beallsville, O., Feb. 13, 1882. N. J. ISRAEL.

The magnifying glass bought of you some time ago is a very nice article for the money, and I am well pleased with it. W. S. COBB, Woodston, N. J., Feb. 16, 1882.

The goods came all right. Every thing you sent was nice and cheap. You will have to enlarge your factory, or quit selling so low. Many thanks.
Glasgow, Ky., Feb. 16, 1882. M. WINNIGER.

That watch you sent me was duly received, and is a beauty. I was offered \$3.50 for it, but refused; you see that would leave me GLEANINGS 4 years for 50 cents.
Nappanee, Ind., Jan. 16, 1882. J. B. WISE.

The 10-cent 24-lb. spring balance I got from you proved, by fair test, as you recommended them; they are a cheap and good article.
JAMES H. GOODLOE.
Calvert City, Ky., Jan. 16, 1882.

The goods you sent came all right. The watch is just "boss." It keeps time first rate so far. I was disappointed in getting so many sections for the amount.
Waterford, Ont., March 6, 1882. JAS. J. CHURCH.

Don't give up the Home Papers. Your every-day experiences and trials and shortcomings are worth more to me than long sermons on theology.
F. A. BLAKE.
Rochdale, Worcester Co., Mass., Feb. 20, 1882.

The Waterbury watch that I ordered of you came to hand all right. I am much pleased with it. It keeps better time than half of the \$10.00 watches about this place.
Normandy, Tenn., March 11, 1882. E. T. ANTHONY.

I received the watch you sent me by mail, in due time. To say that I am much pleased with it, does not express my appreciation of it; it keeps excellent time. How you can afford to give them away as you do, "muddles" me.
Seaford, Del., Jan. 14, 1882. W. J. STEWART.

We can truly say, that GLEANINGS has been the best advertising medium we have yet tried. Since the Jan. number came out we have had hundreds of calls for samples, and our order-book shows a long list of orders from those who want their fidn. and other goods in time for the season's work.
Wyoming, N. Y., Feb. 17, 1882. G. W. STANLEY & BRO.

When I wrote to you I was in a great hurry, and I did not tell you how to send the hive; in fact, after I sent the letter it came to me that I did not write the town I live in. It does seem to me you must be a Christian man or you could not be so calm when you have such letters written to you. For I know you have a great number.
Westboro, Mass., Feb. 6, 1882. HENRY D. AINSWORTH.

WORTH ITS WEIGHT IN GOLD.
I agree with you about the "Christian's Secret of a Happy Life," and would love to order ten copies, but we have just come to a new country, and are trying to get a start.
Ocala, Fla., Jan. 2, 1882. MRS. W. L. HELM.

Goods received all satisfactory, especially the A B C book, in which I am much interested. Mrs. B. says that she can not get me interested in any other reading. I am now wintering 29 swarms; but if I had had the book last summer I should have had them in better shape than they are.
Ellington, N. Y., Feb. 11, 1882. O. P. BARBER.

The A B C received, and I have just finished an attentive examination of your most valuable work on bee culture, and can not wonder, after a careful reading, that it is meeting so large a sale. The world is greatly indebted to you for presenting in such an attractive form the amount of useful information you have collected within its pages.
Strickler, Ark., Feb. 11, 1882. TOM M. HARDWICK.

THE FIVE-CENT NIPPERS.
The 5-cent nippers give perfect satisfaction. I can cut lead with them, and have cut brass and copper wire too. And those other tools you sent me were worth twice what they cost me. I have 4 hives of bees, and 1,6 lbs. of box honey, and 80 lbs. of extracted. The latter brought me 10 cents, and the comb 12 cents.
East Berkshire, N. Y., Feb. 28, 1882. L. F. WILLIAMS.

The Waterbury watch is just at hand. Accept my sincere thanks. How in the world can the Waterbury Co. afford to sell such a beauty of a watch to you so that you can afford to give it as a premium for only five subscribers? Do they work for nothing and board themselves? As I already have two watches, I intend making my cousin the happiest boy in town by giving him the Waterbury. Again, please accept my thanks.
Hamilton, O., March 14, 1882. W. S. BOYD.

THE 75-CENT TELEPHONE.
Telephone up and works well; but that No. 25 copper wire you sent is too small—it won't stand pulling. Fortunately, there was enough of the large to reach.
Hamilton, Mo., Feb. 4, 1881. C. B. THWING.

[We know it, friend T. and we will replace the copper wire by the annealed brass wire we use now, to you or any others who had the copper, if they will mention it.]

HOW FRIEND W. CAME TO BE PLEASED "ALL OVER."
As I examined the various articles, I was pleased "all over;" but you have made a very bad mistake; you have sent what I did not order; namely, two watches instead of one. One came by mail a few days after my order was sent; the other was packed in the box with the other goods; but I sold one the very first time I showed it and said it was for sale.
Cassville, Harrison Co., O., Feb. 7, 1882. S. M. WALLACE.

The clock "Fairy Queen" goes beautifully. The makers of this clock have aptly named it, and it is very beautiful indeed. I bought it mostly on account of the alarm attachment: wife and I are both sleepy-headed, especially in the morning, and our sitting-room clock generally failed to awaken us, away off up stairs in our bed room. The "Fairy Queen" alarm is just right; it awakens Mrs. Taylor, and—and—leaves me asleep along with the baby "black eyes," who is not much of a baby either, as he is nearly 2 years old.
Wilmington, N. C., Feb. 17, 1882. R. C. TAYLOR.

The third and last Waterbury watch sent by you to fill my order (the two former not giving satisfaction, having been injured in the mails) was received safe and sound, and it keeps excellent time. It was wound up as soon as received, and has not stopped one minute since. I confess that I was somewhat disappointed after receiving the second watch, and not being able to start it; and had it not been for the implicit confidence that I placed in your word, coupled with your fair dealings with me in the past, you most certainly would have received an article for the Growlery.
Delaware Station, Warren Co., N. J., Feb. 6, 1882. J. D. BRANDS.

The goods have arrived in good condition, and are entirely satisfactory. I like to see good workmanship; and when it is furnished at so low a price as the 240-lb. scales and the 25-cent dividers, it gives me still greater pleasure. Bees are wintering finely in their chaff hives. The winter has been mild so far. My neighbor who lost two-thirds last winter, has protected his bees this; but I presume by the time we have another cold winter he will have forgotten his losses and lost his zeal. "Our Homes," Part II., has done me much good, and has been read and praised by the rest of the family. I pray for you daily.
Hamilton, Caldwell Co., Mo., Jan. 28, 1882. C. B. THWING.

My time was out in Dec., and although but a short time has elapsed since I read its interesting pages, I can feel a sad and lonely feeling "stealing" over me because I have not had the opportunity of perusing this month's GLEANINGS. Our little "pets" are now placed within their little beds, being surrounded by dry wheat chaff, which keeps them warm and healthy. Oh how it fills the apiarist with enthusiasm, to know that his industrious little "friends" are safely housed amid the cold and storms of winter! and when summer comes, what a joy he feels as the myriads of little "fellows," from early morn to eventide, endeavor to repay him for his little trouble in preparing for them a beautiful home in which to live, and plentiful covering under which to sleep during the severe winter.

Lynn, Randolph Co., Ind., Jan. 24, 1882. E. J. HINSHAW.

What made you stop the journal? You ought to know that I could not keep house without it. I will send you that \$1.00 in due time, you know I will, don't you? Try me and see if I am not as good as my word.

W. W. ROWLEY.

Eau Galle, Dunn Co., Wis., Jan. 25, 1882.

[And you ought to know, friend R., that we could not very well know you wanted it kept going, unless you said so; but now since you have said so, we know, of course, you want it, and that you will send the money just as you say. Just imagine us going with a hop, skip, and a jump, to put your name down for the whole of 1882. Shall we not put it for five years, and not have any more trouble? You know you will have a watch, then, too.]

SHIPPING FRAMES OF WIRED FOUNDATION TO
TEXAS, ETC.

The goods ordered of you, and shipped Jan. 9th, arrived Feb. 20th; so you see the good in ordering in due time. All came safe, and in splendid order, even to the frames of wired fnd. The freight to Schulenburg was \$11.30. I do not know that that is too much for 590 lbs. Bees are fine and strong, full of brood; the fruit-trees are in bloom, with many other kinds of flowers. Our "fixin's" here are in good trim. Every thing will be ready by May 1st, which is the beginning of our great harvest. The "Square List" is a happy idea — good!

DR. J. E. LAY.

Hallettsville, Texas, Feb. 24, 1882.

We are glad that George and Ernest recognize a wider meaning to the law that gives "great peace." We are sure you do not intend to disregard the laws of health, by the indulgence of appetitic or passion; but when the poor tired nerves are wound up daily to their highest tension, there must be a rebellion. Nothing but a miracle can save you from disease or death. Can any one do his best work for saving souls by continual overwork? Is it not better to take needful rest, trusting in Providence for the event? I believe in enthusiasm and hard work, and rejoice greatly in the work you are doing; but the Bible says, "A merciful man is merciful to his beast." So, then, let us be merciful to our own physical natures, that we may the better glorify God.

PRUDENCE K. SINTON.

Ithaca, N. Y., Feb. 7, 1882.

Bro. Root, for so I shall venture to call you now, please find inclosed one dollar to renew subscription for GLEANINGS, 1882. Of course, it's worth the money to me, and a great deal more. Please accept my thanks for the kind words in Our Homes. The more faith we have in God, the more we have in our fellow-man; we can trust them further, leaving the results in the hands of Him who has said, "All things shall work together for good to them that love the Lord." I have 48 stands of bees, mostly blacks, in my cellar, two outside, packed. Made about 15 cwt. of honey last year; have never lost any bees of any account by wintering yet. If I have my usual luck this year, it will be bees or farming — which? Wishing you success in your business affairs, also in your labor of love, I remain yours truly —

WM. COX.

Viroqua, Vernon Co., Wis., Dec. 30, 1881.

[Thanks, friend C.; and I would call especial attention to your point of faith in our fellow-men. One who sees only the worst side of his fellow-men is pretty surely wicked himself.]

For the last two years I have been a careful reader of GLEANINGS. There is much in it I admire and appreciate, and also a good deal that a "canny Scot" would hesitate to pronounce upon. Your Home Papers I am very much interested in, and from many parts of them I can not but say that I derive profit as well as pleasure; and although there are many statements in them which a reticent disposition would shrink from making, still, having made them, their very declaration bars the way to returning, knowing that a previous weakness (wickedness if you will) will be watched for with a keen eye by a spiritual enemy. Your readiness as a writer, I admire, and the tact with which you tone down strife is exemplary, and what I should wish to imitate. And I often think it is impossible for you, with your multifarious labors, to give the requisite thought to every subject requiring your attention, and much must be decided by you without premeditation.

K. EDWARD.

Montrose, Scotland, Dec. 5, 1881.

I thank you for the Home department of GLEANINGS (Feb. No. especially). You touched upon the secret trial of many a home the world does not always know of; but it nevertheless blights the little good we might do in more ways than one, sometimes by causing us to hang our heads in contrition at the prayer-meeting, when we ought to be testifying to the goodness of God. Satan knows our weak points; he knows how to help us hide our lights under a bushel. You are not the only one who speaks and acts unadvisedly sometimes. I thought of things in my own life. Husband sat silent for some time. I looked up after a while, to see him brush away a tear.

Oh the good we all might do,
While the days are going by!
But the seeds of good we sow,
Both in shade and shine shall grow,
While the days are going by.

SARAH J. W. AXTELL.

Roseville, Ill., Feb. 28, 1882.

OUR HOMES.

I had thought that I would not have my son subscribe for GLEANINGS this year, but your Home Papers have been of so much benefit to me, I do not think I would be doing right to not renew. Actually, if I were one of those very few who have a dislike to every thing you publish not tending toward bee culture, I certainly would not let any one know I did not have that so much-desired "love at home," by requesting the discontinuance of your Home talks. Those who do not like the *tone* of Our Homes, surely must be of a sour, fretful, fault-finding nature — the very ones, of all others, who should be benefited. A man may not be a Christian — reject every good, holy thought — but how necessary, how much more pleasant it is to cherish love at home! Therefore go on in your good work. You may not succeed in making all your subscribers Christians; but honesty and morality will be imparted and inculcated, and love for the dear ones at home cherished. I know I am a better man from reading your home talks, and I pray God to continue this growth in grace until I am a perfect man.

Snyder, Ark., Feb., 1882.

R. A. BETHUNE.

CIRCULARS, ETC., RECEIVED.

Bright Bros., Mazepa, Minn., issue a 20-page price list of apianian goods. It is rather strange that a catalogue so nicely printed as this is, and from such enterprising men, should contain bad spelling and typographical errors. It is surpassed in this respect, however, by one from friend Colvin, Dalton, Pa., dealer in bees, boxes, etc.

From W. J. Pettitt, Dover, England, we have received a 16-page list of hives as made and used in that city. It is almost bewildering to see the complications of the English hive and bee-house. They remind one of the latest improved burglar-proof bank-safes of this country — that is, in the picture. One bee-house, 63 1/2 ft. 2 inches, and 6 ft. under roof, iron top, is priced at over \$200. Mr. Pettitt's bees get their honey from the high and inaccessible rocks of Dover cliffs. He has about 60 hives. Mr. P. is doing a noble work in developing the honey industry of England, and his catalogue reflects great credit on his endeavors.

Before us is "Gray's How Plants Behave. How they Move, Climb, Employ Insects to Work for them." It is a beautiful book, finely illustrated, and the pictures of the blossoms of the Simpson honey-plant (figwort) are so real as to make one almost smile. Although the book does not contain a great amount of matter for the money, it is an excellent one for beginners in botany, and those interested in the matter of pollen and honey, and their relation to botany. We can furnish it for 50 cents, or 55 by mail.

A very neat circular on smokers and honey-knives comes from our enterprising friends Bingham & Hetherington, Abronia, Mich.

J. R. Landes, Albion, Ohio, sends us a nice 4-page price list of poultry and apianian supplies.

C. H. Lake, Baltimore, Md., has just sent us a 60-page catalogue of apianian supplies, and an illustrated list of honey-plants, such as poplar, rape, Alsike clover, mellilot, and many others. The whole work is full of cuts, and forms a valuable addition to our stock of price lists.

From John H. Myers, Saratoga Springs, N. Y., a descriptive list of garden, field, and flower seeds, bulbs, tubers, etc., besides bees and Simplicity hives.

Friend Dull's circular, mentioned last month, was printed with a rubber stamp, and not with the electrotype. We have just received from him his business card, printed on a postal, with one of these stamps, violet ink. The impression is nearly, if not quite, as good as type — being, in fact, as much like it as an electrotype plate. He also sends other specimens.

Friend Muth's little book, containing some very practical hints, from a practical bee and honey man, is before us. Such a little book, from one old in experience, is almost like a visit from him.

H. M. Morris, Rantoul, Ill., sends a postal circular of honey-plants and trees, raspberries, etc.

A 28-page price list of Italian, Cyprian, Holy-Land, and Albino bees, from E. A. Thomas & Co., Coleraine, Mass., is before us.

C. D. Duvall, Spencerville, Md., issues an 8-page price list of the standard varieties of bees.

J. M. Brooks & Bros., Columbus, Ind., send us a 2-leaf price list of queens, colonies, bee supplies, etc.

J. W. Calder, Williamstown, Ont., sends out a 4-page list of apiarian supplies, etc.

We might almost say the neatest circular of the season, typographically, is one from J. P. & S. C. Watts, Lumber City, Pa. We copy from page 3 as follows: "Although the practice of packing bees in chaff, straw, and other material, is very old, and even years ago hives were made with double walls, or at least a partial provision for a surrounding lining of some protective material, yet it is but comparatively recently that the subject in all its bearings has been brought to the notice of the bee-keeping public. For the accomplishment of this end we are indebted to, perhaps more than any other, A. I. Root, editor of GLEANINGS IN BEE CULTURE. About the year 1878 he contrived and put into thorough test the now famous Chaff hive. Since then it has been subjected to the most rigid trial and most scrutinizing examination; and so well has it passed its probationary term that it is to-day substantially unchanged from what it was when first introduced, while its popularity is so great, and its advantages so important, as to indicate almost a revolution in bee culture."

From our own press we note a 4-page list of queens and bees, foundation, and machinery to make it, from Oliver Foster, Mt. Vernon, Ia.

We have also just printed for G. F. Williams, New Philadelphia, O., a 1-page list of bees, queens, hives, etc.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted, if wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey.*—In reply to your postal of the 20th inst., permit us to say we have had a good demand for comb honey throughout the season; prices for fancy white, such as is well graded, are keeping well up. The demand for dark honey has not been so good, therefore there is a decline in prices. We have received, this season, from New York State, 8876 crates comb honey, or 221,900 lbs. net; out of this we have but 425 crates. The season being a very good one in every respect, we are informed that a full crop of honey is anticipated through California; but as similar reports were entertained a year ago, they may again prove to be unwarranted. Our market on honey and wax is as follows: best white, in 2-lb. sections, in neat and attractive style, 18@20c.; fair grades of white, 2-lb. sections, 15@17c.; mixed and dark, 2-lb. sections, 11@13c. Large boxes, 2c. per lb. less than above prices. Best white clover extracted, 10@11c.; off grades of clover, 8@9c.; dark, 7@8c. *Beeswax*, prime quality, suitable for comb fdn., and guaranteed pure, 25@26c.

H. K. & F. B. THURBER & CO.

New York, March 23, 1882.

CHICAGO.—*Honey.*—In answer to your postal in regard to honey and wax market in this city, I would say that my last quotations remain unchanged, and sales slow, owing to the season being well advanced—except choice white comb honey, which sometimes commands 25c., as it is scarce. A. H. NEWMAN.

Chicago, March 21, 1882.

CINCINNATI.—*Honey.*—The demand for comb honey is slow, and prices nominal at 16@20c on arrival. A fair demand for extracted honey, for jobbing; prices for 1-lb. jars clover honey, are, per gross, \$25.00; for 2-lb. do., \$42.00. A new life got into the demand for manufacturing purposes, and our sales were very good for the last few weeks. We pay 8@10c on arrival.

Cincinnati, March 20, 1882.

DETROIT.—*Honey.*—The demand for honey is steady, though light, and the market is rather dull. A good article brings from 16 to 18c. A. B. WEED.

Detroit, March 24, 1882.

CLEVELAND.—*Honey.*—There has been a little lull in the honey market the past two weeks, but prices remain unchanged. Best white, 1 and 2 lb. sections, 20 to 22c; buckwheat, no sales. Extracted, 12c for small and 11c for large pkgs. Beeswax, 25 to 30c. Cleveland, March 21, 1882. A. C. KENDEL.

Recent Additions to the COUNTER STORE.

THREE-CENT COUNTER.

- Postage. | Pr. of 10, of 100
- 2 | File, 3-cornered, 4 inches long, good. | 28 | 2 75
 - I believe this is the finest file ever offered for so low a sum. They are little beauties, and very handy oftentimes.
 - 2 | Table-spoons, tinned, and well made. | 25 | 2 25

FIVE-CENT COUNTER.

- 2 | Pumpkin seeds, choice, per 1/2 pint | 30 | 2 50
- 4 | Balls, O. K for schoolboys..... | 47 | 4 50
- 4 | Dyes, all colors, with directions for use | 45 | 4 00
- 4 | Hand-mirrors, a wonder for 5 cents.... | 47 | 4 50
- 4 | Oval glass Dish, 7 in., beautiful pattern | 49 | 4 80

TEN-CENT COUNTER.

- 2 | Powder Gun, insect-destroyer..... | 90 | 8 50
- 9 | Starch-kettles, a handy implement.... | 95 | 9 00
- 2 | Boys' or girls' Knife, white handle, 2 blades..... | 95 | 8 50
- Well made; a wonder for a dime.
- 9 | Oval Dish, 9 in., glass, elegant..... | 85 | 8 00
- 9 | Oval Dish, 7 in., glass, with cover..... | 95 | 9 00
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This consists of a self-inking press, furniture, ink, font of type, leads, can of lye, etc., and printed instructions.

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Hoosier Corn-drill. Plants corn and fertilizers with it. A most useful machine for planting or sowing many kinds of seeds. Requires but one horse.

A. I. ROBT, MEDINA, OHIO.

We have still left about a dozen of the old pattern Waterbury watches, all carried and regulated, which we will mail for only \$2.50 each, to close them out.

So large a trade has sprung up on the "Christian's Secret of a Happy Life," that we are now enabled to furnish the book at 25 cents, and cheaper in lots of 10. See above.

The Cortland Union Bee-Keepers' Asso. will be held in Cortland, N. Y., May 9, 1882.
The Central Mich. B. K. Asso. meet in the capitol building, Lansing, Apr. 20, 1882.
The Northern Ohio B. K. Asso. will be held in Norwalk, O., Saturday, Apr. 15, 1882.



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NOTES FROM THE BANNER APIARY.

NO. 29.

LET US PRACTICE WHAT WE PREACH.

ABOUT the first of March we had several warm days, and the bees flew merrily. I presume many of you know what sweet music the bees make upon these early spring flights. How I was tempted to open one of the clamps and let the bees fly; that is, if they were capable of flight! I presume I should have dug out some of the buried bees; but I had just written an article for the *Country Gentleman*, advising bee-keepers not to be deceived by these chance spring days, but to keep their bees in winter quarters (unless it was to carry them out for a flight, if they became uneasy) until warm weather had really come to stay. I believe in practicing what I preach, and the advice that I had given others kept ringing in my ears until I decided not to open a clamp until at least April 1st.

DID THEY WANT WATER?

One of the two colonies that have been confined in the cellar without a flight since the middle of Nov., became uneasy; and as I could not carry it out without disturbing the other long-confined colony, I carried them both out. This colony that became uneasy was one that had nothing but pure sugar stores; can it be that the sugar syrup did not furnish them enough water, and it was for this that they were begging? The colony that had natural stores, and had remained in the cellar the same length of time, was very quiet, and it was some little time before the bees roused up enough to fly; but after they once made a start, they flew lively.

THE CONVENTION AT DETROIT.

A few weeks ago I received a postal that read something as follows:—

Friend H.:—If you will come down to my place, I will take care of you, and take you to the convention that will be held April 15th, at Detroit. M. H. HUNT.
Bell Branch, Wayne Co., Mich.

I have decided to accept this very kind invitation. I shall write no essay, and shall deliver no address, but shall go with my heart full of love for my brother bee-keepers, and my head full of—curiosity and inquisitiveness. I hope to meet a number of bee-keepers, and to have a good visit—just about such a time as folks have at a family reunion.

EXTRA-PURE QUEENS VS. BEES FOR HONEY.

Until friend Doolittle has finished his "say" about those extra-pure queens, I shall make no reply, unless it is to say, that I felt like grasping his hand and saying "amen" when I read the following: "If bees showing the three distinct golden bands are the bees producing the best results in honey, let us breed in that direction; if those showing but slight traces of yellow on the three bands (or dark Italians, if you please to call them so) are the ones which produce the most surplus, let us breed in that direction, keeping an eye to the best at all times."

MAKING A FOOT-POWER BUZZ-SAW.

Last fall I traded my foot-power saw for eight colonies of bees; they have, so far, wintered all right; and I am now very pleasantly engaged in making another saw, upon a somewhat different style from my old one. I shall use eight-inch saws, and when it is finished I will tell how it is made, and how it suits me.

ATTENDING FAIRS; HINTS WANTED.

Two years ago, after making an apiarian exhibit

at our county fair, I felt somewhat disgusted with exhibits and fairs; but the rather liberal premiums offered by our State Agricultural Society have induced me to think quite favorably of making an exhibit at our State Fair next fall. And now I should be pleased to receive hints from every one who has made an apianian exhibit at a fair. Friend Root, I shall want a set of those glass jars, or bell-glasses.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

A WORD IN FAVOR OF CHAFF HIVES,

FROM A CELLAR FRIEND.

I HAVE all along been advocating cellar wintering, nor do I wish to change now. Cellar wintering has thus far undoubtedly been the most successful method practiced, taking mild and severe winters together. But there are disadvantages connected with it that challenge our attention. How to winter well in the fullest sense of the word, is a problem that has by no means been satisfactorily solved. Though my success has given me much confidence, and leads me occasionally to boast that wintering has no dread for me, still I am not by any means satisfied. True, I am not afraid of losing a large number of colonies by cellar wintering during any winter; but that does not change the fact, that a fair proportion of my colonies is greatly reduced in bees every spring. "All is not gold that glitters," with me as well as with every one else. Uniformly successful, as most men would call it, I am myself far from satisfied. I want my bees *strong* at all times of the season; and before I quit the business, I have faith that I shall succeed. I do not expect to lose many this winter, and, from present appearances, my loss up to May 1st will presumably not exceed 4 to 5 per cent, if that many. But I know that, as every year, there will be a great many so reduced that they will not be strong enough to work for surplus till half the honey season is over. It is a loss of one-half the profits of the business, and must be remedied. Experiments and observations have convinced me that chaff hives and cellars must combine, in a climate like this, to give full success. There is no use denying the fact, that single-walled hives won't do for our falls and springs, however satisfactory in summer, or in the cellar. Bees quit breeding too early, and resume too late. With me, bees ought every year to breed one month later than they do, and you can not get them to do it in thin unprotected hives. And they should breed earlier in the spring, uninterrupted by sudden cold snaps. On the other hand, we can not as yet claim, with any degree of certainty, that we have a safe outdoor protection for the winter. The ordinary chaff hive is insufficient during protracted cold weather. Again, we do not want to carry a great number of chaff hives into a cellar, and take them out again every fine day. Many good days would be missed, to say nothing of the labor involved. The only way to solve the problem to the satisfaction of any reasonable man, is to discover a plan that combines the advantages of both cellar and outdoor wintering. Bees must have access to the open air *every* fine day, and have at all times a moderate, uniform temperature in the hive. How can we do it? I am free to confess, I don't know; but, like the rest of mankind, I have more ideas than actual practice or

experience. I am now getting up a hive with a 5-inch space, filled with chaff and the like, on all sides. If that is insufficient, I'll try 10 or 15 inches. I have tried putting horse manure, known for its heating qualities, all around a hive this winter, and that is the strongest colony I have. But this is an easy one, and the next winter it may not be successful. Moisture absorbers over the top may not prove sufficient, and a circulation of air may be found necessary. Why not provide absorbers and ventilators, and inclose our hives with horse manure well mixed with hay? The entrance can be open at all times, and the inside of the hives ought certainly to be warm enough. There is no way, I am convinced, that will insure us against all loss, or even partial loss, at all times; but, taking every thing into consideration, cellar wintering is by no means the acme of perfection, and some plan of outdoor wintering will, sooner or later, eclipse it. It is time that we bend every nerve to the task that includes every element of success in our profession — that of discovering how to "*keep your colonies strong.*" If it takes a ten-dollar hive, feeding, chaff, ventilators, horse manure, or a brick wall, we'll have to get it, sooner or later; for I am certain that only those that can "*keep their colonies strong*" will make any money out of the business after a few years.

Jefferson, Wis., March 17, 1882.

GEO. GRIMM.

Now, friend Grimm, I am most agreeably surprised by the above; for the fact that you so strongly indorsed cellar wintering, and condemned chaff, has troubled me and stumbled me not a little. Almost on your account alone I was very near deciding to build a nice large bee-cellar; and it is because bees suffer in the spring months so much for lack of protection, that I have laid so much stress on chaff hives. For years I have gone over all you mention, over and over again, and many times have I thought we had at last obtained the long-sought desideratum. If you do not, others will recollect my horse-manure experiments, and the many plans of house apiaries afterward. I agree with you, that it is powerful colonies we need in April, for the great results that we might make. It may have been Doolittle who said, if our colonies were as strong during fruit-blossoms as at bass-wood time, they might, for aught we know, get nearly as much honey from the fruit-bloom. How shall we get them as strong in May as they are in July? It can be done with a greenhouse, but it would be rather expensive. I have often longed for an open cave, in the side of a dry bank, such as friend Boomhower describes in this number; and if I knew just how to keep it from being damp in cold weather, and have it warm up as soon as the outdoor air does in warm weather, I verily believe I should start to do it at once. Who among the friends has an open cave on his premises, where water will not freeze, and where bees could fly out at pleasure, when it is warm enough? Friend Grimm, when you solve the problem I will come and see you; and when I solve it, you must come and see me. I presume neither of us run any great risk on such a bargain.

SOME POETRY AND—PROSE.

FROM THE LONE-STAR APIARY.

Buckwheat cake! 'tis of thee,
And the little honey-bee,
That I would sing:
Thou that with pork art fried,
Then buttered on one side,
With horse-mint honey thick applied,
Thou luscious thing!

STOP, Amos! wait until "Eliza" or "Lou" brings those delicious cakes smoking hot from the stove over yonder in the corner of the lunch-room, before you wallop them all over in honey; or perhaps you prefer the Early-Amber sorghum 'lasses or Buffalo grape-sugar syrup. Well, I declare it is too bad; we bee-folks down here never quarrel over our sugar-barrel, for we get the pure article right from the mills; but if you could step into my garden and see my 100 pear-trees in bloom, and bees by the hive full swarming over them, loading themselves with the sweet nectar, you would be constrained to exclaim, What a lovely country! The whole earth is one vast sea of bloom, and the bees are making good time of the opportunity.

CYPRIONS, THE LONG-BOUGHT APIS AMERICANA,

There under that ornamental peach-tree is the three-frame nucleus that passed through the winter of 1880-'81 safe and sound, whose queen was raised in November, and mated the 6th of December, now 16 months old. Raise the top and peep in, and you will find 8 full frames of brood, and two others with eggs in them. I have taken two frames from them, and they have replaced them in the last few days, and have eggs in them. I have gone through all the colonies, and I find the Cyprians are ahead. If you remember, I got a Cyprian queen from you in August, 1880, and this is her daughter. Last spring I divided the old Cyprian colony, and again and again, making four colonies; four frames melted down in July, and in September I took out four frames for queen-rearing, and I now have these hives all full. I got 121 lbs. of honey from the old colony, and lost about 30 lbs. by melting down. I find them better workers than the Italians, but not so gentle, for they are rather nervous while being handled, but not more so than hybrids or blacks. I do not want a better bee. But there is one trait about them that I can not appreciate: the young lady bees delight in a little flirtation with the gentleman bees before they settle down to a married life.

FERTILE WORKERS, SO CALLED.

The bee-books tell us something about fertile workers (so-called) being such a pest; and it is pure laziness in the apiarian to have them in his hives, and that it is useless to try to introduce a queen or queen-cell where one is. This has not been my experience, for they have given me no trouble whatever. I have seen several times last year a fertile worker (?) laying eggs and a virgin queen a few days old crawling about on the same comb. I watched one of these hives closely for 19 days, and this same diminutive drone-layer kept sticking eggs here and there until the queen began laying, and perhaps longer. I have often introduced queen-cells where I knew fertile workers (so called) were, and never had one destroyed. I had two hives last week with fertile workers, and they have raised them a queen now in a capped-over cell, from eggs given them. One of these hives had several queen-cups started with six to ten eggs in each, with cells built out and capped over drone larvæ, and I had no trouble to

get them to build cells over worker larvæ. I had a nucleus last year in the same six, and I gave them a cell, and they raised a good queen. Again, I have found fertile workers, and seen them laying (drone-layers) in a hive that had a good fertile queen, and I believe it is a common thing for these drone-laying workers to be in hives where there are good fertile queens. B. F. CARROLL.

Dresden, Texas, March, 1882.

Friend C. it isn't Eliza, or Lou either, who makes the hot cakes to go with the maple molasses: in fact, I am afraid they have almost forgotten how. Neither is there any "corner" to the lunch-room (especially at 12 o'clock at noon), for it is but a corner itself. We have been considering the matter of a combined dining and reading room, and, in fact, we have, at our noon service, asked God to help us in bringing it about.—I can pretty nearly agree with you in regard to fertile workers, only I should say it was your lauded Cyprians that had brought in the fashion of a laying worker in the hive with a laying queen. I never heard of it when we had only Italians.

SEVERAL ITEMS FROM FRIEND C. C. MILLER.

BARE-HEADED BEES.

AL old bee-keepers have probably had frequent cases of young bees, nearly ready to hatch, remaining uncapped. It has been said that it was all right; that they hatched out as well as any. It may be all right, but I am getting suspicious. I can remember more than one instance where the colony was poor, either at the time or shortly after, apparently from no other reason but a poor queen, and no amount of fussing could bring them up to strong working order. I may have had good colonies acting in the same way, as my attention has only lately been directed to the matter; but I am inclined to the opinion, that when the heads of the young bees are bare it is a sign the head of the queen should come off. Will others report if they have known any case similar, in which the colony continued afterward a strong working colony?

SIZE OF STARTERS.

For the purpose of shipping, it may be well enough to have small starters; but for home use I can not be satisfied with any thing but a full section of fdn. For the $4\frac{1}{4} \times 1\frac{1}{4}$ sections I prefer starters $3\frac{1}{2} \times 3\frac{3}{4}$ inches; and as there is a standard size of sheets for Langstroth brood-frames, so I think there should be a standard size of sheets that will cut into starters $3\frac{1}{2} \times 3\frac{3}{4}$, if the majority should agree upon this as the best size. If I am not much mistaken, a section full of foundation will be finished sooner than one part full, and thus more honey be obtained when the flush comes.

FASTENING STARTERS.

I have had some trouble with foundation dropping out of sections just at the most annoying time when honey is coming in with a rush, and every minute counts; and I suppose others who use full-size starters are not entirely free from this trouble. Where they have been fastened with Parker's fdn. fastener, I have found it to occur either where the starter was put in too cold or where too big a "bite" was taken by the fastener. I have been putting in

several thousand starters in sections with my own hands, and apprehend less difficulty the coming season. I formerly supposed that I could not well put in starters in cold weather; but I now prefer winter. Perhaps I had better tell you just how I do it. I do the work in the kitchen. The fastener is screwed tight to a board which is clamped tight to a table, the fastener being close to the edge of the board nearest me, the length of the fastener running parallel with the board, and the handle at the right side. The table without the board would be as well, or better, only I don't want to drive screws in the table. Just beyond the fastener I put a pile of, say, 50 starters, and at the left of the pile stands a hot flat-iron, such as the women-folks use for ironing, while another iron stands on the stove ready to replace this one when it gets cold. Seated on a seat 6 inches higher than an ordinary chair (I put a chair on a hive cover), I am ready for work. The edge of the starter next the flat-iron is heated so that it is quite soft; I care little how soft, so that none of the starters are actually melted. This soft edge is the one, of course, to be mashed down by the fastener, and the object is to get as small a "bite" as possible, only so that a little of the wax is actually mashed the whole width of the starter. The ordinary direction is to put the foundation under $\frac{1}{8}$ inch, which I think quite too much. Instead of "turning the piece of foundation up against the end of the lever," as usually directed, I leave it lying flat till I pick up the section; and on turning the section right side up, the foundation will, by its own weight, be found hanging right every time without any attention.

VENTILATION.

The opinion seems to be rapidly gaining ground, that for cellar wintering one very important point is to have the cellar well ventilated. A few years ago I was in the habit of putting a fire in the cellar when the bees became uneasy, under the impression that they were too cold. A fire kindled in the evening would raise the thermometer a little, and in the morning I would find the bees perfectly quiet, but, to my surprise, the thermometer just as low as the previous morning. I suspect that the ventilation of the cellar was hastened by the fire, and that the inflow of fresh air, more than any thing else, quieted the bees. Latterly I have left the window at one side of the cellar, and the door at the other side, open a great many nights, especially toward spring. On first opening the cellar at night, if it is pretty warm the bees make a good deal of noise; but by morning all is quiet, and often the bright rays of the sun shine directly on the hives through the window, without disturbing them. To-day, March 13, the door and window have been open all day, till the present time, after one o'clock.

Since writing the last sentence I have gone down and closed the door, leaving the window open. Scarcely a bee was stirring, although the sun has been shining brightly all day. When I opened the door this morning, the temperature in the cellar was 44°; outside, 16°. Now it is 43° in the cellar, and 41° outside. If there had been any wind, the cellar would have changed more. This matter of ventilation needs a great deal of ventilation, for very few understand the importance of it, either for their bees or themselves. A year ago I was in a manufacturing establishment whose proprietor takes a deep interest in the welfare of his employes. In his office he and his clerks were suffering for want of

that cheapest of all luxuries, good fresh air; and on his attention being called to it, a reform was inaugurated, or at least meditated; but if I am a good guesser, I'll venture the assertion that to-day they are breathing air in which a hog would pine and a sheep would die.

C. C. MILLER.

Marengo, Ill., March 13, 1882.

It has been my impression, that all bees let their children go "bare-headed" in the hot months of the year, friend M.; but I shall be very glad to be corrected, if I am wrong. Your suggestions in regard to putting in sections are most opportune and valuable. I know sheets filling the section are much better, for I proved it in the house apiary years ago, to my full satisfaction; but how is it possible for us to rig hives ready for use, and ship them thus? The only way we can do it is to fasten the fdn. in the section clear around; and even then, I am afraid the severe handling the hives get will often break it out. This may not, however, prove to be the case. You see, we can not wire the sheets for comb honey.—In regard to the ventilation, in part of your letter, friend M., you are all right, unless it be in presuming no attention has been paid to your instructions given at that noon session. The problem of getting ventilation in our office, and not give the clerks dangerous colds, is one that has not yet been fully solved; but I think we are getting on. Sister Axtell gives us some strong facts, in the Ladies' Department, in regard to the importance of ventilating cellars; and I hope a good many who don't keep their bees in cellars will make a stir as soon as this number is out. My wife is often troubled with sleeplessness. A few months ago she made the astounding discovery, that she always went to sleep without trouble, when a window was up on each side of the room, so that a draft of air could pass right through. Many a night has she declared some one must have put one of those windows down, for sleep wouldn't come. She was always right. A badly ventilated church will give her a nervous twitching in the hands and feet; but with plenty of fresh air, it is gone at once. Do not these facts, coupled with those given by Mrs. Axtell, indicate clearly the seat of a great part of our aches and pains, and—deaths?

DOOLITTLE ANSWERS QUESTIONS.

NO. 2.

BEFORE proceeding, I wish to say that it would seem, by friend Root's remarks at the close of my last article, that he thinks I am writing "to criticise the brotherhood," while such is not the case. It was with reluctance that I said a word on the subject of "Extra-pure Queens," and my first thought, after reading friend Hutchinson's article, p. 424, GLEANINGS, 1881, where he asked the questions (M. B. Warner started the thing in motion) about extra-pure queens, was not to reply to it, or even notice the matter, as I knew I should be considered

a heretic by the bee-keeping fraternity if I gave my opinion in the matter. After a little consideration, I thought it would be cowardly not to stand up for what I believed to be the truth in the matter, and so I have answered the many questions propounded by friend H., to the best of my ability. I am well aware that many will say that the statements about extra-pure queens are no credit to me, or of benefit to queen-breeders; nevertheless, if I say any thing on any subject, I must say what I believe to be the truth about it, whether it is or is not a credit to me.

WHAT WAS DONE WITH THE EXTRA QUEENS.

Now, to further questions: On page 579, GLEANINGS for 1881, friend H. wants to know what I did with the 67 extra queens I told of rearing more than were accounted for by sales, etc., and says, "No, it can't be possible that Doolittle has been guilty of selling *dollar* queens." Yes, Doolittle was guilty of selling *one* of his best tested queens for \$1.00 to a gentleman who desired a good tested queen for a dollar, saying he could not afford to pay more for one, as he was short of this world's goods. So we have 66 left. Well, three of our friends claimed a loss of queens, by letting them lie around for a day or two carelessly, as it looked to me, and these I replaced at half price. Six of my friends wrote me that they lost their queens in introducing, but made no claims upon me, as they considered the loss all their own. After I had filled all the orders I had booked, I sent each of these a queen as a present. Then I exchanged queens with three different parties, and one of them died within a week after she was introduced, so I had to take one of my own to replace her. This brings it down to 56, while six of these were given to neighbors. The remaining 50 were considered as not coming up to my standard of queens, so their heads were pinched off. Friend H., if your inquisitive nature is not entirely satisfied, just let yourself rest for a little while till I get breath again.

ABOUT THOSE TWO EXTRA-PURE QUEENS.

Jerome Wiltse seems to be "astonished at the doctrine," and thinks Doolittle not explicit enough, and says I mention no owner, and give no characteristics of the bees. The queen from which "there were hundreds of queens raised during three years, none of which ever produced aught but three-banded bees," was purchased of H. A. King, of Nevada, O., and owned by a neighbor bee-keeper. As I was then young in the business, and wished to travel around among bee-keepers to learn what I could, he proposed to take me in as a partner, he raising the queens and I taking them around with me, and selling them, which was accepted. Thus we worked for three years, he raising all the queens from this same mother. As nothing but bands was guaranteed, of course we did not stop to test them, and all were sold for pure Italians. The queen which produced the 60 queens which produced all three-banded bees was purchased by myself of A. I. Root in 1873. Friend Wiltse seems to get my quotation from page 132, Vol. II. of GLEANINGS, mixed with the present time; while the "past season" refers to the time of the quotation, which was 1874. Now, as to the characteristics: The bees from all these queens were just as docile as any bees I ever handled, and all parties pronounced them pure Italians, some of whom considered themselves experts. After a second cross, when more or less black bees were produced, then it was that the inflexibility of the hybrid was man-

ifested. The bees produced by the granddaughters of these two queens quoted above were the worst bees to handle of any I ever owned. As regards the sentence, "It is said that a cross of the black bee with the Egyptian will, in three generations, produce a bee which no one can tell from the best Italian," I quoted from memory. It strikes me that Mr. Langstroth is the author of it; but I can not tell for certain, and I have not the time at my disposal to hunt it up. I have never tested the matter, for I never had an Egyptian bee. Now, gentlemen, I have given you the facts in the case, and leave the matter here, for I have no time for long arguments. In conclusion, I wish to say, that, from my practical experience, I have been led to believe that the breeding of bees is not analogous to that of swine, sheep, etc., and thus a long-winded argument to that effect establishes nothing. The facts as I have given them, and the corroboration of them by others, are stronger than theories, in my mind.

Borodino, N. Y., March, 1882. G. M. DOOLITTLE.

FOUL BROOD.

DIRECTIONS FOR ITS TREATMENT AND CURE.

A FRIEND from California sent me two pieces of comb, requesting me to state whether they were infected with foul brood or not. Most of the cells were capped, and, removing the capping, the cells appeared to be empty. I examined closely those two pieces of comb, and found that eggs had developed into larvae in both of them. While the cells were capped, the larvae died, dried up, and shriveled up into so small a mass that it was not visible any more to the naked eye in some cells. In others it was still visible, and in some it was very plain indeed, showing even yet the shape of the nymph. These latter were apparently the cells most matured when they took the disease. The smaller piece of comb showed this state of affairs more plainly than the large piece, because it was of more recent date, and consequently the dead brood was not dried up to quite the same extent.

It is in this shape in which the insidious character of foul brood is most dangerous. The diseased larva dries up in capped and uncapped cells, so that the best of us will be deceived. But it is there; and just as sure as you hang one of those combs in a healthy colony, and an egg is laid in one of those cells, that hive will be affected with foul brood just as soon as the egg develops into a larva, and softens up that mummy. If that infected cell would have been filled with honey, the infection of the colony would have been postponed only to the time when the bees would have made use of its honey, and fed it to larvae. However, if you had taken a little brush and washed out those cells with salicylic acid, as Mr. Hilbert does it, those mummies would have been made harmless. But that is a particular and a serious job, more especially in a country like ours, where time is money. I render, therefore, into wax all combs that have been in an infected hive, and let the bees start out anew in a clean hive, on comb foundation, with a jar of honey with perforated cover inserted above them, the honey prepared as given in my "Practical Hints," page 21—an ounce of the medicine to every quart of the food. Being out of combs and brood and stores, the bees partake of the food very readily (more especially be-

fore or after the honey season); build out their fdn., fill the cells with eggs and stores from above them; and if the colony was a strong one, they will soon be in a prosperous condition once more. It appears that their eating the medicated honey, and coming in contact with it when storing it in their new cells, disinfects the bodies of the bees, and effects the cure. I have tried this so many times, and with such marked success, that I recommend the above process as a sure cure of foul brood.

When an apiary is infected, bees will pull out partly decayed larvæ, and dropping them anywhere, are always apt to reinfect thereby one or the other colony. Spores will be thrown out by the dead larvæ on the ground; and if a bee happens to alight on it, she will take the disease home to her hive. A board or plank, over which the bees of an infected colony run, will be infected with the spores of the disease hidden in cracks, and between fissures of the wood. As the bees dropped them when infected, so they are apt to take those spores home again on their feet, and reinfect their hive.

The greatest care, therefore, is necessary to disinfect thoroughly every infected hive and all its surroundings. You will readily observe that you can never tell with certainty when you have seen the last of foul brood after it has once made its appearance in your apiary, unless you discover it in its first stages, are well posted, and govern yourself accordingly. Let us, therefore, be prompt when it turns up, and profit by the experience of others.

Dr. Schenfeld discovered, first, by microscopic observations, the true nature of foul brood; that it is of vegetable growth (like mold), and will be destroyed by salicylic acid, which is comparatively harmless to animal life, and even to the life of the larva of a bee. He keeps his salicylic acid dissolved with alcohol; and in order to keep it soluble, applies it lukewarm. The honor of having cured the first hive of bees of foul brood is due to Mr. Emil Hilbert, one of our most enthusiastic German beekeepers, whose skillful management and perseverance I have admired in more instances than the cure of foul brood. He gave us, also, the proper proportions of the medicine, and the manner of its application.

My apiary being infected at the time when Dr. Schenfeld and Mr. Hilbert made their discoveries, I read carefully every article as it appeared in our German bee journals, and I made use of their experiments. Their experience as to the nature of foul brood is fully substantiated by my own experience, and, after several years of hard labor, I have, by the aid of my druggist, who ranks high as a chemist, simplified Mr. Hilbert's remedy by substituting borax for alcohol. By this means, salicylic acid is not only kept soluble, but is also ready for use cold, as well as warm. This is not a small advantage, as those will find who test both methods as I have done. An overdose of salicylic acid and borax will kill larvæ just as an overdose of salicylic acid and alcohol will, only it takes less of the latter than of the former to do the mischief.

I inclose my little pamphlet, "Practical Hints." On page 24 you will find my treatise on foul brood, which please make use of if you think proper. Other business is so pressing with me at this season of the year, that it is really a sacrifice for me to write an article of this sort. CHAS. F. MUTH.

Cincinnati, O., March 9, 1882.

HOW SHALL WE PUT ON OUR SECTION BOXES?

AND HOW SHALL WE HANDLE THEM FOR A LARGE YIELD?

AFTER reading GLEANINGS from the first number, I was led, in the spring of 1877, to adopt the standard Langstroth hive, with 7-inch cap and portico, and the following method of producing comb honey, which I should like to present to the readers of GLEANINGS, in competition with the Deane and other systems, and would invite criticism.

The case which I use is similar to the one described on page 19, January price list, and which you seem to have given the "cold shoulder," as you do not now keep it in stock. I use tin separators, and glass the sections. The case is rabbeted so as to let the top-bar of frame $\frac{1}{4}$ inch below the top. The top-bar of frames is same width as bottom-bar, so as to admit free passage of bees when two or more tiers are on. The whole is covered with a quilt. The bottom of frames is even with bottom of case, so there is a space between each tier of $\frac{1}{4}$ inch, which is enough to prevent crushing the bees when tiering up. I see you do not approve of such space. I think in practice it is no detriment; and as bottom-bars are always covered with wax, it serves as a ladder for bees to climb to upper tier. With the Deane system of tiering up, it seems that the wax on bottom-bars is so much in the way that one tier will not sit tightly above another, and the tops of under boxes will get soiled, besides crushing bees; and honey, sent to market as it comes from the hive, does not suit the tastes of customers in this vicinity as well as glassed sections and prize crates. I think all will agree that my method has advantages over Simplicity in the following particulars: First, in beginning of season, or when stock is not strong enough, I can put on one tier of 27 boxes, and raise that up and put under an empty one when needed, while with the Simplicity, 56 have to be put on at once, and bees will nearly finish lower tier before going into upper, if at all. And again, one frame of 3 boxes is more rapidly handled than a frame of 8. In tiering up, I have a ring to put on hive, same dimensions as cap and width of the case, one for each case. I have had 4 tiers on at once, and have taken 240 lbs. of white honey from one hive.

I call the above *my* method, but do not claim it as my invention exclusively, as others may be using the same thing; but after using it five seasons, and trying other methods, including prize rack, I have no desire to change. I should like to add, that I think, for all purposes, the L. hive, with portico and 7-inch cap, has not been improved upon.

LeRoy, N. Y., March 18, 1882. W. C. GILLETTE.

At first sight, a little frame to hold one tier of sections does seem to be very nice and convenient; but we should bear in mind that this frame occupies needless room right over the brood-nest, and it also incurs a rather heavy and useless expense, over a case such as we use. The ground has been well gone over in the past ten years, and any who choose may figure out the extra expense of these small frames, for themselves. Where you can put *eight* sections in a frame, instead of *three* or *four*, the expense is very much lessened, and we therefore use

our usual wide frames, where a whole upper story is to be filled with sections. Of course, it is better that a small colony be given the case, instead of the whole upper story; and a very small colony may not be able to take even either one, but only a wide frame or two at first, in the lower story. Will not these three different methods suit the wants of any stock, friend G.? We do not use the glassed sections in our market, because the people will never pay for them, but they rather prefer to have the glass in the retail marketing case. It is true, a case of three sections is easier (lighter) to handle than a case of eight, just as a very small frame is easier to handle than a Langstroth; but when the bee-keeper takes into consideration the greater number to handle, he finally decides on the large frame, preferring the additional number because he gets along so much faster. We once used three-box cases entirely, but I do not think I shall ever wish to go back to so many pieces again. However, as we all have our peculiar notions, I presume many will prefer to use the small frames, or cases, holding only a single short separator.

HANDLING BEES, AND DISTURBING THEM IN WINTER.

DOES IT HARM THEM?

CHAPTER III.

QUITE often do I see, while looking through our bee journals and papers, the following words: "Keep your bees as quiet as possible while in winter quarters;" "never disturb your bees after they are put into the cellar;" "perfect quietude is the secret of successful wintering;" and the like in different forms. Now let me ask one question of the writers of all these articles on quietude: Did you ever lose any bees, or damage them any, by handling or disturbing them while in the cellar or in winter quarters? There is not the least doubt but that all have wintered successfully who advocated quietness and seclusion for their bees; but how do you know but that they would have wintered just as well if they had been disturbed; or as friend Manum terms it, "kicked about a little"?

Now, my friends, in writing this article I do not mean you shall understand that I kick and kneck my bees about, and churn them up and down so as to make every thing jingle. Oh, no! not by any means; but what I wish you to understand is, that it does them no harm to examine and look at them carefully every day; raise up and turn over the honey-boards, and, if necessary, carry them carefully about the cellar a few times through the winter. A very intelligent bee-keeper of my acquaintance, last winter had occasion to move his bees from one side of his cellar to a more convenient location on the other. Well, as fate would have it, all died; and in telling me about it last summer, he stated that he had disturbed his bees in moving them from one side of his cellar to the other, which caused them to fill themselves with honey; and there being no warm days after, that would allow of bees taking a purifying flight, of course they died—be meaning to be understood that, if bees had occasion to fill themselves with honey, that their only salvation from death was to be set out for a purifying

flight. I think he made a mistake here. His neighbors' bees, that were left as undisturbed as the tomb, shared the same fate, so there is no proof of his theory.

A FEW FACTS.

The first winter that I had bees, they were wintered in a room upstairs. I made daily visits to them; sometimes I would remain in the room for half an hour, turning up the hives and looking at them, and counting the dead bees upon the bottom-boards; whenever we had any company or callers, they had to go up and see the bees. The last of March we had some very warm days, and the room got very warm. The bees were carried from the room upstairs, and placed in the cellar; when the weather became settled later, they were placed outdoors, and all came out in fine condition, none the worse for their frequent handling. This was proof the first that bees would winter well if frequently handled. The next winter I made a sort of an outside cellar by digging into a dry bank, and setting into it a frame of joist, and then siding up with boards. One end was exposed to the weather, the other end and both sides being protected with dirt and stone. In this repository my bees were placed; and as I was then, as the neighbors termed it, "bee crazy," I of course made almost daily visits to the bees, and I was not the only visitor they had, either. As this repository was on the edge of a large piece of wood, it made a very convenient place for the little deer mice to collect; and collect they did, for several nests were formed, and young mice were bred in here. I could see as many as half a dozen run every way over the tops of the hives every time I opened the door. Teward spring I made up my mind that I had not only wintered my bees well, but a good quantity of mice also; but I could not see that they did any harm.

This puts me in mind of having read an article in a bee journal, where a man goes on to tell how quiet bees must be kept. He says, not even a mouse must be allowed to run over the tops of the hives. Last winter, and the present one, my bees have had frequent handling. My bees at present are directly upon slats that are nailed to joists that are fastened direct to the floor timbers. We live in the room above, over the bees. Every jar can be felt to the bottom row of bees. I have had bee-keepers go into my cellar, and, after feeling the jars that came in contact with the bees, and then see for themselves how quiet the bees were, have been much surprised. One colony has been carried from one place to the other every time I went into the cellar; that is, when I had time to do it. This colony has been opened, the bees have been aroused, so they were in considerable excitement, and to-day they are as quiet, and in as good order, as those that have had the least handling.

We have had of late some very warm weather. The bees are yet quiet, and doing well. From the whole lot I do not think there is a pint of dead bees upon the cellar bottom.

In conclusion, I will say that, in my experience, it does not harm bees to handle them while in the cellar or in winter quarters; and that, in the five winters I have handled them, in addition to the water handy for them, it is an advantage to them rather than harm.

F. BOOMFLOWER.

Gallupville, N. Y., March, 1882.

Friend B., you are a very good friend of mine, and will, therefore, I feel sure, excuse

me if I take the liberty of bidding you "go slow," on matters you have not as yet had as much experience with as we hope you will have some day. While I am inclined to agree with you in thinking bees *may be* handled in winter without injury, I feel pretty sure they have been many times tinkered to death by untimely handling. I remember one March, when we thought it of the utmost importance that all our colonies should be overhauled, every dead bee got out of the hive, bottom-boards cleaned off, etc., just as the books and journals said, you know; but, to our great disappointment, we could get through with only about half of them that day in early March. Well, the half that we fixed up swarmed out and dwindled out so much worse than those let alone, that I then thought there could hardly be a mistake in the matter. You may be all right; but please bear this in mind: We shall expect you to report failures, when they come, promptly and frankly.

BUCKWHEAT AND ITS CULTIVATION.

A GOOD HONEY-PLANT IN SOME LOCATIONS.

THROUGH my vicinity here in the eastern part of Schoharie County, and through a large part of Albany County, buckwheat is raised very extensively; and one not accustomed to seeing very many buckwheat fields, can not but enjoy the beautiful sight and fragrant smell of the thousands of acres of buckwheat. While in full bloom it is a very common thing for farmers through this vicinity to raise from 200 to 500 bushels of buckwheat; and while passing through a portion of Albany County last fall I was shown a farm, and saw the ground, where 1000 bushels of buckwheat were harvested. Through this country it is one of the most paying crops that the farmer raises; and to give you some idea of the amount of buckwheat raised, I will give the number of bushels ground at our mills the past season in our village: 15,000 bushels at West Berne, three miles east; the same number at Berneville, six miles east; 14,000 bushels at East Berne, ten miles east; upward of 40,000 bushels at Schoharie, 3½ miles west; 10,000 bushels at Central Bridge, 5 miles northwest; besides thousands of bushels were shipped away upon our railroads that were not ground the past year. The buckwheat crop has been a paying one; in fact, it is a paying one every year; but more so the past year, as it has commanded a higher price in market. The flour at one time brought as much as \$4.00 per 100 lbs.; and as three bushels, upon an average, will make 100 lbs. of flour, and the bran is worth from \$16 to \$20 per ton, you see that it is a good crop for the farmers to raise, as they often get from 30 to 50 bushels from one acre of ground through some parts of this and a greater portion of Albany County. Where bees are kept in box hives, and have not much care, the whole surplus is nothing but pure buckwheat honey. I know of bee-keepers who keep from 100 to 200 colonies, and seldom get a pound of white honey; in fact, a good share of these box-hive men do not think of putting on surplus boxes until the first of August, or when the buckwheat commences to bloom, which is about that time. In some localities,

buckwheat will not do as well as in others; on light sandy soils it does not do as well as where the soil is more fertile and heavy; and in locations where it is lime-rock soil it will thrive and give more and a better quality of honey than upon any other soil that I am acquainted with. This latter fact I have fully satisfied myself of. Here in this vicinity we have a lime-rock soil. I have noticed that the honey produced here is much superior in flavor and color to that produced upon sandy or slate-rock soil. In some parts of Vermont, the honey from buckwheat is inferior in taste and color to ours here. The combs are dark, and the honey has a rank and disagreeable smell, while that gathered from buckwheat here is of a pleasant taste, and the combs produced from it are whiter than the combs that are produced from any other honey I ever saw. A bee-keeper from Vermont stopped with me several weeks last fall. He was much surprised when he came to see the buckwheat honey that was produced in this vicinity, and we actually put it by the side of some choice white honey made from basswood, and the buckwheat actually showed a whiter comb than the other, the latter having a pale yellow appearance, while the former showed a comb of almost snowy whiteness.

I have found that soil and climate have much to do in changing the quality of honey made from the same kind of bloom. The basswood honey produced in Vermont is much superior, and of better flavor, than the basswood honey gathered here. The reason for it is, that it is more natural for basswood to grow and flourish there in that State than in our vicinity, and *vice versa*. In regard to buckwheat, the farmers here generally choose a field of sod. Sometimes it is turned over in the fall, and left through the winter. In the spring it is cross-plowed, and covered with a sprinkling of manure, and well harrowed in; then about the 20th of June they commence to sow the seed, and continue along from that time up until the 5th of July. A good many put the seed in with a drill. When sown with a drill, they use, upon an average, from 2 to 3 pecks per acre; if sown broadcast, a little more seed is required. The bees commence to work upon the bloom about August 1; and if the weather is fair it produces honey up until the second week in September. Sometimes the west winds will blast the blossoms, where the buckwheat is sown upon high ground, or in unsheltered positions; then it does not load, or fill, so well, and does not produce as much honey.

I have seen it stated, that bees in some locations do not gather honey from buckwheat except in the morning or fore part of the day; but in this vicinity they will work the whole day long, if the weather is favorable and not cold and rainy. If I were going to sow buckwheat expressly for honey, I would choose a field of stiff sod. I would turn it over as early as I could in the spring; let it lie in this condition till about the first of July; then cross-plow and harrow until the soil is in a good mellow condition; then roll the seed in plaster, or equal parts of plaster and leached ashes, and apply about 3 pecks of seed per acre. I would sow the ground about the 10th or 12th of July, so as to have it come in bloom as soon as the earlier blossoms fail. A great many locations, where there is not much fall forage, could be greatly benefited by sowing a few acres of buckwheat.

F. BOOMHOWER.

Gallupville, N. Y., March, 1882.

Since you mention it, friend B., I now call

to mind the fact that the samples of buckwheat sent in to us vary greatly, some of it being as you say, quite fair. With 1000 acres in the range of an apiary, no wonder that great yields of honey are obtained. The best yield of buckwheat honey we ever had was something like 3 lbs. in a day, and it was all from a two-acre field, two miles or more away.

SEX OF EGGS.

ARE WE SURE IT IS NOT UNDER THE CONTROL OF THE WORKERS?

THIS is a subject that I do not understand, and I think that we are all more or less in the dark in regard to it. The letter of K. Edward, on p. 125, March GLEANINGS, calls to my mind a strange freak of — what must I say? — the instinct, or reason of bees. Last August, during the drought, my bees removed all of the drones from my apiary; and as there were no other bees within two miles of me, I concluded to stop queen-raising for the season. In a few days one of my friends called for three queens. I furnished them; then I gave the nuclei brood from a choice queen, and thought that I would have a good chance to raise some drone-layers. Not very desirable property, though I would have tolerated one at this time. In due time they hatched some fine-looking queens. After they were five or six days old they would fly out almost every day (you may suppose that I watched them closely). About the third day, one of them failed to return. I went to a hive that had a fine young queen, and found a frame of new comb, or, rather, *fdn.* filled with eggs, just beginning to hatch. I cut a piece of comb 3 laches square from the center of this, and inserted it in one of the combs of the queenless nuclei. They immediately started five or six queen-cells in the center of the above square of comb; and in about six days after, the queen-cells were sealed, and I discovered a row of cells clear around; this piece of comb on both sides was enlarged and capped over like drone-cells. I thought at the time that they were queen-cells on a small scale, and that the queen would have a good time tearing them down. Before the queens hatched, I opened one of those queer queen-cells, as I thought. On examination, I pronounced them drones. The next move was to remove the other two virgin queens that had apparently given up the idea of becoming fertilized, and gave them the extra queen-cells. In due time the young queen hatched, and also the drones; in about 15 days my young queens were laying. I have two of them yet — as fine queens as I have; the other one I sold to a friend. The above accidental experiment convinces me that bees can and do hatch drones from worker eggs. How they do it, I have not the least idea. Perhaps some friend will insist that the comb contained drone eggs. Hardly possible; for as soon as I found out what was going on in that nucleus, I examined the comb that I removed the eggs from, and found a solid sheet of sealed worker brood, except the hole where I removed the piece, and that was just as I left it. S. H. LANE.

Whitestown, Ind., March 17, 1882.

Many thanks, friend L. Your experiment, as you give it, seems to be one of the most conclusive we have ever had, to the effect that bees can, by some means, get

drones from worker eggs. Can any one else give us any new facts on this queer matter?

A TRIP TO JEFFERSON, WISCONSIN.

BY ONE OF THE "BLASTED HOPERS."

CHAPTER II.

MY next call was at the home of Mr. George Grimm, who was found busily engaged preparing some bees for shipment, but who found time to extend to me an invitation to take dinner with him; and as it was now nearly noon, and an intimation was given me that perhaps he could supply my wants in regard to bees, I was not slow to accept. After a preliminary talk as to the strength of the colonies, etc., he named \$7.50 each as the price he would take for 20 colonies in an apiary some six miles from home. To these figures I did not object; so after dinner we drove over to look at them. His little tin mouth-smoker (the same as used by his father when I made him a visit ten years before) was filled with tobacco, and the 75 colonies composing this apiary were soon examined, and those marked that I wished to take. When the examination was completed, he remarked that they were not as strong as he expected to find them, and perhaps not quite equal to his representation, and under the circumstances he would charge me but *seven dollars* apiece. This, of course, I did not object to, but considered it very fair in Mr. Grimm; and this I believe he has the name of being, in all his transactions. There had been a slight shower of rain, as if for my benefit, for it drove all the bees home; so we at once proceeded to fasten them in the hives.

As he uses the notched triangular piece across the bottom of the hives, the lower part of the frames is always secure; and by driving two clout nails in the projections of the top-bars, the top of the frames was also made secure. Next the honey-board, with three one-inch holes covered with screen, was fastened with two screws; then a wire screen nailed over the portico, and they were ready for moving. This apiary was in an orchard, on a side hill facing the north, to which latter fact he attributed their weak condition. I had the best of them, and they had brood in from three to six combs, averaging, perhaps, four and a half. An examination was made of the cellar in which these bees were wintered. It proved to be an ordinary stone cellar under the farmhouse, with one window and one door. There was no other means of ventilation, if you except a section of pump-log, with about 1½-inch bore, inserted in the wall. As these bees can not, of course, have the personal supervision of their owner during the winter season, I suggested to Mr. G. that perhaps the word *luck* was about the size of it. I think he did not wholly agree with me; but be this as it may, I am unable to explain (and he did not) why his bees wintered and his neighbors' bees died. Even his uncle, with greater experience, and that with hundreds of colonies, too, lost heavily, I heard; this, too, in the same town, and probably the same flora from which to gather the honey. But, to resume: The next morning, by break of day, I started homeward, stopping often to give the bees water through the screens; and as the sun became warm, water was freely thrown over the hives to keep

them cool. Just at noon I drove into my own yard. The family had already commenced their midday meal; but before they finished it, the bees were all flying from their new stands. After the severe jolting they had received, it was not without satisfaction I noted the absence of honey escaping from the hives, and other signs of miscarriage. When I had eaten my dinner I went at once to the bee-yard, and, behold, they were already bringing in loads of pollen. I call that pretty quick work, for they had been liberated just about half an hour, and in that time had found the blossoms, gathered the pollen, and returned to their new homes. On examination, a few combs were found broken from the frames; but these were easily fastened, and no material damage was done. One colony was found rather short of stores, and I proceeded to feed it with some honey and water, the rinsings of a honey-barrel that had stood empty for a year, aside from the honey that remained candied on its sides and bottom; and in one week I had killed nearly all the bees in that hive. The trouble was finally stopped by extracting all their stores and giving them sealed honey, when they at once began to get better; and by the middle of July they began to gather surplus.

In my next I will tell you how much honey I got, and also what I think of honey-bards.

Adams, Wis., March 10, 1882. J. L. WOLFENDEN.

Why, friend W., I can not see how the honey and water you fed those bees could have killed them, unless it had soured badly; and even then I should not have supposed it would have killed them while they could fly every day. If honey was coming in from the fields, why should you feed them at all?—Thanks for report of your trip, and kind words in regard to our friend George Grimm.

ANOTHER BEE-FEEDER.

OUR FRIEND A. C. KENDEL IN THE FIELD.

INCLOSED you will find a drawing of the latest of the late bee-feeders—a shallow covered tin box, 9 inches long or more, about 3 inches wide, $\frac{3}{4}$ inches high, or as high as will readily push into the entrance of any hive in the apiary. On one end, cut a 1 to 1½ inch hole; solder the inverted top of a 1-quart Mason fruit-jar, with a corresponding hole cut in it. At the other end, leave a square opening, about 3 inches long by width of feeder, into which, at half its depth, solder a false bottom of coarsely perforated tin, with one end turned up to be even with the top, to prevent bees crawling in, and also to let air in gradually. Set the hives as nearly level as can be, and all is ready for feeding.

Use your own favorite food, whatever that may be, only it should be rather thin. In using this feeder, no fears of robbing need be entertained; therefore, if some fragrant extracted honey be added after boiling this syrup, all the better. During cool or cold weather, the food should be given as warm as the jars can be held in the bare



A. C. KENDEL'S FRUIT-JAR FEEDER. FREE TO ALL, PROVIDING, OF COURSE, NO PREVIOUS PATENT.

hand. After filling the jars with warm syrup, adjust the rubber carefully, and screw the feeder on as precisely as one would put up a can of fruit; invert the whole, and push the feeder into the entrance of the hive, letting the jar sit on the portico, or in chaff hives set on blocks outside, where the rapid disappearance of the food may be watched. In extremely cold weather, tucking the jars snugly in warm woolen rags will retain the heat until empty—a fair colony being able to store away the 2½ lbs. syrup, or 3 lbs. honey, in the incredibly short time of from three to six hours.

When weather is too cold for bees to fly, it would be best to hang a few thicknesses of cloth in front, to darken the entrances; care must be taken, however, that not the least chance is given for exit, for all that should escape would be lost. To close this usual entrance with blocks or wire would cause too great excitement. A few advantages of this feeder are, when it is first discovered that a colony is in need, the deficiency can be supplied at once, in quantity sufficient for several weeks; the warmth and the scent elongate the cluster to the feed in a few minutes; the food will be stored where most convenient, without disturbance; the food is in the most attractive and efficient form, no time nor waste of labor necessary to obtain water wherewith to melt sugar; the excitement caused by the sudden discovery of such an unexpected store of sweetness, without previous disturbance, and without changing the usual state of affairs in the covering, can only be a healthful one, and will most likely result in quiet contentment, though it would not take a great stretch of imagination to think there might possibly be a smacking of lips for more after the supply is exhausted.

A. C. KENDEL.

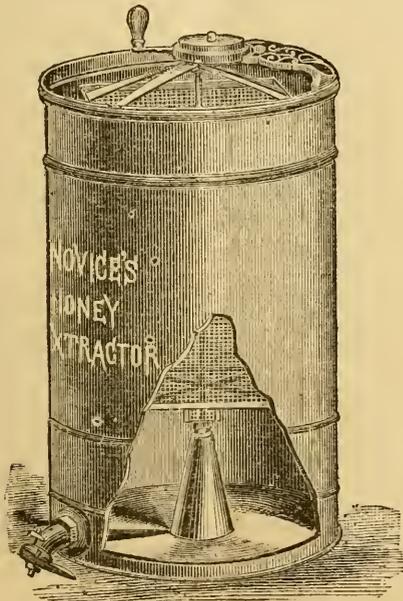
Cleveland, O., March 14, 1882.

The friends will observe that the above is the Hains feeder, with the little modification of covering the open space with coarsely perforated tin, and prolonging one side so it will go into the entrance of the hive, instead of standing at one side. Up in the garret of our old bee-house is almost the same thing, to be screwed into the bung of a waxed honey-barrel, so we can feed a barrel full instead of only a fruit-jar full. I know it will work, for you see I have tried it (with a vengeance). I fed a single colony a whole barrel full of coffee sugar, and had drones flying and a queen fertilized in October; also nice (looking) comb honey, all made out of sugar. There is one feature about a feeder to be pushed into the entrance, that I very much like; and it is, that the colony can be kept all packed up, in wintering trim, while the feed is given. The feature I don't like about them is having such a quantity of bulky traps to store away when not wanted. The tin bread-pans we used last fall are good in this respect, and the colonies we fed with them last fall are now in nice trim. Giving the feed while warm seems to be quite a help, especially in cool weather. It occurs to me something very nearly like friend K.'s feeder has been given in our back numbers, and it may be just like it; but so many feeders have been brought forward and then dropped, it makes it a rather hopeless task to look the matter up. But it is a good feeder, and will be needed just about as this reaches the most of our readers. We could make the tin part for about 5 cts. each, or perhaps \$1.00 per 100. The jar will cost 10 cts. more.

HONEY-EXTRACTORS.

HOW SHALL WE HAVE THEM MADE TO BE HANDIEST?

LEST any of the friends should accuse me of copying, I will explain, in the outset, that I have purchased from friend Everett his patterns and all the materials for his extractors, and have therefore a perfect right to copy his extractor cut, or to find fault with it, even, if I choose. I do not think I shall find very much fault, however, for I know what different notions we all have of things, and I ought to know pretty well what different ideas we have in regard to the convenience of implements for the apiary. The engraving below shows an extractor made so as to contain 100 lbs. or more of honey under the revolving frame.



EXTRACTOR, WITH A STORAGE CAPACITY BENEATH THE REVOLVING FRAME.

Now the question is, Shall we have storage room in the extractor, or have a separate receptacle for storage? I would have the latter because it is cheaper, and because I want the extractor made short enough to admit of its delivering the honey right into pails, tubs, or the bung of a barrel, while the handle stands at easy height to be worked by one standing by its side. Our little bags, made of cheese cloth, are the handiest and most perfect strainer of any I have yet seen devised. I do not know how you can well use these with a tall extractor like one in the cut, unless you deliver the honey into the cellar, or other room below. Now, after having had my say about it, I will make you extractors just like above, all you want, and you can have the heavy Everett gearing, in place of ours, at an expense of 50 cts. extra, if you prefer it. We can also furnish any of the parts for repairs, for the Everett extractors.

HONEY FROM CORN, ETC.

ALSO SOMETHING ABOUT "BEES THAT WOULDN'T FREEZE."

THE subject of honey from corn has been agitated, and I would say that I have made the source from which honey is produced a special study for the last few years, and the following are the deductions in regard to honey from corn (different varieties tested.)

I have never known honey to be secreted in either silk or tassel; but the smooth gland, or plate, situated at the base of leaf, or, rather, at the junction of blade with stalk, usually furnishes honey, and, at certain climatic changes, the flow from this source is quite heavy. I do not wish to be understood as claiming that honey is never found on other parts of the corn, for, if there is such a phenomenal occurrence as a honey-dew, then I should expect to find the bees licking honey from all parts exposed to the same. I am not prepared, however, as yet, to give a positive answer as to dew or no dew; but my investigations during the past three years have led me to favor such a possibility.

With your permission I will call attention to two sources from which honey is produced, that I have not seen spoken of before. First, the common buckeye; second, a plant (name not known) that I found growing in waste places such as roadsides, old pastures, slashings, and in thinly timbered land. This plant seems to be an intermediate between motherwort and the mint family. It resembles the mint somewhat, but is odorless; bears its flowers on a spike like the former; the flowerets are white and small, growing in tufts around the spike, about $\frac{1}{4}$ of an inch apart. It blooms after basswood, and continues a long time. My observations have led me to believe it will bear cultivation, and will be much improved thereby. I will send you a specimen in its season. It is an annual.

A BEE-TREE ITEM.

In January a party of workmen cutting timber one mile from my place felled a tree in which was snugly housed a colony of nice Italian bees. The tree fell in such a position as to split open the cavity, and throw combs and bees out, with but little loss to either. They had a fair supply of stores, and brood nearly ready to hatch. The day was mild, so that the bees could fly, and an interval of one hour occurred between the falling of the tree and the discovery of the bees, during which time they improved by loading up to their greatest capacity, and then clustered under a hollow shell about two feet from the ground. That evening the wind changed to south-west, and became very violent. The next morning the mercury was 4° above zero. The day continued windy and cold; at eve the wind fell, and the following morning the mercury stood 4° above. A gentleman told me that those bees were still clustered under the hollow shell. I lost no time in going to their relief with a nucleus hive, a brick, and a smoker. I built a fire and threw in the brick, then cut a hole through the shell immediately over the cluster. I placed the hive over this, and when the brick was ready I placed it beneath the cluster. In ten minutes after, I had the satisfaction, with the assistance of a little smoke, of seeing those bees securely hived. At this date, March 7th, their numbers have been augmented by a recently hatched lot of young bees; they are doing finely. How does this compare

with those queens whose progeny must be put into chaff or frost-proof cellars, to prevent freezing? Friend Root, is this queen and her progeny an exception? If so, who is the man that will pay a thousand dollars for her, or five dollars apiece for her daughters?

R. B. ROBBINS.

Bloomdale, O., March 7, 1882.

Thanks, friend R. I have several times seen bees "nosing around" the leaf of corn, in a way that seemed to indicate they had been getting something from the spot you mention. All that is wanted now is a kind of corn that bears honey there every season, and I have little doubt but that it can be furnished.—The bees you mention, I opine, are no more hardy than any bees. It was because they were filled with honey, that made them endure the cold so well. If plenty of good honey were kept in the cluster all the time, they might stand it that way all winter; but after every freeze and thaw they would gradually drop off, and, in time, if the winter was severe, they would all be gone. In our back volumes I have given you the result of some experiments in much the same line.—Can anybody name the plant described?

HOW TO STEAL A LIVING, AND DO IT HONESTLY.

FRIEND JONES'S IDEAS ON THE MATTER.

I THINK it would be of advantage for you to make more departments similar to those of Hive Manufacturers, Square Men, etc. I would suggest one "Situation Vacant," "Situation Wanted." I am constantly being asked if I know a good bee-keeper that could be had at fair wages; then another, "Bees Wanted," and another, "Bees for Sale." I have educated many every year, and still the demand increases. This year I expect to have a small army of students, and I am surprised that more young men do not serve their time at learning the business. If we had fewer mechanics and more bee-keepers, we should be much better off; and no mechanic can make as much on a small investment as can a trained and successful bee-keeper. We have millions of dollars worth of honey going to waste, and thousands of people injuring their health eating vile adulterated sweets; thousands of young men leading an idle, miserable, profligate life for the want of some legitimate employment. Now, if they could be induced to learn apiculture they would be a great benefit to the country as well as themselves; and to those whose inclinations lead them to steal, I would say that bee-keeping is the only way I know of that a man can steal his living honestly.

Beeton, Can., March 3, 1882.

D. A. JONES.

Many thanks, friend Jones. The idea has been for some time forcing itself on my mind, on account of the number constantly asking if I know where they can get a hand, and others asking for a situation. Your ideas, my friend, about setting the bees and young men to work gathering the honey, are right royal; and students who have worked with you ought to find places readily, north, south, east, and west; for if we judge of you by your fruits, you certainly know how to keep bees and get honey. If you

will turn to the advertising pages, you will see *this* suggestion has borne fruit too; for we have there a department for "Wanted, a Bee-keeper," and "Wanted, a Situation." Notices to this effect will be inserted for 20 cents a month, or \$2.00 a year.

FROM THE BOX-ELDERS.

MR. DUSTER DISCOURSES ABOUT "WATER FOR BEES."

WE took a look into Mr. Duster's bee-yard one evening as we were passing his place the latter part of February, and saw that he had taken his bees out of his cellar, and there they were, with the honey-house in the center and the white hives standing all around it gleaming in the bright moonlight—quite a little city. We knew this was unusual for him—this bringing out his bees at this season of the year; so we gave him a call to learn what he had to say about it, and talk a little about other bee matters.

"I never put my bees out so early before," said Mr. Duster, in answer to an inquiry of ours, "nor did I ever see so mild a winter since I first put bees into the cellar for wintering. I used to put them out about the 10th of March, but I became satisfied that, for most seasons, it is better to let them remain as long as they can be kept quiet, or until they can gather pollen.

"I was just thinking that your friend A. I. Root would like to know just how bees have behaved this warm winter in cellars, and so I give my experience.

"My bees were as quiet as usual up to about the 10th of February, when they showed some uneasiness, but not enough to be troublesome. I gave the uneasy stocks *water* in a sponge, at the entrance, with satisfactory results, and it *always* quieted them. I am sorry I did not leave in a few hives to try how long I could have kept them in the cellar, while so warm outside.

"The two first weeks of February were the most warm and beautiful weather that I ever saw for the time of year. I ate it and drank it—rolled in it and bathed in it to my heart's content. But my bees were in that dark cellar—my pets! and I could not but think if this beautiful weather brought such enjoyment to me, how could I keep any of God's innocent creatures from this great flood of his beautiful sunlight? So the night of the 11th saw my bees all out. Those hives that had sponges at the entrance could not be closed for carrying out, for the sponges were completely covered with bees, forming quite a large ball. They gave no trouble in carrying out; in fact, they seemed among the most quiet; and now for a few more observations on

"WATER FOR BEES."

Here Mr. Duster seemed to lose himself, as is sometimes his habit; but his thoughts soon began to reveal themselves as he commenced soliloquizing in a slow, deliberate way, by saying,—

"Yes, yes! This (hobby) horse of mine is good 16½ hands high; young, and growing; good action; style, the best; head up and tail a coming! That's about the size of it; and here I am just trotting it out for some graceless, thoughtless, witless nincompoop of a bee—"

"Stop, stop! Mr. Duster," called his wife from across the table, "you forget yourself! What are

you talking about? What has all this to do with the few observations you were about to make?"

"Sure enough, sure enough!" said Mr. D., rousing up from his somewhat strange reverie: "but that colt has come to stay, all the same, and I wish to remark, his name is Aqua."

After this rather strange digression to which Mr. D. is quite subject, he resumed by saying,—

"The first day after being put out, the bees had a fine flight, as the day was warm and but little wind. The air was full of them, and they seemed to be all out at the same time. Now, this is what I wish to call your attention to: There is a quite moist spot of ground a few rods south of my apiary, and as soon as the sun thawed the frost and ice, the bees at once found it. When I first saw them hovering over it, I thought some stock had swarmed out. I soon saw that it was *water* they were after, and that the grass and ground were completely covered with bees. I never saw any thing like it before. They were rushing in and out of their hives in a way that I had never seen, even when honey was in full flow. They kept at this business until quite late in the day. I offered them honey, but they paid no attention to it, but passed right by it to the water. The spot they visited was well fitted for their operations, as the moisture just came to the surface, and they could alight anywhere, and rise without trouble.

"One of my neighbor's boys, in coming home from school, stopped in to tell me that my bees were 'all over,' as he expressed it, and the street is full of 'em.' I asked him what they seemed to be doing. 'Getting water, I reckon, for they are around every puddle from here to the schoolhouse.' I tell this to show you that even a *crazy schoolboy* noticed the bees getting water that day.

"The second day was just as pleasant, but the hurry was over. I offered them honey as before, and I can assure you they did not refuse it. And now one more observation, with a pointer, and I'm done.

"When out with old bee-hunters, when a boy, they told me to always look for a bee-tree near some water. D'ye see? A word to the wise, etc."

R. H. MELLENS.

Amboy-on-Inlet, Lee Co., Ill., March 8, 1882.

A NEW SCIENTIFIC INSTRUMENT.

THE MELOMETER.

I HAVE been making a discovery that seems as if it might be of some importance, not to bee-keepers only, but to the rest of mankind as well. In brief, the proposition is, that a colony of bees on a delicate scale is more reliable than a barometer in pointing out the approach of rain. The barometer notes only the pressure of the atmosphere, while the indications of the — *melometer* — depend, I imagine, on pressure, the degree of moisture, the electrical condition of things, the temperature, the wind, and perhaps some other things. And won't it be fun to sell each of Uncle Sam's observatories a hive or two of bees?

My melometer is simply the balance described in GLEANINGS of Sept., 1880, p. 416. Any scale that will carry a hive, and indicate the ounces accurately, would do as well; but I think that many of the hive-scales in actual use would be nearly worthless for this purpose. I used my scale for two seasons without the slightest idea that I had a weather-indicator.

Recently, however, I drew off the records that were scattered through the pages of my day-books, and put them in such shape that they could be compared with weather and yields of honey in future years. As soon as this was done, the relation between the approach of rain and the rise of the honey-yield became strikingly apparent. I will now try to indicate the rules governing the new instrument, as far as I have discovered them.

I. It is the increase or decrease, or remaining stationary of the honey-flow, that counts — the mere amount brought in signifying nothing. In fact, the indications are rather plainer when the yield is very small.

II. About three days is the usual warning given of a rain; but often the time is shorter, and sometimes rain follows in a few hours after the scales show an increase.

III. The more rapid the increase of the honey-yield, the more violent will be the storm.

IV. If the increased flow is maintained after a rain, there is probability, but not certainty, of more rain in a day or two.

V. Total cessation, or nearly total cessation, of the honey-flow for several days, is liable to eventuate in rain.

VI. When a rise of several days' duration eventuates in rain, a slight decline sometimes sets in the day before the rain comes. In these records, however, the decline of the last figure is often owing to the bees' being driven in from gathering by the rain itself.

VII. When rain fails to appear as per Rule II., and the honey secretion wavers, there is still strong probability of rain within two or three days; but the amount of rainfall will probably be trifling.

VIII. In applying previous rules, the sudden opening of bloom, or close of bloom, of important honey-plants, must sometimes be allowed for; also any great change in the working condition of the colony, as swarming or preparing to swarm, or robbing, or raids on stores of sweets.

As all will agree that this is important if true, I think I must present my data in full, even if necessary to divide and have part next month. If I pick my illustrations, the reader will have no fair means of judging what the thing does amount to. Records commence with the spring of 1880. Figures will designate the number of ounces brought in during one day, and dates will be omitted when days succeed in regular order. From one comma to another will be one day, except that rains coming before the honey-yield of the day, or after the honey-yield of the day, will be pointed off with commas.

May 4th, 2, 13, 15, 28, 14, 4, rain.

Rain is not to be expected on a declining yield, but these days cover the close of the fruit-bloom; nevertheless, this run is unsatisfactory as an example. Upon such figures I should expect rain on the 6th or 8th. I have a suspicion that there was a shower in the night, which I did not record. My weather-notes were not nearly as precise as they would have been had I expected to make the present use of them.

May 10th, 0, 0, 1, 0, 0, 0, 0, 2, rain. Here the one ounce on the 12th did not result in rain; but the two ounces of May 18th pointed to rain, which came the afternoon of the next day. The day on which the rain fell, the honey-record was a cipher; but the next day (May 20th) one ounce came in, in the earlier part of the day, followed by a heavy shower the same

afternoon, and by lighter rains for the next two days.

May 23d, 0, 3, 5, rain. Five oz. were also brought in the same day as the rain, increasing to 6 the next day, with slight rain the same afternoon. This illustrates Rule IV.

May 28th, 0, 4, rain. Then follow two days of alternate sunshine and violent showers, honey secretion seeming to continue. (Rule 4.)

June 1st, 2, 2, sprinkles.

June 3d, 2, 6, light rain, and 10, 0, and sprinkles.

On June 7th, the weight was not reliably taken.

June 8th, 0, 1, 1, 5, 15, rain. This rain came in the afternoon, and was followed by a sharp increase of the honey secretion, bees getting in 18 oz. that afternoon. Storm and rain for the next two days followed.

June 16th, 34, 17, 0, 10, 9. Just as we would be led to expect, no rain followed this diminishing.

June 21st, 15, 31, 60, 58, rain. (Rule VI.)

Correct weights could not be taken for the next two days, on account of a grand swarming *melee*. Honey secretion was probably continued, and showers fell on the 27th, 28th, and 29th.

June 29th, 13, 21, 49, rain.

July 2d, 22, 24, 33, rain, and 33, sprinkles, and 9.

July 7th, 3, 11, 14, light rain.

July 10th, 0, heavy rain. This heavy rain, following a day of no honey secretion, is somewhat anomalous.

July 12th, 2, 9, 12, rain.

July 15th, colony swarmed.

July 16th, 1, 5, rain. On this rainy day the honey-flow increased to 15 oz., and the next day was very rainy. It rained also the succeeding day, which had a small honey secretion.

July 21st, 0, 9, rain, 7 and rain.

July 24th, 3, 16, rain, 6 and rain.

July 27th, 10, 13, 15, 19, 17, 13, and sprinkles. (Rule VII.) Here false expectations of rain on the 30th might have been formed.

Aug. 2d, 11 and slight rain.

Aug. 3d, 1, 12, 14, 14, 14, 13, no rain.

Aug. 8th, 13, 14, 15, rain.

Aug. 12th, 13, 16, rain.

Aug. 15th, 3, 9, 25, rain.

Aug. 18th, 27, rain.

Aug. 20th, 13, 20, 41, 41, 50, heavy rains.

Aug. 26th, 33, 53, 26 and rain. Two days of lowery, drizzly weather succeeded, during which little was gathered; but honey secretion may have continued.

Aug. 31st, 52, 52, 32 and rain.

Sept. 3d, 9, 20, 15, 12, 0, 0, light rain. Unless there was a shower on the night of the 4th, which I did not record, the failure of rain at that point looks a little lawless.

Sept. 10th, 10, 11, 10 and rain.

Sept. 13th, 0, 0, 2, 7, rain.

Sept. 17th, 5, 3, 1, slight rain. This looks lawless; but quite possibly the decline is merely the effect of the frost of Sept. 15th.

Sept. 20th, 9, 3, 0, no rain.

Sept. 23d, 1, 0, light rain.

This closes the honey season of 1880. I leave it with the reader if the figures do not pretty strongly support the assumptions at the head of the article. Next time, if the editor does not refuse, I will bring forward the remainder of the evidence.

E. E. HASTY.

Richards, Lucas Co., O., March 8, 1882.

The above idea is certainly novel; but al-

though the figures so far seem to point strongly in the way of some relationship between honey and rain, I can hardly feel satisfied it is not accidental. The record of the rate at which honey comes in day by day through the honey season is interesting and valuable, and we, for the present, may thank friend Hasty, and stand ready to be convinced, upon the presentation of further facts.

LEARNING OUR BUSINESS.

ALSO SOMETHING ABOUT COMB FOUNDATION.

FRIEND HUTCHINSON, I may be mistaken in regard to supposing that the best way how to learn the truths of apiculture is to spend a season with a successful apiarist; but yet, I think not. If because what is true in a few instances in Michigan is false in Florida, as regards our pursuit, still it remains a fact, that the great basic principles, not only of apiculture, but of *successful* apiculture, are facts the world over. If my plan is wrong, so is our State Agricultural College, according to your method of reasoning. So is a journal devoted to articles from North and South, Germany and England, only half a journal to each faction.

But "few persons can leave home *conveniently* to become apprentices."

I never thought of that. I had forgotten I was a supply dealer. My mind was, for the moment, befogged with the idea that we were working for the greatest number of pounds of honey from the *fewest* number of producers, and, consequently, best price for that honey.

Please excuse me. I am surely becoming disloyal to the fraternity to which I belong, as a supply dealer. It was only a mistake. I am smart enough to see that my plan would tend to bring about an economy in supplies that would prove damaging to us fellows, when I stop to reflect. Yes, 'tis true one smoker, one swarm-arrester, one honey-knife, one extractor, would be needed by the two or three colony fellow, the same as by the specialist. Besides, the fellow climbing the hill un instructed will often *over* purchase, and buy some Mitchell and Lizzie Cotton goods, which goods do not stand in the way of further purchase, just as soon as he gets a little more self-culture, home instruction. No in-"convenience" should be allowed to check the influx into this business. We should be proud of the noise, when we can stand up and shout, "*The only business entirely free from in-convenience!*"

It is simply a question of "a great many pounds from a few producers," or, "a few pounds each from a great many producers." Of course, I see my interest in the matter; but then, "'tis human to err." Sometimes, before a man hardly knows it, his integrity will get the start of his policy.

But we agree exactly in regard to the "Square List;" but let's not say any thing about it, except by our actions.

I can second friend Hasty's compliment to the proof-reader, and even go further; I congratulate the typo on his superiority over me in reading my coldest hieroglyphics.

But now a word about

COMB FOUNDATION.

I want to tell you, in as few words as possible, why I like the Given press and its products above

all in the fdn. line. First of all, I can print both heavy and light sheets with greater speed, with less than one-half the perplexing trouble, and not one-tenth the muss and daub that I experienced with any of the five roller mills I have used; besides the fact that I can instantly make it upon and around wires previously woven into the frames, and when on said wires it is on to perfection; because I can take the sheets *dry* from the pile of sheeted wax; because they come through the mill dry, ready for use or shipping; because it needs no papers between the sheets to ship safely; because my sheets will be the same size *after* printing, that they were before. We can *drop* to order.

Now regarding the value of the fdn. when put to the bees. By demonstration I have proved to myself that this style of fdn. is drawn further and quicker by the bees than any other I could get; also that the comb was more delicate, and thinner, both in base and side wall, than any other.

These facts have, like all others, got their "why;" and knowing how much better a strange reader feels after hearing a reasonable "why," I will give the one that strikes me, as follows: First, the press makes the thinnest base fdn. of all. Now, whether you make thick or thin, the wax is in the line, or side wall, in greater proportion than with any other fdn. This line is about as high as any, and broader and softer than any other printed by pressure, between rolls or otherwise. Bees will *sometimes* thin even the base of fdn. They will *always* draw out all of the line, or side wall, of any soft-line fdn. It follows, that we should demand perfection in the base (thinness and concave shape), while it matters but little about the line, further than this: that the more wax it contains, the thicker comb it will make. The softer the wax in that line, the greater the certainty and speed with which the bees will change fdn. to comb; also, the more delicate will be that comb, both in side wall and septum. I have never heard any thing but praise from those who had tried the press or its products, except in one case of complaint of the fdn. I sold a party last season, and now he is ordering a press. I have no interest in this mill, or any other; only with truth, as it appears to me.

Friend Root, I send you by this mail, samples (exact specimens of full sheets of heavy and light Given, heavy and light Vandervort, light and heavy Dunham). With your experience, I think you will have no trouble in determining "which is which." I hope they will aid you in some interesting comments. They are a few of the best styles of fdn. that we employed in our late tests.

JAMES HEDDON.

Dowagiac, Mich., March 7, 1882.

Many thanks for the samples, friend H., although I already had all, except your Given samples. These latter are a trifle better than any I have seen before, but still they are not as thin in the base as fdn. we make on our rolls now, and several others that have been sent in. So far as the style of the Given is concerned, we have a mill we have been using for the last year that makes fdn. almost *exactly* like it. With this and the Given, the walls are so broad that a great part of the sheet is wax almost as soft as it was before embossing, and it would look now almost as if the coming fdn. were to be only thick sheets of wax, with a hole pricked where the cells are to be. Among your sam-

ples is one that I can not locate. It much resembles a piece sent me recently by Mrs. Dunham. It is, in reality, artificial comb, for the cells are deep enough for the queen to lay, or for honey to be stored therein. The shape of cell hardly looks like the Dunham, and the comb has a trifle higher walls, and the base of the cell even thinner. As I look at these, I begin to wonder if it is not really true that we are creeping along — slowly, it is true, but year by year nearer to real honey-comb. No one person is going to build this complete comb, as it were; but great numbers are to give it a touch and a twist, and out of the multitude of touches from a multitude of people, the beautiful complete structure is to be evolved. At this minute our factory is a perfect roar of industry. Toward a hundred busy brains and pairs of hands are laboring to perfect facilities and aids for the unconscious little honey-bee. I do not know where the end of it all is to be; but I do feel, in my very being, that an all-seeing Eye is above and over all, and that he has planned all things *wisely* and *well*.

GIVEN FDN. IN METAL-CORNERED FRAMES.

FRIEND GOOD'S EXPERIENCE.

SEE in last GLEANINGS you convey the idea that fdn. can not be pressed into metal-cornered wired frames with the Given press, which is a grand mistake, and I believe you have done friend Given an injustice by so doing, as I have heard from parties who have ordered presses, but say they will countermand their orders if you are correct. After giving the metal-cornered frames a thorough trial, I wish to say that I never want to use any other in my apiary, and I have filled thousands of them with fdn. with the Given press, without any inconvenience on account of the metal corners whatever. I now use top corners only, and in making my frames I use wire nails for nailing the bottom piece on. In making the frames I drive the nails in only far enough to hold the bottom piece in place; then in wiring my frames I fasten the ends of the wire to those nails, and then in pressing the fdn. in, if it does not lift off readily, I take a pair of pliers and draw the nails enough to loosen the bottom piece; then take hold of the bottom piece, and you can draw the fdn. off very easily. You that way have the same advantage that friend Given has, by not putting the end pieces in till after the fdn. is pressed in. I send you one of these frames by this mail. What do you think of it? I hope it will reach you in good shape.

Now, friend Root, if you or any one else has a Given press, and can not make it do good work pressing fdn. in metal-cornered wired frames, I will come and make it work for you by you paying my traveling expenses; and if I fail to make it do good work, I will take the press off your hands, and pay you for all your trouble.

Now will you not, in next GLEANINGS, correct the idea that you conveyed, that the metal corners could not be used on the Given press? I. R. GOOD.

Nappanee, Ind., March 15, 1882.

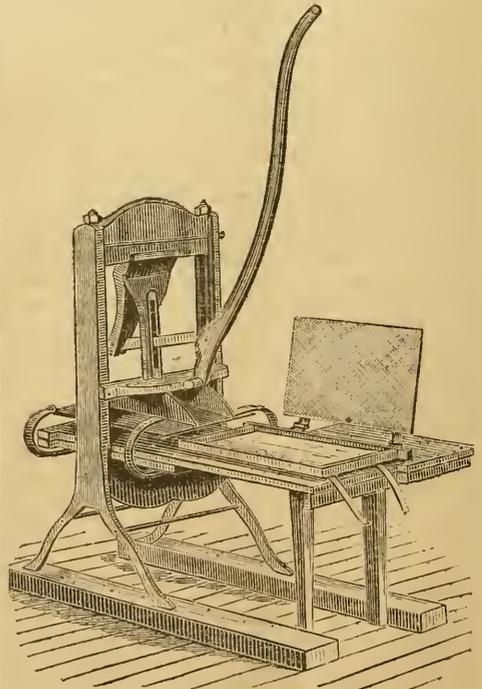
Many thanks, my good friend "Good," not only for your experience with the Given press, but for the frame of wired fdn. that came in pretty good order. Forgive me if

I am stubborn, but I really do not like the idea of having the bottom-bar nailed on as in your sample. If the frames in the upper story should ever get waxed fast to those in the lower, as they often do, there is great danger of the bottom-bar pulling off and tearing the comb in two. I know very well that fdn. can be put in the wired frames with the Given press, for friend Given and I have corresponded in regard to the matter, and he has mailed me a sample like yours, only yours is a great improvement over the one he sent. Still, neither of them had the fdn. clear up to the wood, as we have it in those we put up in the old way. You know my principal point last month was this. Well, what is the reason you do not have the fdn. come clear up to the wood on all sides? I know that the bees, of themselves, are disposed to leave a vacancy at both sides and bottom between the comb and the wood; but this vacancy is just what I don't want. The recent agitation of the matter of having reversible combs is, principally, that it will make the bees build the combs close up to the bottom-bar, exactly as they do the top-bar, and having the fdn. fastened to the wood all round will do this, usually, without any reversing. Well, the wires in the frame you sent were not drawn tight, nor even straight; yet three of them were broken, and one wire was broken in two places. The fdn. was also broken along the wires, in one or two places. Now, for all this I presume it would work very well to hang it right in the hive just as it came; and I think very likely it was much owing to the cold weather when it came through the mails. The great point is, we want a machine that will fill frames rapidly, and put the fdn. in, in such a substantial manner that the frames can be shipped anywhere, either in winter or summer, without breaking out. We can do this with the sheets put in by hand, as we have pretty well demonstrated this winter; still, for the present I think it better to ship frames of fdn. in moderate weather. Now will some one please report in regard to receiving frames of fdn. put in on the Given machine, shipped long distances? I have been for some time waiting to receive such reports.

Just one more point: The fdn. made on the Given machine is much more brittle to handle than that made with rolls. The same is the case with that made on the rubber plates; in fact, one is very much disposed to get out of patience in trying to handle or cut either, after handling the rolled fdn. I can cut up rolled fdn. with the shears without any trouble, when I want to send out samples; but if I try to clip off a piece of the Given, at the same time and in the same room, it breaks all into little bits and falls through my fingers. Of course, warming it more would make it do better; but I think it is best to consider all these points. No doubt but that this same quality makes it easier for the bees to work, for they do not often have wax break to pieces on their "hands." They are too old for that.

Now, after all this complaint I want a Given press at once, and I have sent the order to friend Given to-day. If you, friend

Good, can help to work out the problem, I will gladly pay all expenses; in fact, I will pay your expenses out here to help us work it, any way. Mayhap we can teach you something else that will do you "good," at the same time. I mail you both to-day one of our wired frames just as I would have them; and bear in mind, I want a press that will make a sheet of fdn. just as large as it can be squeezed into the frame. It can be put into the frame before the corners are put on, if it can not be done any other way, but I should very much rather have the fdn. put in after the frame is all made as usual. If there should be a small corner left off at each corner of the frame, it would not matter very much. One great point in favor of the Given press is, that it does away with all trimming, and there are no scraps of wax to gather up and belying around. The trimming is the great drawback to all plaster and rubber-plate machines. The rubber machines cost \$8.00; the new improved rolls, \$30.00; the Given press, \$45.00. The above are all for the L. frame. As some of our new readers may not know what we mean by the Given press, of which so much has been said of late, we give the picture of it again.



THE GIVEN FOUNDATION PRESS.

In the first place, we make sheets of plain wax, just the size to fill our frame. The plan of doing this rapidly is by means of a board of $\frac{3}{4}$ basswood, made just the size you wish, and immersed all over in the wax, while held by a wire bail. This makes two sheets, just right without any trimming. The wired frame is now laid in the press as shown, and a single sheet placed on the wires, in the frame. The pressure makes

the fdn., and fastens it in the frame at one operation. There is one more point I do not like: If I am correct, the press is very apt to cut the wires, if as large as No. 30, such as we use. Well, No. 36, such as friend Given uses, is not, in my opinion, strong enough. We have used it, but it annoyed us by breaking after the combs were built out. Friend Good uses No. 36 wire, but it was broken, as I have told you. No doubt all these difficulties will soon be remedied. If I could have just what I want, I would have the deep fdn. — almost honey-comb — mentioned on another page, made in wired frames, and tight up against the wood all around. As the Given press can't make this, I presume we shall have to be satisfied with the next best thing, especially as we are not yet *positively* sure the "next best" is not *the* best.

THE CATALPA.

ITS VALUE FOR POSTS AS WELL AS HONEY.

SINCE writing and advertising the catalpa-tree as a honey-tree, and that the wood is decay-proof, I have had a great many cards and letters asking for information concerning said tree; and perhaps I can answer most intelligently by quoting Douglas & Sons' catalogue, and it may be of interest to others. "W. R. Arthur, Sup't I. C. R. R., informed me he visited the old homestead, and took up a catalpa gate-post that his father set 40 years before. It was found as sound as the day it was set. Judge Upsher, of Indiana, stated that old citizens informed him the old stockade, built by the first French settlers, was mostly of catalpa-trees that grew in the forests there; and when the stockade was torn down, nearly one hundred years after, the posts were perfectly sound, and gave no indication of decay. The early settlers in Knox County, Ind., found a catalpa log that had fallen across a stream, and used as a foot-log until it was flattened on top by the wear of the feet. An old Indian, in answer to the question how long the log had been there, replied: 'My father's father crossed on that log,' making it over 100 years old. In Southern Illinois, another catalpa foot-log had been in use about 100 years. Prof. Eurrill, of the Illinois Industrial University, had the log sawn into boards, and exhibited one board perfectly sound, at the Centennial." I could give many more testimonials, but this is enough. I have grape-stakes that were two-year-old sprouts, that have been in the ground 7 years, and are sound to-day. They are as easy to raise as corn; there is no tree-seed that I know of that germinates as surely and quickly, and I plant a great many seed each year. As to its honey value, I put it equal to the basswood. I may overestimate it, but I have a patch of 1000 trees, and I am watching them closely. One thing I do know, that, while they are in blossom, my bees work on them excitedly.

Rantoul, Ill., March 3, 1882. H. M. MORRIS.

I have given the above to draw out further facts in regard to the matter. There is, without question, something wonderful in regard to the durability of this timber; but I am not so sure of the honey. We have several large trees in our town, but it is not visited at all by our bees, only on occasional seasons. How is it in other places?

HOW FAR BEES FLY FOR HONEY.

A "CLINCHER" THIS TIME.

SEE by the Dec. No. of GLEANINGS, p. 596, that $3\frac{1}{2}$ miles is as far as you have found Italians working from home, and you think there is some mistake about their going 7 miles for honey. Again, in answer to Hugh Marlin, in Jan. No., p. 31, you call for the experience of others. Now, with your permission, I will give my experience. Fidalgo, my home, is on an island. There were no bees here until I introduced them, in 1870. In the spring of 1880 I Italianized 3 swarms with tested queens received from you, and the middle of June had an Italian queen in all of my hives. These are the only Italians in the county. Some time in July I was on a visit to the head of Fidalgo Bay, just 5 miles from home in a straight line, and while walking in the gentleman's orchard I found the Italians just swarming on the white clover. And they seemed to have come here through choice, as they passed over fields of clover and other flowers on the way here.

But the longest flight that I ever noticed was last fall, in September. I live on the southeast side of the island, facing Pidella Bay, a sheet of salt water $5\frac{1}{2}$ miles from land to land. Flowers had become very scarce on the island; the bees had killed all of their drones, and I supposed quit work for the season. About a week later I was one day thrashing some peas in a field on the southeast side of my house, when one of my little boys, playing on the strawstack, called my attention to the bees flying overhead. I stopped work and commenced looking. Presently I could see them, a string of bees 20 feet high. I could hardly think they were bees, for the nearest land in that direction was $5\frac{1}{2}$ miles. As I was not far from the apiary, I followed up the line and found them dropping down, as it were, from the clouds, loaded down with honey and pollen, and covered with the yellow dust from the goldenrod. I didn't stop for smoke, but opened a hive at once, and found every thing full — the queen fairly crowded out. I just made things fly until I had a sheet of fdn. in every hive (I had taken the supers off the week before).

Now the question was, where were they getting the honey? I must find that out, sure. I noticed that every bee seemed tired out, and would stop to pant and get breath after striking the alighting-board before running into the hive. I was satisfied they were going to the main land, and I was bound to know for a certainty. The next morning, about 9 o'clock, the bees were flying nicely. I launched my boat and started across on the line of flight. As it was very calm, and the water as smooth as a mirror, I had no trouble in seeing the line of flying bees. After a little over an hour's pull I landed in a small slough on the Swinomish tide flats (a reclaimed salt marsh of several thousand acres). I clambered up on to the dike, and, as far as I could see, the dikes in every direction were covered with goldenrod in full bloom — a perfect blaze of gold in the morning sun. The first thing, I found the bees at work; and all Italians, and, of course, mine. I was now $5\frac{1}{2}$ miles from home.

Now, in an easterly direction, 7 miles from Fairview (the place where I landed), there is an apiary of 50 stands of black bees, kept by friend Chillburgh, on Pleasant Ridge. These dikes are all laid out with foot-paths on top, so I had no trouble in following

on the line of blossoms. I crossed the dikes of four quarter-sections, making two miles. I here struck an open slough that I could not cross without a boat. On the banks of this slough I found quite a number of Italians, and also a few black bees, which I concluded were from the Pleasant Ridge apiary. I was now $7\frac{1}{2}$ miles from my home ($5\frac{1}{2}$ by water and 2 by land), and still I found Italians, though not very plenty. Could I have crossed the slough, I am confident I should have found my bees quite a distance further. I followed the slough that ran to the north-east for half a mile further, and still found bees in the ratio of 3 blacks to 1 Italian. I was probably nothing less than 5 miles of the black apiary. I then turned back for home, perfectly satisfied with my trip, for I had proven to a certainty that bees would fly from 7 to 8 miles for honey. There could be no mistake, for I am the only one in this part of the country who keeps Italians, and I have never lost a swarm, having always artificially swarmed my bees before they were ready to swarm naturally. Now, if you think the above is worth recording, I should like to see it in GLEANINGS.

H. A. MARCH.

Fidalgo, Whatcom Co., Wash. Ter., March, 1882.

Many thanks, friend M. I have changed the statement in the A B C, but still I am inclined to think they would go further over the water, as in your case, than over hills and forests, as with us. We have given you credit for \$2.50 for that day's work in behalf of the cause of bees and science, as at least a partial payment for the service. If you have goldenrod like that every year, I think it would be a pretty good place for a bee-keeper to go to.

HONEY FROM THE OAK.

IN compliance with your request contained in the December No. of GLEANINGS, I inclose a live-oak twig with two balls attached, from which, at certain seasons of the year, bees procure a certain quantity of honey. These balls are simply nut-galls, from which the tannic acid of commerce is principally obtained. I can not undertake to explain how a substance yielding, or, rather, containing, tannic acid in such large proportions, will also, by some hidden process of nature, yield honey, an article essentially different in all its properties from tannic acid. But such is the act, for I have oftentimes seen live-oak trees swarming, not only with bees, but also with many other varieties of insects in pursuit of this honey. Nor can I perceive any peculiarity in taste differing from that of honey procured from many other sources.

Should you desire to experiment in the cultivation of the live oak, I will take great pleasure in sending you some of the acorns, as soon as they ripen in the fall, though I doubt very much the success of the experiment in your latitude, as it is a tree indigenous to the Southern climate, and one which I have never seen growing north of Mobile, Ala. With us the live oak may be considered an ever-green, as it remains perfectly green during the entire winter, and, in fact, until the old leaf is pushed off, as it were, by the appearance of the new. As an ornamental or shade tree, it surpasses all other varieties of the oak family; and a grove of them would remind you of an old and well-preserved apple orchard. It yields, in profuse abundance, a dark brown or nearly black acorn of an oblong con-

ical shape, of a sweetish astringent taste, and of which all quadrupeds, and many of the larger birds, are excessively fond. The timber is highly prized by us for its strength and durability. As an instance of the latter quality, I will mention that I have a gate-post which has been in use for more than thirty-one years.

I. A. WIMBISH.

Cuero, DeWitt Co., Texas, Jan. 9, 1882.

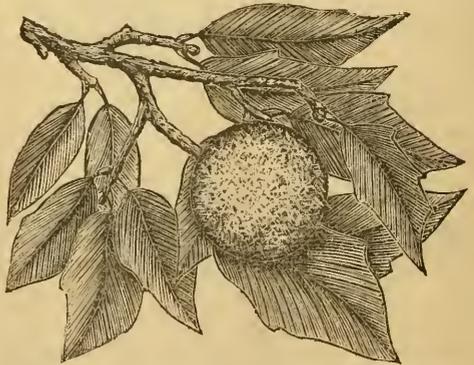
And here is something from another friend who sends us samples:—

The cuttings of live oak I sent you some time ago, with the apples, or nut-galls, adhering, are the balls spoken of by I. L. VanZandt, and many others, as furnishing bees with considerable honey. I don't know that I can give you a better explanation than friend Van Zandt has done in GLEANINGS of Dec., 1881, page 601. We have an abundance of the oak in this section of country, and the bees (and other insects) must gather considerable honey from the balls, for their loud humming will attract your attention in passing by the trees. The oak may grow in your country, friend Root, but I doubt whether you have the fly that causes the growth of the "honey-balls." You will see on the balls I sent you the circle of black spots, showing where the honey was exuded; and in cutting them open you will find a little cavity containing the fly, in some stage of growth. If you would like to have a few growing near your apiary, I will try to send you a few small trees next fall.

THOS. BALCOMB.

Luling, Caldwell Co., Texas, March 5, 1882.

Many thanks, my friends. I hardly think I will try growing oak-trees for honey just yet, especially if we are to depend on "bugs" and the like to make the honey-yield. I have had a drawing made of the twig and ball, sent by friend B.



TWIG, WITH ONE OF THE BALLS, THAT PRODUCES THE HONEY FROM THE OAK.

The friends will observe the leaves are not all just alike in shape. The samples sent by the first writer all had a regular curved outline, while the cut shows many with a scalloped or slightly notched edge. I should infer from this, that the honey is not confined to any one species. In fact, reports in our back volumes show that honey is often gathered from a species of oak in the North; and, if I am correct, it sometimes comes from the buds instead of oak-galls. Those who are curious in the matter can, by means of the indexes, go over the whole matter, for we have had reports of it for nearly ten years past.

FRIEND STEHLE'S VISIT.

THE BEES THAT BUILT COMBS ALL OVER THE OUTSIDE OF THEIR HIVES.

WITH your permission I will report about these bees on the outside of the hive (if not too late), an account of which appeared in the May No. of GLEANINGS, 1881, p. 239. I wrote down with pencil a short sketch of my visit there, but I could not get time, somehow, to put it in shape for a report, on account of work. June 8, 1881, a friend and myself started to visit the apiary of Mr. Doane, to inspect those bees outside of the hive. We arrived at Stanleyville just after a heavy shower. We found Mr. Doane, his good wife, and a visitor, chatting on the porch of their house. We told our errand, and it seemed to please Mr. Doane greatly that somebody had taken so much interest in his bees as to drive out from Marietta, over such bad roads, to see them. As I never have much time to lose, we declined the invitation to take a seat, and made a motion to see the bees. Mr. Doane remarked he had not seen them for a week. Said he, "They are very cross, and most generally chase me away." We assured him that we did not fear them, so he came along with us to see the fun.

Owing to the shower above mentioned, all was quiet; the hives looked about the same as when I first saw them in November, 1879 — combs all over the hives, on the sides and back, also on top, very little in front, also below the hives down to the ground. On the first hive there were no bees to be seen on the outside. Mr. Doane said, "I guess they are all dead." I gave the hive a rap, which was answered within by a big hum. I looked at Mr. Doane to see him smile; but "nary" a smile. I rapped again and said, "They are all right; don't you hear them buzz now?" He told me that he once could hear the bees hum, but he could hear nothing now.

Upon close examination I found the combs on the outside all empty; even the combs below the hive were not occupied. The bees were evidently driven up into the hive by the cold weather; as there is no bottom to the hive, it is quite an easy matter for the bees to move up. Judging from the buzz made by the bees, this must be a fair colony; but when all this outside comb was filled with bees, there must have been at least a bushel of them.

The second hive is covered with combs like the first; no bees on sides; back of the hive, all the combs look dry and clean; no sign of moth worms; also not the least sign of dysentery. This colony is in better condition than the first. The combs below the hive are filled with bees down to the ground; 3 sheets of new combs have been built nearly down to the ground — two worker, one drone comb, and all were filled with larvæ. There is nothing around this lower comb. They are exposed all around. Just think of it, and full of brood! doubtless this is a rousing big colony. There is no surplus honey anywhere stored on the outside. This is a striking contrast to my best colonies, which at that time had from 50 to 70 lbs. of surplus honey in the upper story. From all appearance these bees wintered without dysentery. I have examined every thing very closely, and find all about the hives sweet and clean. In all ordinary seasons, I think these bees must be unprofitable, owing to the disadvantage of being exposed to the weather. It is not easy to calculate how much surplus honey those two colonies would

have made inside of a good hive, with plenty of room (for an intelligent bee-keeper) while they were building all this comb on the outside. It would probably have astonished any of us.

Brother Root, I don't see why the moths don't commit depredations on these combs, so exposed. Mr. Doane regrets very much that his bees don't swarm (his is a non-swarming hive); they have not swarmed in twelve years. He says he bought some patent hives (cheap) at a sale, and would like very much to try them, but thinks he must buy a swarm, as his bees won't swarm. I could not help meditating on the difference between the bee-man who keeps posted, and is up to the times, and this old friend. But as our conversation had to be carried on in a very high key, I did not venture to say any thing about modern bee-keeping.

In 1879 he got lots of honey from his bees, from the outside of his hives; and the same season my bees made scarcely a living — only about six miles distance apart, on a bee-line.

At the present writing, all my bees are busy gathering pollen. Every one wintered well on summer stands; also the winter of 1880-'81, every one of my colonies wintered through on summer stands. I think, for this section, outdoor wintering by far the safest way.

R. STEHLE.

Marietta, O., March 1, 1882.

And it seems, friend S., that, even if it is demonstrated that bees will live almost right out of doors, without protection, they do not yield the profit that they do with more modern appliances. The fact that these bees are so healthy, and winter safely every winter, seems to carry a lesson with it; but why do they never swarm? Is it because of having so much empty comb about them all the time?

JONES'S SYSTEM OF COMB HONEY.

TALL FRAMES AND SHALLOW FRAMES.

THE following, from the Montreal Weekly Witness, we publish principally because it touches on the new system of getting comb honey in the body of the hive, by use of the perforated zinc division-boards:

COMB AND EXTRACTED HONEY.

Sir: As our market demands comb honey as well as extracted, I would like to know, through Mr. Jones and the WITNESS, if the Jones hive can be worked with advantage for the production of comb honey. Mr. Doolittle, Mr. A. I. Root, and other large producers of comb honey, use a shallower frame than the Jones, and make the hives two and even three stories high by placing one on top of another. If I am correct, the Jones frame is too deep to be used as a two-story hive in this way. Is there any advantage in using a two-story hive for extracting?
Glaude, Ont.

NOVICE.

The Jones hive can be used to advantage for the production of comb honey, on the new and approved principle of taking comb honey from the body of the hive. The above hive is best adapted to, and has many great advantages over others. For instance, the long shallow frame could not be worked as we do the Jones frame, which is about 10¼ x 13 inches, inside measure. It can be used as a two-story hive if properly arranged; but I can get larger yields of honey from a one-story of my size and shape of frame. The way to take honey is from the brood-chamber. By the use of the perforated metal division-board, the queen is prevented from getting back of it to lay in the sections, while the bees pass through as easily as if there were none there. Now you have a sufficient number of combs to keep the queen laying in front of hive; next, back of it you have your perforated metal, then your frames of sections, and behind, either hatching brood or larvæ, or empty combs to be filled with honey for extracting. You can extract from these combs, and the

oftener you extract from those combs behind the section, the faster they store in the sections; or, if you just uncap the honey in front, if there should be any, they carry it back and store it in the sections and fill its place with brood. Thus you can take both extracted and comb honey at the same time; and should there be a sudden large flow of honey, the bees would not lose it by waiting to build comb, but would always have empty combs to store in. Besides, they build or draw out more comb in the center of the brood-chamber than any other place. Cold nights do not drive them from their work. There is no coaxing them into the boxes, as is often the case with other systems; but, rather, you make them store the honey just where you want it, and yet let them put it where they are sure to if not prevented, or, rather, where they always will put it if there is a chance to do so. Besides, the honey stored in the brood-chamber is richer and finer than that stored elsewhere, because it is better ripened; the heat of the bees and brood evaporates it faster, thicker, and more lively. A lady bee-keeper once remarked to me, that bread, if kept an unusually long time baking, is never as good as that baked in time, and she also thought honey is similar, and should be ripened rapidly after being gathered from the flowers. All the first-prize honey at the great honey show last fall was taken from the Jones hive on the above principles. The shallow frames were invented more than twenty years ago, before the honey-extractor was known, and were made as shallow as possible, to make room on top of the frames for honey-boxes. The honey-extractor or perforated metal, and many other valuable inventions, have completely superseded what has been considered by many the only way to manage bees. I have used two and more stories of both shallow and deep frames, and find, for extracting, the single, or one-story, the best, all things considered. In the long season I frequently take over 3000 lbs. of honey in a day, and I could not do it if I had the cumbersome complicated fixtures that some use and call bee-hives. D. A. JONES.

The above frame, it will be noticed, is not very different from the old-style American frames which were in such extensive use a few years ago. We used them for about five years exclusively, and for both comb and extracted honey. Of course, we did not use the perforated metal division-boards. These will, without doubt, keep the queen out of the section honey; but so will our present division-boards, for that matter. Perforated separators were used to a considerable extent last season; but we have had no very favorable reports from them, that I know of. Friend Jones feels sure that I will, in time, come over to his way of thinking, and it may be I will; for I well remember when I agreed with Mr. Langstroth, that comb fed, was not very practicable. At present, it does not seem to me probable that a deep frame, and metal division-boards, are going into general use.

INTRODUCING QUEENS.

SOMETHING OLD.

SO numerous have been the modes of introducing queens, detailed from time to time, I fear, upon reading the caption of this article, you will be more likely to consign this to the waste-basket than to give it a place in GLEANINGS. Yet, like a child that is pleased with a new toy, and would be thrusting it into the face of every one for admiration, I must need risk a rebuff, by essaying a description of what I conceive to be an infallible way, if the instructions are strictly followed. I have followed it since 1876; have sold many queens, and instructed the parties to follow this plan, and there has never yet been a queen lost. You will find the plan detailed by Frank Benton (whom you will ad-

mit is good authority), in *Bee-Keepers' Magazine*, 1875, page 130, in answer to an inquiry I made on page 66, same volume, which I suppose is on your shelves.

In 1880 I got hold of your A B C book, which I considered the best of any book I ever saw. I at once adopted your instructions wherever they differed from my former manipulations, and, among others, your plan of introducing queens, thinking it might possibly also be an improvement, and followed it that summer, and was always successful when bees were gathering honey. But when there was a drought, I in a few instances kept them caged for two weeks before they quit balling the queen; lost some 3 or 4, and then quit it, and fell back on the Benton plan. When bees are making honey, a queen may generally be turned loose right away; but during a drought there are always robbers ready to pitch in as soon as a hive is opened, and then there is danger of a new queen being balled or stung. Benton's plan will work at all times, drought or no drought; the entrance being contracted so as to be quite small, and care taken that no bee can enter anywhere, save at the entrance, and the queen being released in the dusk of evening, when all robbers are at home, and the bees drenched with honey, puts them in a good humor at any time, and they will adopt the queen without examining her closely, and by morning all things are ready for them to move on rejoicing. S. C. FOX.

Maysfield, Milam Co., Texas, Feb. 23, 1882.

We always stop and look at the "new toy," friend F., and so we give place to your letter, and don't put it into the waste-basket. The following is the Benton plan mentioned:—

DON'T KILL THE QUEENS.

In a recent number of the *Magazine* I notice that a North Carolina correspondent asks for "a safe and sure way to introduce a queen to a hybrid colony." Success in introducing queens seems to depend upon but these three simple principles:—

1. The colony to which the queen is to be introduced must have been, at the time the queen is released, without a reigning queen long enough for every bee to have become aware of the loss, and yet not long enough for them to have queen-cells well under way.

2. The strange queen must have the peculiar scent of the hive to which she is to be introduced.

3. The bees must be in a good-natured mood at the time the queen is released.

I have introduced from fifty to one hundred queens each season during the past four years, and by adhering closely to the following method have, in every instance, succeeded in introducing fertile queens even to the most obstinate:—

Remove the common, or hybrid queen, and immediately place the wire-cloth cage (made of wire cloth about ten meshes to the inch), containing the Italian queen with three or four of her workers, between the central combs, and against sealed honey if possible. Just before dark the following day (after using a little smoke to quiet the bees), open the hive, drizzle honey in a fine stream between the combs and on the tops of the frames, and allow the Italian queen to crawl down between the combs, *completely daubing her with honey* as she leaves the cage. Close the hive at once, and contract the entrance for a day. On the second or third day after, examine for the queen.

I have detailed this method before; but believing that, if followed, it will save the life of many a queenly beauty, I have here repeated it.

Knoxville, Tenn.

FRANK BENTON.

Granting it is infallible, as you say, it takes 24 hours or more to get the queen to laying, while by the plan we use we often have the queens laying in an hour. This advantage would, I think, make it pay to lose

a queen occasionally. Suppose you have a case of two queens in a hive. By your plan, as I understand it, your queen is surely killed; and it has been shown by our late letters, that two queens in a hive is a rather frequent thing. By our plan of looking a few minutes afterward, we can save a queen, if there are two in a hive, for they will be both balled. The idea of choosing toward sundown, or dusk, is an excellent one, and it is probably the secret of our great success in letting so many loose at once, as we often do.

THE DZIERZON THEORY, AND PARTHENO-GENESIS.

SEE PAGE 112, MARCH GLEANINGS.

MR. WILTSE decidedly misunderstands my views, if he supposes that I have a shadow of doubt in regard to the correctness of the Dzierzon Theory. Not only do I not doubt, but, by experiments carefully conducted, I have satisfactorily—yes, conclusively—proved to myself that the doctrine of *partheno-genesis*, as relates to the honey-bee, is true; and the object of my article touching upon that subject, was simply to call attention to a point that, to my mind, is of considerable importance in raising queens, which is this: It is well known, that impure impregnation among mammals renders the female for ever after impure, owing to carrying the young during pregnancy; the domestic fowl is disqualified, also, by impure mating, not because a portion of the foreign semen remains in the oviduct to impregnate the new eggs, but because absorption has taken place, and thus her whole system is contaminated. Now, why is this not so with the honey-bee? If a pure Italian queen meets a black drone, her drone progeny will, I believe, to a certain extent, become hybridized; not because any of the semen vivifies the drone egg, for that, in all probability, is not the case, but because the system of the queen has absorbed from the semen certain of its properties, which ever after remain; and while it certainly does not amount to complete hybridization, it does contaminate, as I believe, to a certain extent, and is always increasing. Now, for this reason I urge our queen-breeders to be careful not to breed from the drone progeny of hybridized queens. This subject, however, is an open one; and I have written at this time only for the reason that my former article was misunderstood; and I now express the hope that our friends will look into this matter, and ascertain for themselves whether my views are correct or not; and I sincerely hope, also, that nothing will be left undone, either in theory or practice, to preserve unsullied the purity of our Italian bees.

J. E. POND, JR.

North Attleboro, Mass., March 6, 1882.

I do not think we have misunderstood you very much, friend Pond; for from what you have just written above, I should hardly think you would pass muster as an orthodox disciple of Father Dzierzon. There may be a little truth in what you say; but is it enough to be perceptible to our eyes, think you?

THE CHIPPING SPARROW, AN ENEMY TO THE BEES.

THE following is an extract from Part IV. of the *Birds of North America*:—

While in their winter quarters, the chipping sparrows have no characteristic habits, other than those exhibited by many of the fringilline birds; neither do they have any note, save the ordinary chirp of alarm. Then, to recognize them, one must observe quite closely. By the middle of April, when they arrive in Massachusetts, they forget the life of inactivity which they led in the enervating climate where they passed the winter, and display much energy. At first, only the lively chirping song of the males is to be heard at intervals along the hedge-rows, which form a favorite perch for the birds; but a few days later, every garden and lawn throughout the State will have its attendant fay in the form of a chipping sparrow.

They watch their domains very closely, seldom leaving the immediate vicinity of the dwellings. As a natural result, from associating so much with human beings, these little sparrows become exceedingly tame, being, in fact, half domesticated. They will hop familiarly about the porch in search of crumbs and other bits of food, occasionally displaying confidence enough in their friends to venture across the threshold of the open door.

About the middle of May the females can be seen gathering material for their prettily constructed nests, which are often placed on some tree close to the house. The eggs are deposited about June 1st, the young making their appearance by the 15th. At this time the chipping sparrows are nearly insectivorous, feeding largely on such destructive insect larvae as the canker and currant worms. Although thus conferring a benefit upon mankind, they are not always as useful, for they are accused, and I fear justly, of killing honey-bees for food. I have frequently seen several of them thus employed at one time. They would alight on the top of the hives or on some overhanging limb, and dart down at the returning bees, like fly-catchers; then, having secured their prey, would alight on the ground in order to beat it in pieces before swallowing it. I have observed that the chipping sparrows assemble in the neighborhood of apiaries, in considerable numbers. I have found twenty or more nests, in a single season, all built in an orchard, near which stood several hives.

In spite of the above-mentioned mischievous propensity, our lively little friends are general favorites, usually finding a hearty welcome, and will amply reward the husbandman for the protection which he affords them, by destroying large numbers of noxious insects.

By September, the young and adults flock to the cultivated fields in order to feed on the newly ripened seeds of weeds, which once more form their principal diet. They then associate with large numbers of other birds, such as the field and Savannah sparrows, grass finch, and many other members of this family, departing with them when they migrate southward.

I am told that the chipping sparrow differs from our common ground chipping bird, by the habit of building its nest only in trees or low bushes. The common builds only on the ground. I am inclined to think the chipping sparrow only occasionally has this habit of catching bees, in common with other birds. Common fowls, we are told, have learned the habit, in some cases, but we are quite sure they do not do it as a usual thing. I have often seen chipping birds picking up the immature bees and larvae, brought out in the morning from the hives, but I never saw them catch live bees. It will be well to keep an eye on the matter, for we have birds of different kinds visiting our apiary in a rather suspicious way, almost every season. The only two we are sure of is the king bird, and a sort of swallow, or martin.

EUROPEAN LINDEN, OR BASSWOOD.

ALSO SOMETHING ABOUT BASSWOODS IN GENERAL.

HAVING planted a row of European linden, or linn, as they call them in England, I noticed that the one which bloomed last summer and the year before was considerably earlier than the American basswood. Has this come under your observation? If not, when they bloom this year I will give you notice. Another thing very important: both male and female trees may be noticed among the European lindens, planted about our city as shade trees; the males never bloom, and are useless as honey-producers. Do you know if, among their American cousins, the same thing is observed?

Cleveland, O., March 2, 1882. A. C. KENDEL.

I believe it is a fact, that the European linden blossoms a week or two earlier than the American linden; and were it not that clover is almost always at its height at this time, I presume we should have made more effort to grow them. A dozen were planted in our basswood orchard, about eight years ago; but most of them, if not all, have died, indicating, seemingly, they are less hardy than ours. I believe many of our native lindens produce no blossoms; but I never thought of the reason for it that you ascribe, friend K. I really wish we might have a revival of basswood planting. Since our experiment last July with the spring scales, I am getting the fever pretty strongly, and I have just asked friend Morris, who advertises in this number, what he would take for 10,000 of his little trees. Who can furnish me 1000 of the European lindens at the best rates? A linden that would blossom two weeks *later* than ours would be a desideratum.

SULPHUR FOR BEES.

MUCH has been said about what produces dysentery of bees. I have come to the conclusion, from what I have seen and read, that it is bacteria. I have been convinced for many years that diphtheria, catarrh, serofula, pulmonary consumption, and all the skin diseases, were caused from parasites. I am well aware that an assertion amounts to nothing, unless proven. Medical men of all schools admit that sulphur is the greatest anti-psoric remedy known. That it will cure psora, diphtheria, and very many of the skin diseases, is a settled fact. How does it do it, except by destroying the parasites? One case toward proof: A friend of mine in Ridgeville, who was pretty well posted in bee culture, had, in the spring of 1880, 6 colonies of brown bees, one of which, a strong one, had been kept through the winter previous in a chamber room about eight feet square. Their ingress and egress was through the window, with the whole lower casement left out. He showed them to me one day about the first of May, and remarked they had gone up. The floor was strewn with dead bees and dysenteric feces. What to do to save his bees, he didn't know, and I was equally ignorant. I saw his bees again in about one week. They were all right and working nicely. "What did you give your bees to cure them?" I asked. He replied, that he filled a tea-saucer about half full of sulphur, set it on the floor near the hive, and it was amusing to see the

bees go for the sulphur. They went right into it, and wallowed like a duck in water. They took all the sulphur in less than one day. What cured the dysentery but the sulphur, as nothing else was given? Would the disease have abated without any treatment? I have never heard of sulphur being used for dysentery of bees before or since, to my knowledge. It may have been used by others for aught I know. G. F. PECKHAM, M. D.
Elyria, Ohio, Feb. 21, 1882.

As you all know, I am, as a general thing, quite averse to medicine or drugs, and I was ready to enter a protest when friend P. first suggested sulphur: but when told the little chaps rolled in it, like fowls in the dirt, I began to be interested. If they really want sulphur, by all means let them have it; but they certainly did not eat up a saucerful, did they? Is it possible they loaded it on their legs as they do sawdust, thinking it might do for pollen? Will anybody else's bees make use of sulphur? Thanks for the fact, friend P.

UPWARD VENTILATION, AGAIN.

WILL PLENTY OF PURE AIR PREVENT DYSENTERY?

BELIEVING it to be the duty of every bee-keeper to contribute his mite toward a solution of the problem how to prevent dysentery, I wish to give a few facts that have come under my observation.

Many years ago I commenced to keep bees, and watch their habits. I soon discovered that they exhaled a good deal of moisture, causing dampness to both bees and stores, if the winter was mild, or sealing up the honey in a case of ice, thereby causing starvation, if cold was long continued. I had one hive, which was built with a chamber over the brood-nest, having a box, or drawer, holding perhaps 20 lbs. Entrance to this box was by six holes, matching corresponding holes in the hive. After removing the honey, this box was replaced, with the holes left open; and this hive, year after year, never failed to come out strong in the spring; was the first to swarm, and always gave the most surplus of any colony in the yard. Acting on this hint, I tried replacing top boxes as soon as emptied, *leaving the holes open*, and with the best results.

A few years ago I obtained some copies of the *A. B. J.*, then sent for *GLEANINGS* and the *ABC*. Packing and blanketing was all the rage; and, supposing these "scientific" publications taught "pure gospel," I tried packing and blanketing, and succeeded in packing my bees out of existence, except two colonies, and they were so nearly gone, it took all the next season to build them up. The packing had prevented the escape of the moisture, which accumulated so as to actually run out of the hives.

The same winter, a neighbor had his bees protected by corn-stalks stacked around each hive. One night his cattle got in and upset several hives. He did not notice it. Over a week after, I was passing, and, seeing the condition of things, I called him, and we commenced righting them up, replacing caps, etc. We found one hive lying on its side, cap and quilt both off, and the wind and snow blowing through unobstructed, except by the bees themselves; plenty of ventilation, surely, for a severe storm had been raging, and mercury nearly to zero. Weren't they

dead? I hear some of the packing advocates ask. Not a dead bee could I find; and, cold as it was, they showed fight when we commenced to right them up, and they were the first to swarm in the spring. Since then I have taken pains to secure upper ventilation.

How I do it, and the result, will have to be given another time, as this is already too long.

C. J. F. HOWES.

Adrian, Lenawee Co., Mich., Feb. 13, 1882.

It would be folly to ignore the teachings of the above, and the great number of similar facts bearing on the matter; but still, I hardly believe it best to tip our hives on one side, and let the wind blow through in the manner given above. Loose chaff over the bees ought not to restrain the escape of the exhalations, and I can not think yet it does. Many thanks, friend H., for the facts furnished.

THE DZIERZON THEORY.

PAPER NO. 1.

CERTAIN articles recently published in GLEANINGS, would lead one to suppose that the authors of the same really doubted the truth of the Dzierzon Theory. Are these writers serious in this matter, or do they merely desire to open discussion, with the view of causing experiments to further verify this theory? Scientists all admit that partheno-genesis is a settled fact, and incontrovertible proofs have been given to sustain it, not only in the honey-bee, but in other insect species. Years ago, when the theory was first promulgated, doubts were excusable; but now it seems to me that he who doubts is either willfully prejudiced, or obstinately ignorant; for one might as well doubt his own existence as the propositions laid down by Dzierzon, and since abundantly proved; and more particularly so when it is so easy for each and all to verify the same by experiment if they are so disposed.

Perhaps, however, the comments of Berlepsch on Dzierzon's propositions have been confounded with the theory itself, and those comments, and the deductions therefrom taken, as Dzierzon's own ideas. Dzierzon, if I understand him correctly, does not assert that the drone progeny of a hybridized queen is not affected by the copulation, but simply says that the eggs of a virgin queen will hatch, and that the result is invariably a drone, which to me seems a different thing altogether from stating that the drone progeny of a hybridized queen does not partake at all of the blood of the copulating drone; the latter proposition being a deduction of Berlepsch. Now, is this deduction correct? I fully accept and believe the Dzierzon Theory, for the reason that I have experimented somewhat in that direction, and verified the same, at least to my own satisfaction; but the above deduction I can not accept without further evidence of its correctness.

Were the honey-bee a solitary instance of partheno-genesis, doubts as to the accuracy of experiments might naturally arise; but where proofs are ample that it exists among many other insect species, and when we have positive evidence, from careful observers of probity and integrity, that not only can and do some virgin insects propagate a male of their species, but have propagated a female, which fe-

male, while a virgin, has again produced her like, it requires no stretch of the imagination to accept the doctrine of partheno-genesis, and admit its truth. It may seem wonderfully strange to one who is not a student of science that this is true; but is it, after all, more wonderful or strange than the fact that we ourselves are born and still exist?

J. E. POND, JR.

Attleboro, Mass., March 8, 1882.

Ladies' Department.

A TIMELY HINT IN REGARD TO CELLARS.

WE are having most beautiful weather—difficult to keep our bees cool enough in the cellar, but have succeeded finely thus far. We find it works nicely to shade the cellar windows, three in number, outdoors, and leave them open. We lean large broad boards up against the house over the window; and if the light is not then all cut off, lay old cloths or carpets over, so as to exclude all rays of light, but let in the air. The idea of giving bees fresh air to keep them quiet is good. It not only is good for the bees, but makes the house for people to live in much more healthful; in fact, I think it very bad for our health to live above poorly ventilated cellars, whether bees are kept in them or not. One of our nearest neighbors always kept a very damp, impure cellar; so much so, things would mold very soon. They, the man and woman, both took sick, and died of typhoid fever within a month of each other. The house fell into the hands of renters, who would hardly ever escape hard and severe sickness, until a large outside door was built. The above came under my own observation. There was another friend I called to see one warm day in spring. The cellar emitted such an odor that the sitting-room above smelled as if there was a corpse in it. The wife and mother died soon after. This was the house of a bee-keeping friend who kept his bees in the cellar.

A WORD ABOUT SEPARATORS.

Mr. Axtell is nearly ready to give up separators in his apiaries, as he thinks they induce swarming, and we think we get more honey without them, especially if honey comes in slowly. If large starters are used, bees will generally build their combs straight. We had no trouble in selling our honey, even if some combs were bulged. Of course, care needed to be used in packing, and it takes considerable more time; but any thing, almost, pays us that controls swarming, and secures an abundance of honey. Our bees did well the past season, especially in the fall, and honey was in good demand. I could easily have sold as much more; netted about 18 cts. per lb.; never had so good home sales.

BEE-KEEPING FOR WOMEN.

My health gets ever so much better when working with bees—almost well, compared with what I used to be; but in winter and spring I am obliged to take my bed again three-fourths of the time; but my general health is good to what it used to be.

SARAH J. W. AXTELL.

Roseville, Ill., Feb. 28, 1882.

FRIENDS OF GLEANINGS.

As this is my first letter ever written on or about bee culture, I should like to ask a few questions con-

cerning the warm-footed little creatures. First, does the old queen go out with the first swarm, and leave a young queen? and if said swarm send out another swarm in ten days, does the young queen left ten days before come out with this second swarm, and leave a queen younger? I've heard persons remark, when a swarm came out early and returned to the hive, that the queen was not quite strong enough to fly yet; others say the old queen goes out with new swarms. Second, if you don't wish to have bees send out but one swarm in a season, is it the right way to keep a queen-cell out of the rest of swarming time. I did so to three swarms, and kept cells clipped, but to no avail; they burst out one sultry July day at noon, and filled a space in the air as big, seemingly, as a forty-foot barn. I'm sure I did not miss any queen-cells. As soon as the swarm had left, and quietness reigned, I opened up the hives, but found no queen-cells or queens, but sights of brood and newly laid eggs. The section boxes were stored full of bees instead of honey; they did not seem to want to lay up honey above, but kept raising bees. I've purchased two swarms of bees at my own expense, and want them to pay interest on the money this coming summer. Will some one please tell me the best way to make bees pay—to sell honey or bees?

"SHINGLES" FOR BEE FEED.

The 1st of March they carried in a quantity of pollen. We did wonder where they got it, but read in GLEANINGS of their gathering it from sawdust. Well, we have a pile of new pine shingles, and they were working on it lively; but I can not think what sustenance they contain. Is pollen and bee-bread the same thing? Please excuse this writing, for tending a four-months baby, and composing a letter for a journal, is rather out of the general custom.

Mrs. MINNIE S. HAYNES.

Winfield, Mich., March 13, 1882.

You have got things a little wrong about the swarming, my friend. The old queen, as a rule, goes out with the first swarm; but instead of leaving a young queen, she leaves only queen-cells, and, with the Italians, not even that. The after-swarms are of course led out by young queens, but it may be any one of them, as it happens. Young queens, with perfect wings, usually fly very lively, and it is the old ones with ragged wings, or heavy with eggs, that fail to keep up with the swarm, or to get started with them. Thus you see, cutting out queen-cells would make little or no difference with first swarms, but it might have the effect of preventing any swarms after the first.—I believe the demands of the market have much to do with deciding which will pay best, to sell bees or honey.—This matter of sawdust, and similar substitutes for pollen in early spring, is a little mysterious. What nutriment can there be in sawdust, sure enough, or in the fuzzy dust they should get from shingles? I am inclined to think the bees know what they need, and that, after their long confinement and lack of pollen or woody vegetable matter, they need it something as a grain-fed animal needs hay or straw. Horses and cattle seem to crave woody fiber in the spring, and why should not bees?—Somebody has said, the

first year of a child's life has much to do with shaping its future character. My friend, you have a little human life there with you to mold and fashion; and who knows but that your four-months-old baby may not some time be a writer for our bee journals? May God help us to take care of the babies!

Juvenile Department.

Every girl or boy, under 12 years of age, who writes a letter for this department will receive one of David Cook's excellent 5-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50.

MY pa has never lost any bees in the winter. He has six colonies now, and I have one in a chaff hive. I got it for watching pa's bees last summer while he was drawing hay. I have an empty hive ready for next swarming-time. I made a chaff division-board and put all the sections and brood-racks together for pa. How will that do for a boy not quite 8 years old? Pa quit chewing tobacco New Year's day, because you said so much against it in GLEANINGS. He does not need a smoker, but I should like one to handle my bees with. Mu says children and bees are similar. If that is true, I hope I am a *worker* and not a very *cross* one either.

LOUIS C. BROOKS.

Brighton, Livingston Co., Mich., Feb. 10, 1882.

[Very good, Louis. We will send you a smoker on your pa's account, if he will promise to pay for it when he commences to use tobacco again.]

My brother has 64 swarms of black bees; 26 of them are in Simplicity hives. He takes GLEANINGS.

ANNA R. LENGFELD.

West Chazy, N. Y., Jan. 14, 1882.

I am a boy of 12. Pa has 15 stands; began with 2; bought 2. I go to temperance meeting every Saturday afternoon.

CHARLES W. SCHAEFFER.

Corydon, Iowa, Feb. 16, 1882.

Pa has 11 swarms, and ma one. Pa has been keeping bees for about 5 years. He takes GLEANINGS, and it comes in Mr. Davis' name.

JESSIE GULLEY.

North Salem, Ind., Dec., 1881.

I am 11. Papa keeps his bees all in the cellar. He has kept bees ever since I can remember. I have a little sister three years old. Her name is Harriet Elizabeth.

FRANCES E. WATKINS.

Charlton, N. Y., Feb. 10, 1882.

I got a pretty book as a prize for head marks at school. My pa keeps bees. He has 11 swarms. He said he wouldn't let more than 1 or 2 hives swarm next summer.

ZELLIE E. EBY.

North Robinson, O., Jan. 11, 1882.

I am 8 years old. Pa has 12 boxes of bees; he has great big chaff hives, and big chaff cushions that look like bed-ticks. Tell Blue Eyes may I'll write her a letter.

EDDIE DUFF.

Flat Ridge, Guernsey Co., O., Feb. 11, 1882.

My father has 13 hives of bees; 2 are in chaff hives. My brother has six; he is going to get chaff hives for all his bees. He takes GLEANINGS.

FINLEY E. SIMON.

Youngstown, Mahoning Co., O., Jan. 21, 1882.

I am a girl of 11. I don't like honey. My papa teaches school in the winter, and farms and tends his bees in the summer. I help him tend his bees. He has 8 colonies. I don't like them very well, for they sting.

MARY E. SUTTON.

Adamsville, O., Feb. 8, 1882.

I am a little girl 11 years old. Papa keeps bees, but my brother Russell takes care of them. He has 16 hives. Russell made a honey-extractor. I signed the temperance pledge. Papa don't use tobacco at all, nor do any of my brothers.

JENNIE L. FLETCHER.

Deposit, N. Y., Feb. 6, 1882.

I am a little girl of 10. I thought I would write too. My pa takes GLEANINGS, and thinks he could not do without it. He has nine hives, and we have plenty of good nice honey all the time. I would like very much to see Blue Eyes, as I have two little sisters with blue eyes.

DELIA LARKIN.

Hunt's Sta., Franklin Co., Tenn., Jan. 28, 1882.

Papa keeps bees. He has 17 hives. I have one little sister. We call her Mary. We call our farm Willow Bloom. The bees sting me very badly, because I have black hair. We had a black rooster. He had to stay upon the hillside because the bees stung him.

JESSE E. EARLLE.

Greencastle, Ind., Feb. 12, 1882.

I am a little girl 10 years old. My pa has 13 swarms of bees, and he takes GLEANINGS. I read the Juvenile Department and Merrybanks. I do not like bees, for they sting; but I like the honey they make. I should like to see Blue Eyes.

VINNIE HARTMAN.

Clarksburg, Ont., Can., Feb. 9, 1882.

I am a little girl 9 years old. I live with my uncle and aunt. I have two cousins, named Charley and Douglas, but both are in California. I like to watch our bees when they are at work. I don't like to get stung by them, but I like the honey. Uncle King has 85 colonies.

FLORA MAY HILDRETH.

Dent, Hamilton Co., O., Feb. 5, 1882.

I am 10 years old. Pa has 28 swarms; 9 of them in chaff hives of his own make. Last fall, a year ago, he had 30, but 17 died. Pa has made 22 chaff hives this winter. I would go to Sunday-school, but it is too far in the winter. Pa has been a bee-keeper for 5 years; he is 44 years old, and he could tell a good many things about them.

CALLIE ROUTZON.

Finding, O., Feb. 11, 1882.

I am 10 years old. I can not write very well. My pa keeps bees. We had 8 colonies last winter. All died but two. One was strong, and the other weak; the strong one robbed the weak one. Pa changed the hives, and when the robbers came home they all flew into the weak hive, and made them both strong. They did not swarm, but made two boxes of honey, or about 25 lbs.

SUSIE C. BERNHEISEL.

Green Park, Perry Co., Pa., Dec. 15, 1881.

I am a boy 8 years old. Papa, my sister, and I, have each a swarm of bees. Papa's and mine are Italians, and my sister's are black bees. I have two brothers and two sisters. My papa's name is William. He is a carpenter. My sister and I go to Sunday-school at Smyrna. The Sunday-school library has 161 books. My eyes are blue.

LYNN W. TRACY.

Sherburne, Chen. Co., N. Y., Jan. 9, 1882.

I am a little boy of 12. Pa has 11 hives of bees, and they are in good order. We all go to Sabbath-school. It is one mile from our house. Pa is superintendent, and my ma is the teacher of the infant class.

CASPER ASBRY.

Franklin Square, O., Feb. 14, 1882.

[I think, Casper, you ought to be a very good boy indeed, and make a good "square man."]

When we kept bees I thought I would look into a cross hive; and the first thing, several bees dived into my face; but they did not happen to sting me. The king-birds would catch the bees; and when they got a big wad of bees they would "spit them out." We had about 27 swarms of bees last spring, and when the fruit-trees were in bloom it was a busy time for them.

JAMES D. SEATON.

Utica, Seward Co., Neb., Feb. 9, 1882.

My father keeps bees. I have some that my uncle I. R. Good gave me for helping him in his apary. I am now going to school. Father and I desire to go and see you and your great factory. Father takes GLEANINGS now, and I like to read it. I am 13 years old.

JOHN GOOD.

Nappanee, Ind., Jan. 16, 1882.

[Come along, John; and when you come, bring along that "big uncle," too. We think a good deal of him out here.]

I believe it is about a year since I wrote to you. I promised to let you know in the spring how our bees wintered. Well, I failed to do so, and I guess papa did not care about sending his report. As nearly as I can find out by papa, my bees are all dead. It will save me putting my name on the rest of the hives as I intended to. Out of the 77 swarms, he had only 10 left. He has increased to 30; has them in chaff hives, all but three, and they are on summer stands.

CORA SAWDEY.

Poolville, N. Y., Jan. 9, 1882.

Pa had bad luck last winter. He lost all his bees but one hive, and that was weak in spring; but it got strong, and it swarmed once. Pa bought one from a neighbor in June. It swarmed once; that made him 4. They got good and strong. Pa sent to New York State and got a little colony of Holy-Land bees. He fed them up and made them strong for winter. He gave me that one in place of one of mine that died last winter.

MARY A. BAKER.

Saxonburgh, Pa., Jan. 11, 1882.

[Most of our little friends write and spell very well; but we have a few letters that have to be fixed a little. Will anybody tell us what is wrong with this one? We omit name and address.]

I received those sewing machine needles and my maw likes them very much. And my paw received the GLEANINGS Friday evening. I enclose 62 cents for two nickle plated Shears. And 7 cents for a little doll cradle, for my little Sister. My paw will renew his perscription for the GLEANINGS. again the first of April.

I am a little girl of 11. Pa bought two hives of bees last fall. We never had any bees before, and we don't know much about them. I hope they will make a lot of honey next summer, because I like it. I should like to see Blue Eyes. I think the best part of GLEANINGS is the Juvenile Department.

EMMA KNIGHTLY.

East Waterford, Maine, Feb. 10, 1882.

[No doubt you do, friend Emma; but we must try

to make it as valuable and instructive as we possibly can, or some of the older ones may *not* think as we do.]

You sent Lizzie a book, and I like it very much. She is two years older than I. Since she wrote, father built a new shop in the grove by our apiary, and now he is making all kinds of bee traps. He is a joiner, and makes anything. He used to work at his trade, but don't now. He is getting ready to send for a box full of things from your store. You ought to have seen our bees fly on the 1st, 5th, and 6th of February. Did yours fly?

ANNIE BRICKNER.

Decorah, Winn. Co., Ia., Feb. 6, 1882.

[Ours flew the last of February, friend Annie.]

My papa has kept bees for 25 years. Some years we have plenty of honey, and more than we can use; some years we have not any, and we miss it very much, as we all like it. For the past 2 years the swarms went away. I am a little girl ten years of age. I saw a picture in GLEANINGS of Tom, the doctor's son. I have a brother, and his name is Tommy. He is a doctor's son, but he never got stung by the bees yet. JEANNIE E. GALBRAITH.

Tarentum, Allegheny Co., Pa., Jan. 19, 1882.

[Very good, Jeannie. I hope *your* "Tom the doctor's son" is a good boy.]

I am a little boy 8 years old. My father has 30 hives of bees. He sold a ton of honey to one man, and he sold a few 50-gallon cans of honey to some other men. My father takes GLEANINGS. It snowed about half an inch this morning. A man came up with a sleigh, and gave my mother a sleigh ride. My mother and I made a hat-rack and knife-box from the pattern in GLEANINGS. We have a pair of wild quails. ERNEST HILTON.

Los Alamos, Cal., Jan., 1882.

[Well done, friend Ernest. So you really had a sleigh ride in California. I should like to see those quails.]

I am 10 years old. My pa keeps bees. He got one hive last winter, and has three now. He gave my brother one hive. We had to bring one hive nearly 60 miles. I have four brothers; one of them takes GLEANINGS. We did not get much honey from our bees last season. I do not like bees much, for they sting me; but I like to eat the honey, it is so nice and sweet. I am afraid of the bees, for whenever I go near the hives where they are they will be sure to come after me. My brother Wesley goes and takes off the top of the hive. Grandpa had bees too; he had 20 swarms and they all died, and he did not get any more. JOSHUA F. BAER.

Colborne, Ont., Can., Feb. 8, 1882.

I am a little German girl 9 years old. I went to German school, and can read quite well. I go to English school now; am in the Third Reader and in United States money in Arithmetic. I had one little sister; her name was Lillie. She was older than I; but she has gone to heaven, and now I am alone. Papa had 20 swarms of bees last winter; lost all but 2; has 20 again; they are all in good shape on suramer stands. I should like to see Blue Eyes. Will you please send me a book? LENA VOIGT.

Peoria, Ill., Jan. 8, 1882.

[To be sure, we'll send you a book, Lena; and may you so live that you will meet that dear sister some time, in her home in heaven.]

My pa gave me one swarm of bees, but he keeps all the money which he gets for the honey, and puts it into his own pocket. This is not a very good honey country. Our best swarm gave only about 70 lbs. of extracted honey. My brother Daniel is reading "Silver Keys," which you sent him, and he likes it very much. We put our honey up in Mason's quart jars, which sells for 65 cents.

WILLIE E. CLARK.

Bellows Falls, Vt., Jan. 25, 1882.

[Now look here, Willie; when I hear a boy complaining of his pa, I always think there may be two sides to the story, and I guess there is to this one. Are you quite sure that you always make a good use of your money when your pa entrusts it to you?]

Pa has 25 colonies of bees, all Italians. He has 5 two-frame nuclei colonies. He and I examined them this morning, and found the little "fellers" as bright as new money. Pa lifted out the frame of two of the nuclei, and found the queens. He said they were queens he reared late in the fall, and hated to kill them. He said he did not feel the least uneasy but that they would come through in the spring in fine condition. Now, Mr. Root, I have not written this expecting to get a book, for it is not worth one; but if you will send me *Our Homes* in book form, Part 2, and the price, I will ask pa to let me sweep off the bee-yard every evening after I come from school, until I earn enough to pay you for it. I go to Sunday-school every Sunday, or nearly every one; but they have got no library, and consequently we get no good book to read.

EDDY E. CAUTHEN.

Pleasant Hill, S. C., Jan. 7, 1882.

[All right, friend Eddy. We are always glad to accommodate industrious boys.]

A VISIT TO D. A. JONES.

The last time I wrote you I was getting ready to go to Toronto to attend the convention. We went about 90 miles by rail, part along the Niagara River. We had a good view of the rapids, falls, suspension bridges, and Brock's monument. We took the steamer at the landing at the town of Niagara, for Toronto. We went to the convention two nights, and saw the great D. A. Jones, of Beeton. I had a taste of Mrs. Wallace's honey cake, and it was nice. I saw Mr. Nugent's and Mr. Ramer's prize honey. Pa took us through some of the nicest churches. We came home through Hamilton, and we had to wait there quite a long while, so we had time to look around a little. We were so tired that we were glad enough to get home. Pa is away at a convention to-night, and he took the GLEANINGS that you sent him, for he knew there would be a lot there who don't take any bee-paper. My pa don't use tobacco, and he never tasted liquor of any kind, and he is 35 years old. Our bees seem to be wintering all right so far. I got a nice book as a Sunday-school present for having my lessons good. I have written you two letters now, and if you think they are worth a book, would you please send me one? I am eleven.

H. FRANCIS COOK.

Atherton, Ont., Can., Feb. 3, 1882.

[Very good indeed, Francis; we have sent you a book for your letter, and placed 25 cents to your credit besides, which you can trade out as you please, or we will send you the money. I will gladly pay any of the young friends for descriptions of their visits to our great bee-men.]

Heads of Grain, From Different Fields.

ONE YEAR'S EXPERIENCE WITH BEES.

I BOUGHT a colony last fall, packed them in chaff, and they wintered well. My brother, G. A. Beach, and I tended them this summer. They increased to 5 colonies. The last of August we united two of the weakest, then sold out and went west. We had a lamp nursery made, and tested it with success. We introduced nine virgin queens for one of our neighbors. All were received and purely mated, except one, which was probably lost in taking her flight. We also introduced several virgin queens to our own colonies. One stand lost their queen twice. We had one comb with 83 queen-cells on it. This was built in a colony of light-colored Italians. Does this not beat Hayhurst's Cyprians? We transferred several stands with success, so you see we had a little experience in several branches of the business.

W. O. BEACH.
Quitman, Nodaway Co., Mo., Nov. 11, 1881.

HOW A NEW HAND INTRODUCED HIS QUEENS, ETC.

For years I have kept bees as a secondary business, and in a go-as-you-please manner, and they have usually paid me very well for the attention they received. But last winter hit me hard, and at its close I had ten hives with living bees, and ten with dead ones. To save my combs, I placed them on the hives that had bees. When they were strong enough to divide, I sent to headquarters of GLEANINGS for Italian queens, and prepared for their reception by separating the two hives that had formed one colony. Four of those upper hives I left on the old stands, and moved the lower ones with the queens to a new place. When the strangers arrived I looked those eight over and found queen-cells in the four on the old stands, and fresh eggs in the others. I introduced the queen according to directions; and when I looked them up I found three of them balled. The other one appeared to be at home; but the next morning a dead queen lay at the entrance of the hive. But an examination showed that the lady from Medina held the fort, and that the dead queen was a black. The unexpected presence of a queen in that hive made me look over the others, and I found a queen in each of the others on the old stands, and queen-cells started in those that had been moved. This satisfied me that those queens had come out when I examined their hives, and went back to their old stands. As my bees were quite weak last spring, and the season poor, I obtained but a little over 200 lbs. surplus. But I introduced 6 Italian queens successfully; raised 4 queens from their progeny, and went into winter quarters with 20 hives, all of which were able to clean house lively on the 5th of March.

J. M. BEATTY.
Shaw's Landing, Pa., March 10, 1882.

BEES IN SICILY; SEE P. 77, FEB. NO.

Perhaps you would like to have a little information concerning bees in Sicily. Most of the bees here are black, although some of the queens are marked very much like "Ligurians," but their progeny are black, with the exception of about half a dozen well-marked workers in a stock. Now, whether they have a strain of the yellow-jackets in them, or

whether they are a distinct race, I can not as yet tell; but certainly their habits are not the same as the yellow-jackets, for they do not stick to the combs when handled, nor do they rise so much as the blacks. Regarding their honey-gathering power, I can not as yet say, but hope to do so in due time. The hives that are mostly used here are something wretched—boxes about 4 feet long and 9 or 10 inches square, made either of rough boards or reeds plastered over with mud, both ends opening. They are arranged just as you would build a single row of bricks with their ends out. It matters not how many the bee-master may have (if I might be permitted to call him a master). The advanced bee-keepers have a frame hive which contains two stories of comb. The bees have the range of the whole hive all the season. The hive opens from the back with a door, from whence they are always worked. They pile them up one above the other as high as five tiers. I had the pleasure of seeing 76 in one house 18 feet by 12, and besides that a number of empty stands from whence hives had been removed.

Sicily, Italy, Feb., 1882.
W. MANN.

Well, friends, the above would look very much as if there were black bees in some parts of Italy, after all. It is a little queer that they should be found on the island of Sicily, so near the main land, and none on the main land; and again, that all the bees should be yellow in the island of Cyprus. Friend Mann, are you sure your bees are not dark Italians, after all? How are they, to sting?

MILD WINTERS, LITTLE STORES CONSUMED, ETC.

My bees are in the best condition I ever had them at this season of the year. Thus far we have had a very mild winter, and they had a very good fly every ten days or two weeks. Storing no honey last fall, I fed them with sugar syrup. They are wintering with but little loss, having consumed but a small amount of their stores. My experience this winter compels me to question the *theory* taught by most bee-keepers, that bees consume more honey during a mild winter than they do when it is very cold. They have been bringing in pollen for over a month.

MANAGING ROBBERS.

The only trouble I have is with robbers. One colony of Italians particularly, seem to have organized into a regular band of outlaws. I had exhausted every means I could think of, and my temper too, almost, to stop them, when I commenced feeding them thin sugar syrup, which appears to have satisfied them. I had one colony swarm out on the 1st inst. I caught the queen as she came out with them; caged her a short time; returned her to the hive, when in a very short time the bees, all on the wing, returned to the hive. What caused them to come out? They had an abundance of stores, strong with bees, no dampness; in fact, so far as I could see, were in splendid condition.

SOWING BUCKWHEAT EARLY.

Will it pay to sow buckwheat in April for bees? Merrett, Ill., March 13, 1882. H. W. HIRT.

I believe your decision in regard to mild winters is right, as a general thing, friend H. Your plan of stopping the bees from robbing is also the orthodox one, if rightly managed, I believe.—Your bees had the absconding mania, described in the A B C, but it is rather unusual for a good healthy

colony to thus swarm out in the spring.—Buckwheat sown as early as you mention would come in bloom right in clover time, and, so far as our experience goes, would not be noticed at all by the bees. If you want the bees to work on it, sow it so as to come in bloom just as the summer honey-crops fail. In our locality, we sow it about the first of June, and it is then in bloom by the first of August, which is just about as basswood fails.

HORSEMINT HONEY.

I send the sample of horsemint honey, and hope there will be enough to taste. The honey I send has been exposed to the lowest temperature, in one-pound tumblers, all winter, and you will notice that it has not commenced to candy. It does not candy readily, if at all, here; none that I ever had has candied, no matter how long it was allowed to ripen in the hive. I can send you a much better sample about the middle of next June, when it is coming in the fastest. We have had more rain since Jan. 5th than we have had before in as short a time since 1869. Horsemint is coming up everywhere, and we look forward to a very large crop.

Austin, Tex., March 11, 1882.

W. L. STILES.

The honey is of a beautiful clear amber tint, and very thick indeed. The flavor is rather peculiar, and although at first taste not quite equal to clover, I think it will command a very fair price in the market. Shall we not have a horsemint patch, with all the rest? If I only had nothing else to do but make a nice one down by the pond, wouldn't I be happy? Many thanks for the samples, friend Stiles.

THE "QUEEN-BEE" WOMAN OF THE SOUTH.

Mrs. Lowe is very busy with her bees, and reading at intervals your very valuable and vastly interesting GLEANINGS, and has imposed upon me the pleasant duty of writing you this note. Now, Mrs. L. swears by her bishop and his sermons, and A. I. Root and his GLEANINGS, and I dare not criticize or dispute the words or works (or, as Mrs. L. says, the truths) of either. She is now booking orders for queens and bees from north, south, east, and west; in fact, she is so busy in her apiary that it's almost impossible for me to get near enough to speak to her without coming in contact with the fighting end of some seemingly insulted bee. Her beautiful Italian pets have already begun the work of raising a very numerous family, and by their strenuous efforts are winging their flights through the March winds to the forests and swamps, returning laden with pollen and honey. The prospect so far is very encouraging, and Mrs. L. is buoyant with hope and a bright future. I am cognizant of the fact, that bee fever is contagious; for I am almost persuaded to don the veil and gauntlets. Should I do so, shall I inform you of my success? A. A. LOWE.

Hawkinsville, Ga., March 9, 1882.

I am sure, friend Lowe, I feel greatly honored, and you can tell your good wife that our girls here in the office came pretty near deciding, last year, that there wasn't a man down South, or up North either, who could put up queens so as to go as nicely as those she sent us. So, now, if you go into the business you will need to take a low seat and prove a willing and obedient pupil.

POLLEN, DIFFERENT COLORS IN EARLY SPRING.

I have 4 hives; 3 of them have been bringing in pollen ever since the first of February. Where do they get it this time of the year? It was dark green and black at first; now it is yellow.

MRS. S. A. CHANCELLOR.

Parkersburg, Wood Co., W. Va., March 11, 1882.

The dark green, I should say, was from alders, and the yellow from soft-maples; but I can not say where they should get black pollen, unless they are gathering some foreign substance in lieu of pollen. If I am correct, we have had cases reported of pollen from coal dust, and even black earth, where a swamp had been burned off. Dark-green pollen in the summer comes from red clover; but where the variously colored pollens come from, gathered in March and April, I can not tell. Willow and soft-maples furnish about all that I now think of. Who can tell us more about it?

HOW TO MAKE BEES.

Why, friend Root, I did not mean to say that I made those bees that gathered that honey out of nothing but an extractor, postage-stamps, etc.; but I do mean to say, that I raised the bees by hard work that gathered that honey, and that made them young stands of bees. I also raised 20 young queens, which were, all but one, purely fertilized, and I have but one in the yard that produces hybrid bees, and that one I purchased from you (A. I. Root). I did not charge the two old stands of bees, nor did I the hives and combs; but just what money I paid out, and I did not credit twelve frames of honey that I had left after I had put the bees into winter quarters—only what was sold and used by my family was credited. My bees are wintering well so far. Those that were packed in chaff have done far the best; have not lost one pint of bees to all 8 of the stands, while those that were unpacked lost one-half of their bees in number. They have gathered natural pollen since the first day of March, and are raising brood very nicely.

GEORGE COLB.

Freeport, Ind., March 7, 1882.

Well, I declare, friend C., had I known it was going to come out about my selling you the only queen in your yard that turned out a hybrid, I guess I wouldn't have said any thing about your making bees with an extractor, postage-stamps, etc. Never mind; all is well that ends well, and you seem to be on the right track now, anyhow.

WATER FOR BEES IN WINTER.

I am giving my bees water daily in the bee-house, with the most gratifying results. Any "doubting Thomas" upon this subject can have an ocular demonstration of the value of drink for bees in winter quarters that will refute all argument, by coming to my apiary any time before I set my bees out, which will be some time in April, unless the weather should be quite warm. H. R. BOARDMAN.

East Townsend, O., March 15, 1882.

The great number of facts recently brought to light on this matter seem to settle it beyond question, that bees often suffer in the cellar for want of water. Now, do they also suffer for water when wintered outdoors? If so, why do we not see them, during a rain, out at the entrances, drinking up the rain? Did anybody ever see them doing this? If,

when the weather is too cool for them to do it, should we give them water on a sponge, over the cluster? Can not some ingenious one among us fix a sort of upper entrance, or veranda, with a tiny watering-trough, where they can just step out of the cluster and drink to their little hearts' content, whenever it rains? Perhaps even the dew of a bright June starlight night might be utilized. When you set it to work, let us know.

FIXING ENTRANCES.

Do you bank the sand right up against the bottom-board even with the entrance? If so, won't it soon rot the end of board? EDWIN D. STEVENSON.

Burlington, N. J., March 4, 1882.

The way we fix entrances is to set the hive, first, on four half-bricks; then bank it around with coarse cinders sifted from coal ashes. Over the cinders we put coarse sand and gravel, finishing with the whitest sand we can get. We wish the surface to be of white sand, so we can see at a glance when a queen or drone, or any other kind of a bee, is brought out. Sometimes we can detect, at a hasty glance, where robbing is or has been going on, by the dead bees scattered on the white sand. This arrangement will not rot the bottom-boards, especially if they are made of pine, as we usually make them.

BLUE-THISTLE HONEY.

I send you a sample of blue-thistle honey in a bottle in a block of wood. If it were not for blue thistle this would be a poor country for bees. Blue thistle makes the finest honey I ever saw. My bees are in fine condition; the weakest colonies have brood in three frames, and every thing is nice and clean about their hives. Friend Root, if you ever get anywhere near here, come and see me. I think I could entertain you a week anyhow. I wish you could come in the blue-thistle season. I know you would enjoy your visit. Bees can be bought in the mountains near here for two dollars per hive, delivered at railroad station (black and box hive, of course). I am the only one in the county of Clarke who uses one-pound sections or comb fdn.

J. LUTHER BOWERS.

Berryville, Va., March 6, 1882.

The honey has a flavor in some respects strikingly like the famed California sage; but otherwise, I should call it white clover. It would command as high a price in the market, I should say, as any honey we have. The comb is very delicate, and melts in the mouth. If we do not raise blue thistle, it would certainly pay bee-men to locate where it will grow any way.—I should be very glad to make you a visit, friend B., and I presume I should enjoy the sight of a blue-thistle field exceedingly; but I hardly think I could leave these boys and girls here for a week. Would a half-day do?

SQUARE VS. PROMPT LIST.

We have just been reading the remarks of Mr. J. A. Nelson, on page 140, March GLEANINGS, regarding the Square Men's list. Mr. N. says: "As to the list of square men, if you would drop the word square, and put prompt in its place, and also leave out 'we do not know of a single customer who is not satisfied,' I think it would just suit me." What

would a column devoted to prompt men signify? If we sent \$5.00 to a man, and he sent us an article worth 50 cents, promptly, he would still be entitled to a place in the prompt list, would he not? But do you think we should regard him as a square man who endeavored to keep the golden rule? Assuredly not. Now, it seems to us that the word *square* implies promptness and everything else that is honorable and upright. While a dealer may not always be able to ship goods at just the time wanted, there is no excuse for his not answering correspondents courteously, and returning money when requested. An objection to the opening clause of the heading would, it seems to us, imply that the person making such objection had a dissatisfied customer that he knew of, and refused to satisfy. We hope friend Root will not change the heading of the Square Men's Column to please any who are afraid to take such a stand for the right.

Bees are in splendid condition. We have not lost a colony, and all are very strong and healthy. We think we never had so good a lot of bees before.

E. A. THOMAS & Co.

Coleraine, Mass., March, 1882.

A NEW AND NOVEL SWARMING-BOX.

A swarm issues, and I pick up the queen (her wings being off), and put her in the corn-popper with a few of her bees. Now, I do not want to move the original colony, and how far from that stand can I take her and have the returning swarm readily find her? Don't tell me to "see A B C," for I've lent it, and don't know where it is. M. SIMONS.

Brocton, N. Y., March 4, 1882.

I do not see how you can do it at all, my friend, unless you can get the bees to cluster on the corn-popper, and then, of course, you could give them where you choose. If the bees miss their queen, they will, so far as my experience goes, go immediately back to their old hive; and if you should put their queen in a new hive, even close against the old one, they would probably not see her. Where did you get that idea of a corn-popper? I am inclined to think it may supersede all our swarming-boxes. Put in the queen and hold it near where the swarm is clustering, and they will be pretty sure to be all on the corn-popper in a very little time. The wire cloth will furnish them a nice foothold, and their queen and a few bees inside will surely hold them. Shake them before the hive where you wish them; and as they run in, open the cage and let the queen go in with them.

THE BEST SWARM-CATCHER.

Take a frame of comb, well fastened; hang it on a pole; hold this among the flying bees, or in front of the limb where the bees have commenced to settle, which they will do with delight, on the frame. After they have started to settle on the frame, you can walk slowly to the hive you want them in, and hang the frame in. Bees will almost hive themselves in this way. LOUIS HOFSTATTER.

Louisville, Ky., Feb. 20, 1882.

OUR SHOP-ROOF APIARY OF TWO HIVES.

I live on the "South Side" of Pittsburg, and I will give you our experience with bees in the city. We keep our bees on our shop roof adjoining our house, which shuts off the cold wind. We bought 2 lbs. of

bees, 2 queens, and 2 frames of brood of you about the 1st of June, and started 2 hives. The season was a poor one here last summer, but both colonies filled their lower stories. In all, they gathered about 100 lbs. They are doing well now. I examined them about 4 days ago; the weaker of the two has brood in three frames; the stronger has none as yet. There is a jelly-factory near us where the bees get stores every warm day. I believe that a few colonies can be kept to profit in almost any city. There is one question I would like to ask you: We use your chaff hives, but no division-boards; both colonies cluster on the left-hand side of the hive where the wind is the strongest; what is the reason? FRED C. TYGARD.

Pittsburg, Pa., March 10, 1882.

I think it only accident that they cluster where they do, Friend T.

AN OLD AMERICAN BEE-BOOK.

I send you a little work on bees. Perhaps you have seen the same work before now. I am well acquainted with Mr. Kelsey. He is a very old man, but still keeps bees. This book was printed two years before I was born. I think he is one of our oldest American bee-keepers. I think he would be glad to get a copy of GLEANINGS. He still has box hives. BEN. FRANKLIN.

Franklinton, Scho. Co., N. Y., Feb. 2, 1882.

The above-mentioned book is dated 1837, and was written by Francis Kelsey, Durlam, Greene Co., N. Y. In it he speaks of keeping a moth miller on some honey-comb under a glass ten days. In that time she produced, he thinks, as many as 500 moth worms. In 22 days some of these worms had produced full-grown millers. If there should ever be a demand for such, couldn't we raise them fast, boys?

FLORIDA.

I have been spending some time in Florida, looking up the bee business and orange-growing; the latter is a big thing. I visited W. S. Hart's apiary. His orange-grove is young yet, but looking well. His bees are doing well, carrying in pollen and honey. One or two years from this time he will have a fine place. I visited another apiary, owned by Mr. O. Olson. He opened one hive, and showed me 12 Langstroth frames, any amount of honey; 7 of the frames nearly full of brood. How is this for the 20th of February? Nearly all of the hives seemed to be equally strong. There are 140 hives of bees at this place, which will commence swarming about the 1st of March. I have seen some good locations for bees; but I think this the best that I have seen. It is only a small portion of Florida that is good for orange-growing, and I have seen places where I think bees could hardly make a living. The climate here is delightful. C. F. HOPKINS.

New Smyrna, Fla., Feb. 21, 1882.

REPORT FROM FLAT-RIVER APIARY.

As I do not see many reports from this section, I will send in mine for 1881. I am one of your A B C scholars, and I thought last spring my place was very near the foot of the class at that, as I lost about 4-5 of my bees last winter. I can not give the big report that some have for the season, but I am satisfied with the results. Commenced the season (when the bees had settled down to business, about the first of May) with bees in 10 hives — two of them

good fair swarms, the rest all light; some a mere handful of bees and queen. Two of the best queenless succeeded in raising queens for themselves, which I think were fertilized by drones wintered through with a queenless colony. I had also an abundance of combs saved from the wreck (thanks to GLEANINGS, for if it had not been for that I should have melted up at least half of them.) Now for results: I worked for increase; have 40 good swarms, and extracted last year 500 lbs. of honey.

A. L. ENTRICAN.

Westville, Montcalm Co., Mich., Feb. 11, 1882.

WHAT A QUEEN AND ½ LB. OF BEES WILL DO, STARTED THE 18TH OF JUNE.

Yours of the 21st is at hand. I do not think I will need any queens this year, and I have no bee-keeping neighbors who believe in Italian bees. You ask me how that half-pound of bees are getting along. I received the bees on the 18th of June. I put them into a hive with 2 frames of comb and no brood. On the 9th of July the young bees were hatching, and were pure Italians. By the first of September they had 10 frames of brood, and by the 20th of Sept. they had made 40 lbs. of comb honey, and robbed 3 hives of black bees in box hives, for my neighbor. I put them into winter quarters on the 20th of Oct., and am feeding them now to stimulate brood-rearing. I want to see how much honey they will make this year. I will let you know how they do this summer. JOHN DALLAS.

Sharpville, Mercer Co., Pa., Feb. 16, 1882.

The above was sent us by friend Burrigde, and we do not think it particularly extraordinary, especially if the bees robbed neighboring hives, as stated. I would infer these neighbors' hives were queenless, or badly managed in some way, for the Italians are not given to such work, on good strong colonies. This report may send a good many customers to friend B.; but if it should, I hope he will be more prompt than he was last season, not only in sending bees and queens, but in returning the money when he was unable to send them.

TRANSFERRING IN THE NEW WAY.

I have got some transferring to do this spring, and would like to do it by the easy method recommended in A B C. You say, place a Simplicity hive on top, and make all perfectly tight. Now, what I want to know is, whether you mean to leave no entrance to Simplicity hive, except through top of the box hive. I would suppose that, to stop the entrance in box hive, and leave one open in Simplicity, would cause them to go up sooner, as the other plan would be the same as adding a second story for extracting purposes. Would putting on hive too long before swarming make any difference about bees accepting it? D. S. TYLER.

Clio, Mich., Feb. 11, 1882.

My remarks, friend T., were with a view of leaving the entrance as usual; but since you suggest it, I think very likely opening an entrance at the top of the old hive might be instrumental in causing the bees to gradually work entirely up into the new hive. I do not think it would make much difference when you put this upper hive on; but perhaps they would go up quicker, if you waited until just about the time we generally put on boxes.

BEES BY THE POUND, ETC.

Please accept my many thanks for the free advertisement of bees by the pound you gave me last year. I would not have given ten cents to have had my name put in there, for I didn't really expect it would bring me sale for a pound; but to my surprise it brought me orders for all I could spare till into July—in all, over 100 lbs., all of which I delivered, to the entire satisfaction of my customers. The most of them I sold the first of June at \$1.00 per lb., which I think was too cheap. I think your present prices are nearer right. I wish some one would determine just how much honey a pound of bees would gather. It could be told quite closely by weighing a new strong natural swarm at the beginning of the honey season, giving them plenty of empty combs, following closely with the extractor, and taking away all combs containing eggs every second or third day so they would use no honey to feed brood. I think a pound of bees would gather 30 lbs. of honey; and as honey is the basis of all bee-keeping, the 30 lbs. at 10 cts. would make a pound of bees worth \$3.00 at the beginning of the honey season, for the honey they would store. I shall try to demonstrate it this coming season. S. C. PERRY.

Portland, Ionia Co., Mich., Mar. 21, 1882.

I think you have got it pretty high, friend P., for general localities and general seasons; but perhaps not on the average, if rightly cared for. I have bought bees by the pound, just a day or two before the close of basswood, and had them pay for themselves in three days. You have started quite an interesting question: How much honey can a pound of bees gather?

A BOLD SUGGESTION.

The application of partheno-genesis to Doolittle's statement, in regard to a three-banded progeny from queens which were reared among black drones, will at once give us light upon a mysterious point; and I assume that those queens which he mentions, whose worker progeny plainly showed three distinct bands, were daughters of virgin queens. I once had a very prolific queen which I watched closely from the time she was hatched till the day she commenced laying, and never saw any evidence of copulation, although for three entire days I say her as often as every three hours. This is all theory, I know; but discussion in an amicable manner will aid in eradicating error and establishing truth.

J. E. POND, JR.

Attleboro, Mass., March 12, 1882.

If friend Pond has said exactly what he meant to in the above, I fear I do not exactly get his meaning; but if he would suggest, that the queens producing all three-banded bees, among hosts of common drones, *never met any drones at all*, I think I could see the point. You will remember I have hinted in the A B C, that it seemed possible a queen might produce workers without mating at all. If we accept this, it is easy to account for the great numbers of cases of wingless queens that produce worker brood, without declaring they must have met a drone in the hive, or while hopping around near the entrance. I think it will be well to go slow in deciding what is impossible, so long as there is so much we don't know.

FLOUR CANDY IN JANUARY.

Three colonies of my own that I was afraid had not sufficient honey to carry them through, had quite a patch of brood started, some hatching, while in seven others that had an abundance of stores there were no eggs; in others the queen had just begun to lay. I attribute this fact, that to the three light colonies I gave each a frame of flour candy in January, which they had nearly consumed, and in one stock had built a small piece of comb in place of the candy. One dollar's worth of granulated sugar makes just two frames (Langstroth) of candy, as I make it. I use about $\frac{1}{2}$ flour, as nearly as I can guess. I don't weigh it. But I tell you it's business to make it and not burn it. I believe you recommend clear sugar. I don't know but it would answer, but do you think it as good? I wintered three nuclei in one Simplicity hive packed in chaff on one frame of such flour candy each, and a very little honey; each has now brood hatching.

Bethel, Conn., March, 1882.

S. H. HICKOK.

I had suggested that the flour better be omitted for winter feed, friend H.; but your experiments seem to decide that it is not *alway*s deleterious, at least.

THE NEW DEANE SYSTEM.

I was somewhat surprised when looking through March GLEANINGS, on finding the article and illustrations on the "New Deane System for Comb Honey." Not so much on account of the wonderful "system," but because I had invented, and, to a certain extent, *used*, the very same thing last summer. I had a number of such cases under course of construction when I received the number of GLEANINGS referred to. The only points of difference between friend D.'s and mine are, that I nail the pieces together, instead of putting them together as illustrated by you and friend Deane. It is more easily done by one who does not have the required tools for notching or dovetailing; and that, to hold the boards to the sides, and keep the whole together, I use *heavy* wire, bent at right angles at the proper length, so as to form a clasp. Slip the clasp over the end of the boards (one at each end of the case, of course), push one end of the clasp down and pull the other up, and you will clamp the whole together so firmly that it will "sound." I think I should like the word "case" rather better than "system," for I think it is a new *case* for holding section boxes, that friend Deane has invented and brought before the public, rather than a new system. Bees will come through in good condition I think.

AMOS A. RESSLER.

Souderburg, Lan. Co., Pa., March 13, 1882.

HOW I WINTERED MY BEES WITHOUT POLLEN.

Last fall I packed my bees in chaff, on summer stands (30 colonies in all), some of them with enamelled cloth fitted close down on the frames to exclude all upward ventilation, with chaff cushions above that almost filled the upper story; others with carpet on the frames, and chaff cushions above, and some hives with about half a bushel of loose chaff on the sheet of duck; two with nothing but one thickness of carpet on the frames; all of them without pollen in the brood-nest. The last week in February was nice and warm, and the bees came out for a grand jubilee. The next day was fine also, and

they went nosing around as though they were looking for something that they did not have in the hives. I set out a shallow box, filled with flour; they went to work on it with the hum of joy that they always make when we give them what they want. The first day of March being a fine spring day, I made a thorough examination, and found them in splendid condition, without any exception — every queen laying, but no brood hatched; so you see I can throw up my old hat (I have no other), and halloo "Hurrah for the new departure! remove all pollen from the brood-nest in winter." Some brother will say, "Hold on, Lane, the danger is not all past yet." I think it is. My experience teaches me that all colonies that are in good health and good condition the first of March are out of danger.

Whitestown, Ind., March 17, 1882. S. H. LANE.

I am glad your bees are doing so well, friend L.; but I can not quite agree with you, that they are surely "out of the woods," even this first of April, nor that it was surely the absence of pollen that saved them, for almost every one's bees are alive now. In fact, all plans have succeeded during this past winter.

Notes and Queries.

PLAN FOR HONEY-HOUSE WANTED.

WILL some of the friends give us a plan for a convenient and not expensive honey-house, to be used for extracting, storing honey, taking care of brood-frames, putting hives together, etc.; say one large enough for 50 or 100 colonies?

FOLDING TENT WANTED.

Also give a plan for making a tent for use in the apiary; such a one as will admit of folding up into a small compass.

FEEDING CANDY IN THE OPEN AIR.

Is it safe or advisable to feed honey or candy in the open air at this time of the year? I have succeeded in doing it so as to prevent fighting among bees, by shading the feed from the sun when the bees got too furious.

F. A. PALMER.

McBrides, Mich., March 2, 1882.

[Why, friend P., it seems to me you have answered your last question yourself. I fear the folding tent will be hard to make at a low price.]

Send me the primer, A B C. I wish to enter the "bee school."

J. W. GREGORY.

Lincoln, Ill., March 13, 1882.

HONEY FROM CORN.

Last summer I had corn honey, and it tasted as much like sweet-corn honey as basswood or white clover or buckwheat.

ALMON ACHENBACH.

Columbia, Tuscola Co., Mich., Feb. 13, 1882.

Bees were doing a rousing business in pollen March 1, 2, and 3.

JOHN T. SCHAFER.

Ada, O., March 7, 1882.

[That is what we hear from almost every point, friend S.]

I should like to shake hands with Mr. T. M. Pearsons, of Tippecanoe City, O., for his experience (p. 38, Jan. GLEANINGS) in transferring and fixing up his neighbors' bees. It's mine, to a dot. J. H. MYERS.

Saratoga Springs, N. Y., Feb., 1882.

WIRE NAILS BY MAIL.

It makes them pretty high priced, but, like the dog after the woodchuck, "got to have 'em." Bees all right.

F. BAKER.

Holly, Mich., March 4, 1882.

I have wintered 250 swarms in bee-house in perfect order to date. Most of them were set out for a fly during the late warm spell, but are now enjoying a morning nap, which I hope will last till April 15.

H. R. BOARDMAN.

East Townsend, O., March 6, 1882.

I started in the spring of 1881 with 11 colonies, and some were very weak. I increased to 38 by artificial swarming, and got 400 lbs. of honey, and sold some queens and bees; and if mine winter better this winter, I shall have a better chance next summer.

Orrville, O., Jan. 26, 1882.

C. J. YODER.

CHAFF HIVES.

I sold the only two colonies I had in your chaff hives, with all fixtures, for \$25.00. I offered my customer colonies in other hives at \$6.50; but he thought these would be the cheapest in the end, and I think he was right.

H. BARBER.

Adrian, Mich., March 13, 1882.

IN FLORIDA.

I am away down south among the orange-blossoms, and I brought a poor little hive of bees along that could not by any chance get through the winter at home, and they are doing well here. I have made them a full sized hive, and I want some fdn.

E. M. JOHNSON.

Longwood, Orange Co., Fla., Feb. 28, 1882.

ONLY A POSTAGE-STAMP WANTING.

I put a letter in the office this day two weeks ago with an order for goods, and with two postoffice orders, one for fifty dollars, and one for thirty; and on inquiry, the postmaster tells me my letter was not stamped, so it went to the Dead-Letter Office.

PHILIP EARHART.

Davenport, Iowa, March 10, 1882.

[Your \$80.00 came around all right in due time, friend E., but I would not advise you to follow up that way of doing business.]

On our lawn, where my bees sit, the water was 14 feet deep. I put them (100 swarms) on top of my house. They gathered pollen, and, to all appearance, do as well as on their stands. The strange part about it is, how they get back, for all the hives look alike, and sit close together, side by side, and the front within 6 inches of back.

RICH'D CADLE.

Shawneetown, Ill., March 8, 1882.

[Why, friend C., this seems to upset some of our theories, at first glance; but I presume the fact that the whole aspect of things was so changed accounts for it partly.]

TOBACCO COLUMN.

I RECEIVED the smoker some days ago, and will say that, when I smoke or chew tobacco you will pretty soon get your pay for the smoker; and, by the way, I think you will get it before that, for I think it is I who am benefited, and not you; it is I who am saving money by the quitting, and not you. It is three weeks to-day since I tasted the

weed. I miss it, to be sure; but 3 times 30 are 90 cents saved. I can go to bed, and go to sleep; can eat; have no vertigo, so it is good not to use the weed at all.

J. H. DANIEL.

Cumberland, O., March 11, 1882.

Many thanks for your kind frank statement, friend D. It reminds me of a young man in our employ now. When he came here, nothing seemed to stand in the way of his having the vacant place, except his tobacco; and as he stated the case it seemed almost a cruel thing to insist on what might be termed my *notion* in the matter. Almost, for the first time, I was tempted to waver in this, one of our rules and regulations. I prayed God to guide me safely, and then told the young man I saw no way for the good of the great number I employed, but to hold to my regulation on tobacco. I felt, after I had told him so, that I had done right. It is now three or four weeks since that talk, and he is not only looking brighter, happier, and better, but he told me yesterday he was glad he had undertaken it, and that he never wanted any tobacco near him any more. This man had tried it repeatedly before, and failed; and I think it quite likely that being among those who did not use it has been a great help to him.

I have used the weed for 33 years, and quit last September. If that entitles me to a smoker you can send it. If ever I use tobacco again, I will send price of it. Send a good one.

JOS. SHEPLY.

Florence, Ont., Can., Jan. 6, 1882.

We want a smoker, but not for putting away tobacco. Bless your soul, can't the good folks down in *civilization*, where there is so much paid for preaching and foreign missions, live above such barbarism at home? Why, we "poor miserable degraded Mormons" have more manhood than that, for we do not believe in its use; and the man using it has little fellowship with us; and the man who would drink whisky, or profane the name of the Deity, has none.

B. F. JOHNSON.

Spring Lake, Utah, Feb. 23, 1882.

MR. MERRYBANKS AND HIS NEIGHBOR.

Let all things be done decently and in order.—I. COR. 14:40.

TOM'S printing-office was a sort of shed adjoining the doctor's office; and, in fact, it had been used as a coal-shed until Tom petitioned to have it for *his* office. Tom had a very good mother, and, while I think of it, it occurs to me that almost all the mothers in Onionville were good women. Is such the case in your neighborhood? Well, Tom was naturally rather neat in his habits, or, at least, folks said so; but it may be, after all, that it was the effect, greatly, of his mother's early training. A lot of boys proposed, one night after school, to go and visit his office. Tom agreed, but it was evident from his manner that he was not greatly pleased with the idea. When rallied in regard to his not giving a very cordial invitation he replied, "Why, the truth of it is, boys, my office, even if it *don't* amount to much, is

clean and in nice order; and if you all go in there with muddy feet, you will make me a lot of work scrubbing it out again; and folks who pick up things and handle them, often make me a great deal of trouble."

This raised a big laugh. "Why, how do you expect folks to trade with you, if they don't ever go to your office?" said one.

Tom looked a little embarrassed, but finally replied, "Why, I supposed you were only going for the fun of it, and customers do not often come to my office in a big crowd."

John here interposed, that they would all clean their feet so nicely that no one would know they had been there, from the looks of the floor; but Tom was a little incredulous as he glanced at the great heavy muddy boots of the greater part of them. However, they went to a nice grassy plot, and, under John's supervision, they cleaned their feet pretty well; and as a sidewalk went clear up to the office, they got in without soiling the clean sanded floor very much. As it was rather cool weather, Tom asked them all to be seated on a bench at one side of the room, and he would build a fire. At this a boy, whom no one liked very well, jumped up and exclaimed, "Oh! I'll build the fire, and you can go on with the printing."

"No," objected Tom, who was getting a little nervous, "you don't know how. I would rather build it myself."

Tom meant by this that Bob didn't know just how he himself managed to build fires, and how he preferred to have it done; not that he did not know how to start a fire in a stove, in a general way. How many misunderstandings come out of just such trifles, and how often we see people declaring they have been insulted and abused, when nothing of the kind was ever thought of!

"Do you mean to say, sir," said Bob, all in a blaze, "that I am a fool?"

Here the rest interposed and told Bob to sit down and let Tom do as he pleased in his own shop. Tom also explained that he objected, because people usually dropped coal and shavings on the floor, and it was more bother to clean up after them than to do it himself; but as Bob still declared he could do it as well as anybody, Tom consented to let him try, and the rest all watched while he did it. Back of the stove stood a pail of coal, and also one of short sticks and shavings from the sawmill. Bob opened the stove-door and pushed the unburned coals back and made a good place for the kindlings; but in so doing he blackened his fingers and the wristbands to his shirt in a way that would certainly make his mother much work. He next, with both hands, took a great lot of shavings from the large kindling-pail, and placed them in the stove; but as he raised them out of the pail, the fine shavings dropped over the sides and sprinkled all the way from the pail to the floor. As this raised a big laugh, he declared there couldn't anybody put shavings in the stove without letting at least a little dust (?) get on the floor.

"Shall I show you how I do it?" said Tom.

"How do you do it?"

"Just this way;" and, suiting the action to the word, Tom took the pail of shavings,

held it up to the door of the stove, and put in the handful without the possibility of a single fiber dropping. "Besides," resumed Tom, "you have put in about four times as much as I do; for I find it no light chore to bring it from the sawmill."

Bob next undertook to put in the coal; but as the coal-pail was nearly two yards from the stove-door he had to travel back and forth with each shovelful: and before he had the stove well filled, little bits of coal had fallen off the shovel, making the floor look quite untidy. To make matters worse, in walking back and forth he had stepped on these little bits, and ground them into powder and into the floor. He also, in putting in the last shovelful, bumped it against the side of the stove-door, and quite a lot of coal fell on the ledge of the stove. The boys laughed, but Tom was getting pretty nearly angry.

"Why did you not carry the coal-pail up to the stove-door, as I showed you?" said he.

"Why, that was the way you said you put in kindling; I'll leave it to the rest, if you said a word about putting in coal that way. You needn't be so nice about your printing-shop; a little coal on the floor don't do any hurt, any way."

Just at this moment his eye rested on a clean new little broom hanging up against the wall, and beside it a pretty little dust-pan. The broom had a ring screwed in the top, and hung by it on a stout screw put into the wall. "Here; I can sweep it all up for you in no time." He first swept the floor; and in so doing he scattered the bits of coal further, and crunched more of them under his boots. After this was done, he noticed the coal on the stove-ledge; and in sweeping this off, he got it all over the floor again, and mashed some more under his feet. When he got done he put the dust-pan in the sink, instead of hanging it on its nail, and stood the broom up in a corner. The new white broomstick was also marred by the sooty marks of his fingers. By this time he was ready to light the fire; but in getting a match out of the neat little match-safe he knocked it down and spilled them all; and in picking them up he left three or four that he did not happen to see. Back of the stove was a clean place of whitewashed wall, and on this he scratched his match, instead of on the sanded surface on purpose, on the match-safe. A long black streak was left on the wall; and as the phosphorus flew off and didn't light the match, he threw it on the floor and tried another. The fire was finally lighted, and Bob turned to see what the rest were all looking at. Tom, after glancing at things, put the dust-pan and broom into place, picked up the good and bad matches, looked ruefully at his floor, and then resumed his work with the presses. My friend, are you *sure* you know how to build a fire any better than Bob did?

You may think I am needlessly particular in going into all these little details; but, my friends, it is these little things that make the difference between eternal life and eternal ruin. A world of unhappy people are to-day drifting about with nothing to do, or

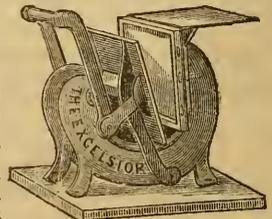
working at very small pay, just because they started and went through life like poor friend Bob. A boy that will build a fire, and put away every thing so carefully that you would not know a "boy" had been about, I could easily afford to pay a dollar a day, where I could not give over 50 cents to one who goes to work at every thing as Bob did. In fact, to tell the plain truth, if I had no regard for the poor boy's future, I would not have one like Bob in our establishment at any price. We all like neat, clean, and pleasant homes, and pleasant places of business; and it is right we should like them, for no one can do nice work in a disorderly place. You need not tell me children can not be taught to be orderly and accurate, or that they do not enjoy themselves better when so taught, for I have had about as much experience with them as anybody, and I do not believe they think me a hard task-master either.

The matter of the fire being now nicely arranged, Tom was desired to print something, just to show them how he did it. He had only one job on hand, and this was some cards for the superintendent of their Sunday-school. John and one other boy were the only ones of those present who were Sunday-school scholars. This was what was to be on the card:—

**Jesus, teach me not to swear;
This shall be my earnest prayer;
All day long, at work or play,
Jesus, teach me what to say.**

As a printed copy was given him, Tom had little trouble in setting it up, so it read just like the original. After he had pronounced it all right, the copy was given the rest to read, until all agreed it was exactly right. Here is the press he used.

After the type were fastened by little blocks called "furniture," exactly in the middle of the iron frame called a "chase," several sheets of blank paper were fastened over the "tympan," or part that moves up against the type, and a very little ink was rolled over the face of the type. The first impression would, you see, be right on these sheets of paper, and it was then easy to see where to stick some pins, against which to rest the cards, that they might be printed exactly in the middle, and square. After several times trying, the "register," as it is called, was right. Now, it was found that some of the letters were not as clear and plain as others. This was adjusted by changing the impression a little, by means of the proper screws, and then Tom took down from a shelf a pretty little paper box, that, when opened, was found to contain nice little cards, put up in bundles of 50 each, with a little paper band around each. Did you never notice how nice and clean such goods



TOM'S PRESS.

are when they come from the factory? You may think your hands are pretty clean; but if you even rest your fingers on one of these snow-white cards, it leaves a mark, and the card is spoiled. How easy it is to make mischief in this world, and without any intention of so doing, either! Bob found it out, for almost as soon as the cover was off the box, he picked up one of the bundles of cards, soiling wherever his fingers touched them, tore off the neat little paper band, and threw it on the floor.

"Look a here, old feller," said Tom, "we don't throw things on the floor in this shop, I would have you understand."

"Why! just that little bit of paper? I should like to know what you can do with it."

"Why, it's waste paper, and it goes into the waste-paper basket." And Tom pointed his finger to a pretty little basket, made of willow. Would you like to see it? Here it is.

Bob looked around at the rest; but as no one seemed to think he had any just cause for complaint, he picked up the little scrap of paper and placed it in the little basket, saying, "May be there is something else you'd like to have a fellow do?"

All were good natured by this time, and Tom's waste-paper basket. Tom very quietly said, "Yes, Bob, there is one other thing I should like you to do. Will you do it?"

"I will if I can; talk it out."

"If you are going to help me print, wash your hands, and make them so clean they won't leave a mark on a clean card." Bob did it; and as the rest were all watching him, he actually hung the towel on the right hook, put the soap back in the soap-stand, and rinsed out the new tin wash-basin, and hung it up on the nail where he found it. After trying his finger across a clean white card, to be sure it would not soil it, Tom al-

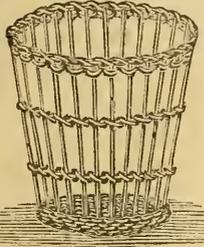
of soft cotton being used to put it on with. The bronze sticks to the ink, but falls right off from the smooth paper, and so we have the words in "letters of gold." If I am right, both the two boys who were at work on that little card needed those words, and it may be the superintendent's little verse, in letters of gold, started good seed that day, even before the little cards got out of the printing-office. Would you like a few of those cards, my friend? Well, you just mention, when you are writing us, and we will send you some.

Bob enjoyed the work so much that he declared he was going to work hard and earn money, and have one too. When he asked the very cheapest that any kind of a printing-press could be had for, Tom showed him a picture of one that was only a dollar, that would print a card very well. It was very soon arranged that Bob should help him in the office at 5 cents an hour, until he could buy it.

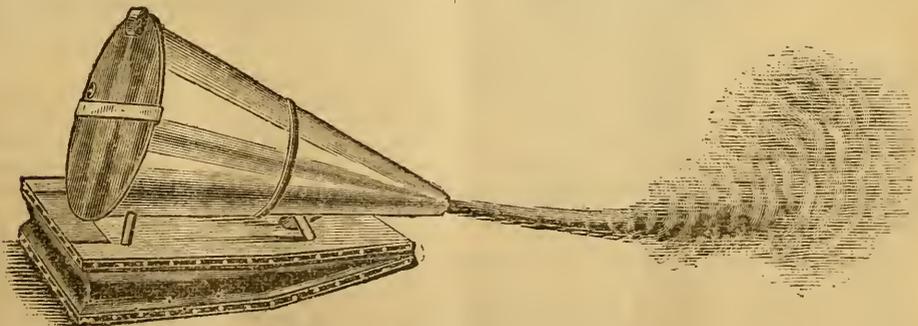
At this point, some of the boys, overhearing something about some new things that Mr. Merrybanks had just invented, the whole lot started off to go and see them. The boys all knew he would readily show and explain every thing to them, if they only asked him, and so the proposal met with favor at once, as soon as Tom could put away his bronze, wash his type, and put every thing in apple-pie order. In answer to a question, he replied that he usually washed his type with benzine; but that, when he wished to get it real clean, he used concentrated lye, which he kept always ready for use, in a little black jug under the sink.

The first thing that pleased the boys was a new smoker friend M. had just got. It cost him only 50 cents, and yet it was lighted with a match, and would throw smoke like a little fire-engine. Here is a picture of it.

The next thing John wanted them to see was a little fence to put before the entrances to the bee-hives, that would let worker bees through, but not the drones or queens. Friend M. had got this from the great bee-



TOM'S WASTE-PAPER BASKET.



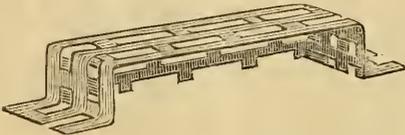
MR. MERRYBANKS' FIFTY-CENT SMOKER.

lowed him to finish one pack of cards in gold bronze. The cards for this purpose were of a steel blue, as it is called, to contrast better with gold. An ounce of bronze, costing only 15 cents, will do for a great number of labels. It is dusted over the print just as it comes from the press, while the ink is yet fresh and sticky, a little ball

man of Canada, Mr. D. A. Jones. As John was not quite able to explain it fully, Freddie volunteered to read all about it to them in the *American Agriculturist*, and this is what he read:—

At the meeting of the National Bee-Keepers' Society, at Lexington, Ky., Mr. D. A. Jones suggested a way to control, in part at least, the mating on the

drone side. This is accomplished by the use of perforated zinc as entrance-guards to the hives. These guides are ten inches long, and each guide is a box with the bottom and one side removed. A cross-section of this box is one inch square. The holes in this zinc are rectangular, 3-16 by 9-16 of an inch long.



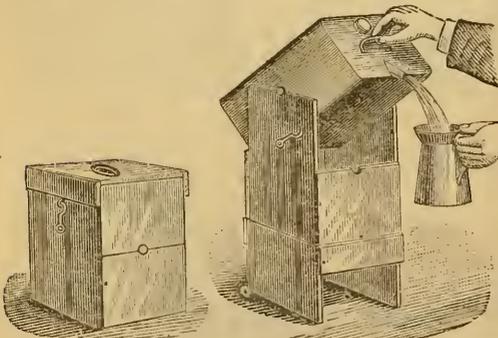
JONES'S BEE-GUARD.

The zinc occupies about as much space as that occupied by the holes; that is, about one-half of the metal is cut away. These holes, while they permit the workers to pass freely through, are a perfect bar to the drones and the queen. Now, by placing this guide with the wanting side against the end or side of the hive, before the entrance, we have a perfect barrier to the drones and the queen, while the workers may pass with freedom.

HOW TO USE THE GUARDS.

By placing these guards before the hives, in our own and near neighbors' apiaries, we may preclude the flight of all such drones as are not desired to meet the queens. Of course, if there are wild bees in the vicinity, as is always the case if there are forests near by, then this method is only a help, not a sure preventive of undesirable mating. A still better way to use the guides is to let the drones fly from all but the very best colonies on such days as there are no young queens to fly out, and about one or two o'clock put all the guides at the entrances of the hives, and at night, after the bees are in their hives, kill the drones. The drones should always be kept down either by this method or by cutting out the unbatched drone-brood, as they eat a great amount of honey, and are expensive and worthless appendages to any hive. I permit drones in my choicest hives only.

The next, friend M. said he bought in the city, on purpose for John's mother; for he had observed, when filling pitchers and bowls with honey, how hard it is for a woman to pour it out of a tin can or pail. This can be boxed up nicely for shipping, and yet a pound of honey could easily be poured from it at any time.

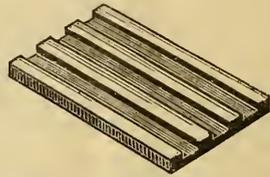


BOXED CAN, FOR SHIPPING OR RETAILING HONEY.

Mrs. M. rather objected to the arrangement, on the ground that it was too complicated, and not as handy as a common tin can with a honey-gate near the bottom; but when friend M. reminded her that such a can was very awkward to ship, without having the honey-gate broken off, she admitted it.

John's father here came over to show something he had studied up, and to ask friend M. to help him study up machinery for making them rapidly. They had winter-

ed their bees all right, like everybody else, you know, and so they were thinking of selling bees. Here is the board he had in his hand.



GROOVED BOARD, FOR FASTENING MOVABLE FRAMES FOR SHIPMENT.

You will notice the strip of board has three grooves in it. Well, suppose such a board were slipped into each end of a three-frame nucleus hive. If the grooves were just the right depth and width, the frames would slide right down in them, and then they would be a fixture, so far as any possible shucking about were concerned. To fasten the frames of a whole colony, six such boards are used, putting in 9 combs instead of 10. These boards do away with all wedges, or mashing bees, and the frames can be pushed down into these grooves, when covered with bees, almost as easily as they can be hung in the hives. Where bees and combs of brood are to be sent in a shipping-box, without any hives, these boards form the end of the shipping-box—thin stuff making the sides, and wire cloth covering top and bottom. They decided that, with machinery, they could make boards like the one in the picture for 3 cents each, or \$2.50 per hundred.

"O Mr. Merrybanks!" said Mary; "how did the bees get along making honey out of the sap?"

"Why, my girl, they got along pretty well, only they found the 'feed' a little 'thin'."

"And, oh! don't you believe," said Freddie, "Uncle Billy is going to build a mill with all those stones at the quarry?"

Reports Encouraging.

TWO NUCLEI IN ONE HIVE.

I AM feeling quite jubilant to-day, and really must sit right down and write you a short letter. My bees are all in fine condition at the present writing. I have not lost a queen, colony, or nucleus. I have never failed to safely winter nuclei on their summer stands. I always winter two nuclei in one hive, and they go through the winter as safely as a full colony would. To-day my bees are carrying natural pollen; and that's what makes me feel "top-loftily" like. I suppose they get their pollen from swamp willow. I always consider my bees perfectly safe when I see them carrying natural pollen; and if after that I lose a colony, I call it neglect, and not "spring dwindling." Fruit-buds are swelling, and peach-trees will soon be in bloom. Judging from present appearances, there will be an abundance of apple and cherry bloom within the flight of my bees. There are at least one hundred acres in orchards within reach of me.

M. J. HARRIS.

Calhoun, Ill., March 1, 1882.

Our Homes.

And whatsoever he doeth shall prosper.—PSALM 1:3.

THAT is a pretty big promise, to a mortal man, my friends, is it not? Whatsoever he doeth shall prosper. Do you want to know to whom the promise is given, and under what conditions you can claim it? If you will read the little chapter from which I took it, you will find that one very prominent requirement is that you keep good company. A very little thing, is it not? Well, the first verse reads thus:—

Blessed is the man that walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful.

One day I was out in the fields to see what flowers the bees were working on. As I looked over the brow of a hill I saw several boys having sport with a bumble-bees' nest. Although I would hardly recommend torturing the poor insects as a proper pastime for good boys, I could not but feel a thrill, as I remembered the times when I used to enjoy myself hugely in just such "adventures," as we used to be pleased to term them. It is surely wrong to kill any of God's creatures just for the sport of the thing. In a few minutes my ears were shocked with awful oaths. One of the boys was one of my Sabbath-school class, and I watched, hoping he would either make some protest against such language, or quietly go away. He did neither. I had often talked with him about going with such company, and it seemed, for the time, almost as if I should have to give him up. It is utterly impossible, my friends, be you either old or young, for you to be constantly among those who take God's name in vain, without being harmed. It will surely, sooner or later, spoil our chance of prospering, even in this world, in the best sense of the word *prosper*. I do not believe it will pay you to work where such talk is going on. Innocent men sometimes get into prison. Do they? I grant you they often get in when innocent of the precise crime they are charged with; but all whom I have ever met were guilty of having kept bad company. Yes, *very* bad company. Every new face I meet in our county jail has the same old story to tell over again. He has been keeping very bad company. Things were all against him. Poor fellows! they are right; things have been all against them. They were the victims of a string of misfortunes, and it really seemed as if all the powers of evil had for the time conspired against them. I think they are right, for Satan does get his victims into all sorts of traps, and very often they get blamed and punished for things they did not do.

I once advised a friend of mine, a young woman, not to be seen walking on the street with a certain young man.

"Why, Mr. Root, what shall I do when he happens to come along just as I am on my way to my work?"

"Go slower or faster, so as not to meet him; or, cross over to the other side."

"But must I be so rude as not to treat him civilly when he accosts me?"

"Under the circumstances, I hardly think you can with safety treat him civilly; perhaps I can not tell you just what to do; but something must be done at once. You will suffer if you do not heed me; and, in fact, you have suffered already for even walking with him once, as you say it has been only once."

"Why, Mr. Root, what do you mean? Are people talking about me?"

"They are; and that is why I have come to you."

She burst into tears. "Mr. Root, it is no use. I might just as well give up. I have done the very best I could, and yet they are talking about me again. Oh! tell me what I shall do to have people mind their own business, and let me alone."

"Go back to your Sunday-school class and teacher. Be constant in your attendance at church, and let your associates be only among Christian people. Shun those who are in any way questionable, and in time the world will give you all the credit you deserve, and even more too."

Now, I am ready for those of you who object to the advice I gave above, on the ground that it is our duty to extend a helping hand, and be civil to everybody. In such matters we can not well give advice that will apply generally to all cases. Character is like money in the bank. Last month I told you something about how you were to have a good stock of it laid by for emergencies.

One little schoolgirl once for mischief took another little girl's mittens and put them in the schoolmaster's overcoat pocket. A third little girl suggested the master might be accused of stealing. Now, children as they were, they were capable of deciding, that, although appearances were really against the master, no sane person would ever say for a minute he stole the mittens. Why? Because he had such a character to back it. He might go into a saloon, or walk with any man or woman at any time of day or night, and not a breath of "talk" would ever be heard against him. Why? Because he has, through years, got such a hold of the hearts of the people, by his uprightness and Christian example, by his hard and earnest labors for the youth of the community, that any man would be called crazy who would think of imputing to him any wrong motive in going anywhere, under any circumstances. Compare this man with a boy who has been with wild and questionable companions until people have become a little suspicious of him. Do you not see what a difference it makes? Little things make up the character; and the character-builder seems less aware of how all these little things weigh, than almost anybody else. Even the children judge and weigh these little acts, and pretty unerringly too. The sight of a cigar in a young man's mouth kills him for posts of usefulness, to a certain extent, in the eyes of almost everybody. Why? Perhaps many would find it hard to tell you why, and many might declare it would make no difference with them; but when they happen to be hunting a trusty young man for some very important post, the cigar will surely not

count in *his favor*. Well, Jesus has said that all that is not for him, is against him. Dr. Kellogg struck at the real truth of the matter when he said that the young man who would take up a bad habit, at first repulsive, would surely take up with the next bad habit that happens to be in a line with his inclinations. It indicates an unscrupulousness, as it were, as an attitude of the heart. It is a mild sort of a "don't care" spirit, and this "don't care" spirit, pushed a little further along, will take up gambling, drinking, theft, and finally murder. When you don't care what kind of a character you build, you are on the road to the penitentiary or the poorhouse.

I have told you about the young man who was converted, and that the small boys on the streets, in discussing the matter next morning, said they didn't believe it, because he just went past with a cigar in his mouth. Very likely those small boys had cigars in their mouths; but yet they decided, unhesitatingly, that the man who is to become a better man must start out in the morning without his cigar. Argue as much as you please about it, the plain fact still stands before you, that the world will always decide against the cigar, when it comes to building character. It has been said, that the voice of the people is the voice of God; and this verdict that the people almost unconsciously pass upon you and your acts, certainly often comes very near the voice of God.

You who are reading, and listening, as it were, to these words I am trying to tell you, I am sure have a sincere desire to improve and prosper in all honest work; and now in this same teachable spirit, examine the matter yourselves, and answer. Would you advise the young girl who, in real anguish, wanted the people to stop talking about her, to go to a dance? If you please, any kind of a dance. Would you advise her to be found at any kind of a card-table? Answer it yourselves, and then you can't well argue the matter; and after you have answered, go over all these things that people disagree on. Or suppose a girl were wanted to take charge of the books and money of some large institution. You know girls often do this now. In fact, I do not know but that it is coming to pass that we business men find that we have better "luck" (?) with girls than with men or boys, for girls don't smoke, swear, nor drink, you know. But it isn't *every girl* who is fit for such a post. Well, what kind of one shall we look for? Think of all the women you know, and pick out the one you think would do best. How did she build up that character? what little things entered into its make-up? is there the least trace of any thing "fast" about her? does she spend all she can get hold of to bedeck herself? does she play lady while her mother is bending and wrinkling herself with hard work? is she always wanting the best places, without any regard as to whether other girls have any kind of a place or not? Now, reader, if every thing you do does not prosper, is not some of the reason for it because you have not built up a character in the ways I have indicated?

There is another verse in that first psalm that reads,—

His delight is in the law of the Lord; and in his law doth he meditate day and night.

That word *delight*, it seems to me, is a most happy one. I have had boys come here to work who labored solely for the pay they received, or at least pretty near that. If they had to carry hives out into the apiary, it was drudgery for them; and in a sort of sleepy way they would set them down in the wrong place, and yawn, and declare they knew of one boy who wouldn't work if he didn't have to. Did you ever hear anybody say he wished he was rich so he wouldn't have to work? I have heard men say it; but I am glad to say I can not remember of ever hearing a boy say it, right out in words. It is dismal to think of, and I am glad to turn to a pleasanter picture. The pleasanter picture is the boy who comes here to learn about bees, and whose delight is to study them and work with them from morning until night. Eyes, hands, feet, and brains, all delight in the work, and the boy is so happy he forgets that he is doing hard labor, and, in fact, almost forgets when it is dinner time. Would you be surprised to hear his employer was pleased with him, or that he was pleased with his employer?

Well, while you have this picture right before you, suppose a boy should show that same kind of enthusiasm in studying how to be honest and pure in heart. Suppose it was *your* delight to study the law of God, both day and night, and to work as hard as you do at bees, in trying to get out selfishness, and see yourself as others see you. Remember, now, this studying is fair and honest and unselfish, with no unbandaged thoughts behind it, of getting ahead of other people, or any thing of that sort. I know full well how many there are who even jeer and laugh to scorn the very idea of such a thing, or of the idea that any man can be found on the face of the earth who is studying God's law, without any idea of the "main chances," or the "almighty dollar," or self-aggrandizement, etc. They won't even consider the point, of one who is simply seeking for purity honestly. One such person with whom I had a talk, brought forth a copy of the *Police Gazette*, and turned to a passage showing how a certain minister had fallen: and in another part of the paper, another; and, if I am correct, they had given a picture of the man. "There are your pretty ministers," said he, and he even exulted as he pointed out the sickening accounts of how God's servants had fallen.

Let us let the rest of the world alone, just a minute. Humanity may be terribly bad; but even if it is, it doesn't help us a particle. Have you, my friend, made it your delight to study the duties *you* owe to God and your fellow-men? If you have not, can you do it? Have you any taste for such a study? Do you really *hunger* and *thirst* after righteousness amid such a world of corruption? If you do, in the full sense of the word, the world will find it out, and you will be sought for everywhere at once, almost. People will be wanting to lend you money; you will be wanted to head every enterprise; you will

be offered high salaries; and so vast and unworked is this great field, that I am not sure but that you would soon be wanted as president of the United States, even though your abilities might be nothing more than ordinary. Besides all the above, Satan would want you; and after you had climbed only a little way in righteousness, he would try every weapon in his great artillery to get you diverted from your purpose. He might succeed, and you might be led away; for with money, influence, and friends, come tenfold greater temptations.

My friends, what should we know of God, without the Bible? Should we know any thing of him at all? would there be a word for the Ruler of the universe? Yes, because nations that have no Bible, nor knowledge of it, have a sort of an idea of the Deity. Suppose you had no Bible, and never heard of one, and yet should have a great desire spring up to know of this great being, and to know all that had ever been thought or written on the subject. What books would you get, and of whom would you inquire? Now, while you have this before you, allow me to digress a little; and pardon me for the illustration I shall use.

Years ago, as many of you know, I was attracted by a truant swarm of bees. I got possession of them, and kept them perhaps one day. During the short time I had them I was peering into the cluster almost incessantly, and striving to scrape acquaintance with this queer little community of industry, of whom we had all heard so much. The bees went off, but not my enthusiasm. I began to question people about bees; and on learning there were bee-books to be had, I went directly to the bookstore of our town, but found none. The disappointment seemed only to excite my enthusiasm, and it seemed strange to me that anybody could live in this world, and know nothing about "bees." I found some old volumes of agricultural papers, and devoured eagerly every word on bees, and thirsted for more. I went to see a man who had kept bees for years, and he said he had heard there is a queen in each hive, that "bosses" the work and leads the swarm, but he did not know whether it were true or not. Finally, off I started for Cleveland one afternoon. I could not wait for morning, you know; and when there I went straight to the bookstores. I got *Langstroth*, and, going to a hotel, read a great part of the night. Of course, I got some bees; and with the book and hive side by side, I tested the wonderful teaching. With a single comb observatory hive in the window, I watched the whole process of queen-rearing. The book was proved and verified. I knew it was truth. Although I had read the book through and through, I spent most of my evenings reading it again, here and there. My delight was in poring over its pages, and meditating on its wonders, by day and night. My mother called one day, and found me rapt up in the book and my papers on bees. She made a remark something like this:—

"Amos, I believe the day will come when you will read and study the Bible just as you do those bee-books now."

I laughed good naturedly, for I thought it a good joke then.

"Why, mother, the Bible does not interest me a particle; I have tried to read it for your sake, but I can not make any thing out of it."

Perhaps she remembered the time when I took no notice of bees and bee-books; so her faith was undimmed, and she kept praying for me as well as the rest of her boys. My friends, do not, I beg of you, forget those "mother's prayers."

I am now coming to my third and last point. My enthusiasm on bees was not a very unusual thing; in fact, it is a rather common occurrence in business. No particular credit is due me for it, for I took it up simply because I happened to be attracted, and my curiosity aroused, by that branch of natural history. Well, keeping this right before you, what would be the result, think you, if some young man should take it into his mind to study about God in the same way? Suppose he should take up the Bible exactly as I did the book on bees. He opens the book, and finds, "In the beginning God created the heaven and the earth." He turns further on and reads, "The fear of the Lord, that is wisdom; and to depart from evil, is understanding." He finds rules for the conduct of life, and promises to those who are faithful. Over further along he reads, "But I say unto you, love ye your enemies, and do good to them that hate you." Not only is the book his constant companion, but he ponders on it, even through the hours of the night, and resolves to prove it in his intercourse among men. It is a hard matter to do good to those who hate us; but in his enthusiasm to explore the new world opened up to him, he sets about doing good to those who are most bitter toward him. Just exactly as I saw the queen hatch before my eyes, from a worker egg, he sees the book proved and verified. In a strange and wonderful way enemies are disarmed, and he feels as did the disciples of old when they returned, saying, "Lord, even the devils are subject to us through thy name." He reads, "Blessed are the pure in heart, for they shall see God;" and with that same enthusiasm he strives to make even his inmost thoughts pure; not because of men or this world, but because the promise is only to those who are pure in heart before God. In the same way he goes over the Bible and reads it through and through, at the same time shaping and conforming his life to it. Reader, where do you suppose such a man would end? Do you know of such a man or woman anywhere? If not, is there not a great and unexplored region for you and me, right here before us? Please, now, look again at the verses we have just been considering. Look at the conditions and the promise:—

But his delight is in the law of the Lord; and in his law doth he meditate day and night. And he shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither; and whatsoever he doeth shall prosper.

Now, if you are not prospering, do you not see why it is? Do you love that book and that law? are you meditating on it day

and night? more than all, are you proving the words true every day of your life? Just try one little point. Are you doing good, and trying to do good daily to those who hate you? If not, do you propose doing so, or have you got a law of your own that you prefer to God's law?

You may cite me to those on beds of sickness, and ask how it can be possible for them to prosper. Jesus can make even a dying bed feel soft as downy pillows; and he who in sickness is meditating on God's law, and putting it in practice in kind words to those around the bedside, is prospering, in the truest sense of the word. Money and health are good, as far as they go; but they by no means of themselves bring true joy and happiness, such as comes to the one who has God for a friend, and feels his great love, in sickness or health, thrilling every fiber of his being. Dear reader, are you happy? Is life a great and glorious gift? If not, it is surely because your *delight* is not in God's law. Read your Bible more, and *live* it.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, APR. 1, 1882.

The fear of the Lord, that is wisdom; and to depart from evil is understanding.—JOB 28: 28.

WHEN I wrote the editorial in regard to basswoods, in our March No., I carelessly overlooked the advertisement of friend Cheney, on page 108.

THE *California Apiculturist* for March was on hand promptly, and is bright and lively. We can club it with GLEANINGS for \$1.75.

FROM reports that come in, we judge it will be well to give Mr. S. Hawley, of stingless-bee reputation, a wide berth. He seems to be traveling about; so, good friends, look out for him.

ON one of our advertising pages, our friend "M." has given you a few specimens of our work. When ordering, just mention the number of the label as there given, and tell how many are wanted.

IT is 4238 subscribers we have this time, and it is 4 colonies of bees that have dwindled since our last visit. We saved the queen to one, and the other 3 we didn't. Well, 6 lost out of 200 isn't *very bad*, after all.

BUSINESS is booming in a way it never was before at this season. With the aid of new and improved machinery, and between 70 and 80 hands, we are doing more and nicer work than we ever did before with a hundred hands.

OUR enterprising friend Gates offers bees *now* for a dollar a pound, as you will notice by his advertisement. I really hope it will take the trade away from us for awhile, so we can get time (and bees) to raise some honey this year.

DOLLAR QUEENS are coming in and going out they are all right. Friend Mitchell, of Hawkinsville, Ga., puts a piece of thin red flannel over the tin slide, so the bees won't get the toothache by standing barefooted on a cold tin floor.

ALFALFA, OR LUCERNE.

A PRETTY little pamphlet, telling all about this plant, can be had free of Henry Lee, Denver, Col. Our alfalfa has not as yet attracted very much attention as a honey-plant, but it has done prodigiously as a forage producer. After being cut off while in blossom, it shoots up with a suddenness that is astonishing, and I think it very likely that a large field would be more likely to be visited by the bees.

A "SQUARE MAN" is expected to be always able to return the money by return mail, when asked to do so, in case he is unable to ship the goods; he is also expected to pay every copper he owes anybody, when it is wanted. If he can get longer time granted, well and good; but to take time without its being granted, is not "square." This will necessitate keeping close to the shore, it is true; but we always expect to find all square men close to the shore.

DIPPING-BOARDS FOR FOUNDATION.

IF the dipping-boards described last month are made with square edges, you will get a little strip of wax on each edge, besides the regular sheet. Well, if you have the edges of the board rounded off to a blunt knife-edge, the wax will separate on this sharp edge, and you will have no narrow slip to pick off. When the boards get so waxy they will not make good sheets, wash them in concentrated lye, and they will work like new ones again.

SINCE friend Hasty's article was printed, it has occurred to me that the phenomena he calls attention to might be partially explained by the fact, that heavy showers always put a stop to the honey-yield, and that it recovers only gradually. Well, as the rain *eventually* helps the secretion of honey, it would take perhaps several days for it to get up to its maximum again. Will not this explain a part of the facts he has recorded? Have our friends observed it as I have stated?

IT may save a great many people trouble, to know that screws are turned in by turning them in the direction that the hands of a clock go, and out, by turning them the opposite way. This applies to thumb-nuts, bolts, globe-valves in steam-pipes, and machinery in general. A mechanic might smile at such a piece of information; but he should bear in mind that every one is not a mechanic. Many expensive breakdowns might have been prevented by just knowing which way to turn a nut or bolt, to start it.

OUR friend J. M. Kinzie, of Doon, Ont., has been published in two of the bee journals, for sending out poor work in the shape of frames and sections. Mr. Mason sent a complaint to us with request to publish; but before so doing, we as usual wrote to Mr. Kinzie. He replied very promptly, that he would make every thing satisfactory, and did so at once. Is it not well that every one should have a bearing, before being published? Mason writes it is all settled satisfactorily, but gives, as a reason for doing as he did, that he wrote Kinzie repeatedly, and got no answer. The moral, then, seems to be this: All who deal in supplies must expect to answer all complaints at least, by return mail, or they may be published as swindlers before they know it.

On page 186 of the *Scientific American* for March 23, there appears an article on parthenogenesis, claiming that we bee-keepers have been making a great mistake in supposing the queen meets the drone on the wing, etc. As the winding-up of it is to the effect that there is no such thing as a fertile worker, the eggs having remained in the hive over winter, and then hatched in the spring, etc., it is hardly worthy of comment. Messrs. Munn & Co., you may be too much at home in mechanics to be fooled by Keely motors, but you certainly are ignorant in regard to the present advanced state of bee culture, or you would not have given place in your columns to such as the above.

REVERSIBLE FRAMES.

The subject of turning brood-frames upside down is being agitated; and it is now claimed that, by so doing at the right time, the bees can be made to carry the greater part of their surplus (in the brood-frames) into the boxes above; this empty space then being at once filled with brood. No doubt but that this can then be done; but as it destroys the arrangement the bees have made for honey right about their brood-nest, they will have to be fed up in ample time before winter, or they may be lost in consequence. It will be no difficult matter to turn a Simplicity hive upside down, when the combs are pretty well bridged together. Wedge the bottom-bars so as to be about equally spaced, then set on your case of sections, and you have all the good results of a reversible frame.

ONCE more we would caution the A B C class in regard to odd-sized hives and frames. It will make a never-ending trouble to you, and those all about you. Just now at this season you can order regular goods of almost any manufacturer, get them at once, and with no possibility of mistake in size. Odd sizes must be booked, and take their turn; expensive help must be employed on them; machines must be stopped and adjusted differently; and as it is impossible to pick out the lumber to make just the quantity ordered, much must be wasted in useless remnants. To send in an order now for odd-sized frames is much like stopping the engineer of a train on a road-crossing, to ask him to give you a ride of half a mile. If you can't be content with the sized frames in our price list, let me make a suggestion: Order tops and bottoms to one frame, with side pieces to another. These are always in stock, and you can order them as regular goods. For instance, if the L. frame is not deep enough to suit you, use Gallup end-pieces; if it is too long to suit you, order Adair tops and bottom-bars. As the Adair frame was almost the same in width as the crosswise L. frame, we have recently shortened it exactly to it. From these five frames and their combinations you surely can suit yourselves.

SWEET CORN AS A HONEY-PLANT.

PORK AND "BEES."

THE great questions with bee-men are, how to build up bees strong before the honey season, and to give them something to do to keep them out of mischief, earn an honest living, and lay by something for winter after the honey-flow is over. When I first commenced with bees I had but few, and raised a great deal of sweet corn, both for market and to fatten pork. I would plant it at different

times, and different varieties, so I would have green corn from the 4th of July till frost came, and the bees would work on both silk and tassel from morning till night. I never knew pollen from sweet corn to make bees sick in winter; it is fall pollen, gathered from weeds, and rotten fruit that kills the bees. I do not doubt but that Heddon can kill bees by feeding them raw flour in winter. I know I can kill them by feeding poor honey, without either pollen or flour.

The way to raise sweet, or any other corn, is to plant it in drills, three or four feet wide; one kernel in a place, about one foot apart. In this way you get an equal growth for each stalk, and no small ears. Just as the corn is coming up, drag it with a common barrow. You won't hurt it, and will save half the cultivating. The best planter I know of is the Hoosier corn-drill, as it drops the corn, distributes any of the commercial fertilizers, and covers it all perfectly, at one operation. Like Prof. Cook, I like to recommend a good thing.

Every bee-keeper who has an opportunity should plant a good-sized patch of sweet corn; and just after it is fit to cook, cut it up and feed to the pigs. They will eat it, stalks and all; and in this way you will get cheap bee feed and cheap pork.

Medina, O., Mar. 27, 1882. H. B. HARRINGTON.

In regard to sweet corn, I know of no better opening for a great industry than raising corn for drying or evaporating. Since the articles we have published, we have tried to find some for sale, and at present we are getting Shaker sweet corn from New York city, at a cost there of 13 cts. per lb.; and even at that price it is the leading dish at our lunch-room, and sells right along at 15 cts. at retail. The Shaker corn does not begin to compare in richness and flavor with the Mammoth sweet we have been selling for so many years, and yet there is a good demand at the prices I have quoted. If nothing happens, I would like a ton next fall, at 10 cts. per lb., providing it be equal to the dried corn we put up from our Mammoth sweet.

MARRIED.

LYON-SPINK.—At the residence of the bride's mother, March 21, 1882, by the Rev. W. B. Farrar, Mr. Will C. Lyon, of St. Johns, Mich., to Miss Stella G. Spink, of Medina, Ohio.

"Twinkle, twinkle, little star,
When I gaze up where you are,
Close by Leo Major's side,
(Truly now the "Lyon's bride")
Twinkle softly, then I'll know
You still love me here below.

—Lc.

As through life's vast space you move
In the orbit of God's love,
Upward, onward ever press
Toward the Sun of Righteousness;
Trusting him to light the home,
Where no shadows e'er shall come.

—CARRIE AND NETTIE.

It seems only a short time ago that a shy, slender little girl came to me, asking if I had not something for her to do. Her beautiful penmanship, to which most of our customers can bear testimony, would of itself have given her a place; but it could not have endeared her to all in the factory as her uniformly kind and gentle ways have done, together with her neatness, accuracy, and order, in all that was intrusted to her care. Friend Lyon, God has blessed you in giving you such a partner for life. May he grant that no act of yours shall ever cause her to forget the Savior she accepted but a short time ago; and may his blessing rest on you both until he calls on you to cross the dark river to that eternal light beyond!

"Boss."

I. R. GOOD, Nappanee, Elkhart Co., Indiana,

Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land apiaries, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

A BARGAIN!

If you wish to purchase Italian bees and queens early in the spring, and wish a bargain, you should send for my new price lists, sent free on application.

Address W. S. CAUTHEN,

4d Pleasant Hill, Lan. Co., S. C.

Early Italian Queens!

ONLY THE BEST. FROM

W. J. ELLISON, STATESBURG, SUMTER CO., S. C.

Tested queens in April, May, and June, - - \$2.50
 " " in July, - - - - - 2.00
 Dollar queens in April, May, and June, - - - 1.25
 " " in July - - - - - 1.00
 Bees by the pound in May, - - - - - 1.50
 2-5d

ESSEX PIGS A SPECIALTY!

75 to 100 Pedigree Pigs for delivery in June, six weeks to two months old. Write for prices. Also Brown Leghorn (prize winners) EGGS, @ \$1 per doz., and B. B. R. G. Bantam Eggs for Hatching (imported), @ \$1.50 per doz., in new baskets. Safe arrival guaranteed. C. W. CANFIELD, 5-4d Athens, Bradford Co., Pa.

MUTH'S

HONEY EXTRACTOR,
SQUARE GLASS HONEY JARS,
TIN BUCKETS, BEE HIVES,
HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.
 P. S.—Send Stamp of 10c for "Practical Hints to Keepers." 11fd

READ THIS:

FIFTY YEARS AN APIARIAN.

We are the oldest breeders of Italian Bees, and manufacturers of APIARIAN SUPPLIES in New England.

Our experience dates back to the first experiments of Mr. Langstroth in the movable-comb system. Send for our Price List of Bees, Queens, and Supplies, before making your purchases for 1882.

Address WM. W. CARV & SON, 11fd Colerain, Franklin Co., Mass.

TOOLS FOR MAKING

Maple Sugar!

Sap-pails, 10-qt., each 20c; per hundred, \$18.00. Sap-spiles, like those shown on page 143, per box of 100, \$1.50; per 1000, \$12.50. Sample by mail, 10 for 20c. Bits, 5/8, to match above, 20c; braces to hold them, 25 and 50c. Postage on bits, 3c; on braces, 18 and 27c respectively. Oblong square pans, for 1-lb. cakes, 3c each. Patty pans, from 10 to 30c per dozen. A. I. ROOT, Medina, O.

MITCHELL'S APIARY

Italian bees, tested and untested queens, now ready for shipment; all reared from choice stock, and sold at Root's prices. No "N. C. Mitchell" about *this thing*. All orders filled promptly, or money refunded. CHAS. R. MITCHELL, 4-6d Hawkinsville, Pulaski Co., Ga.

CANADIANS, LOOK HERE!

Basswood Cuttings, 25c per 100, by mail, postpaid. HENRY R. DUKE, 4 Emsdale P. O., Muskoka Co., Ont., Can.

RED CHERRY CURRANT BUSHES.

The best kind for making jelly; 1 yr., 75c per 12 by mail; per 100, by express, \$3.00; 2 yr., \$1.00 per 12 by express; per 100, by express, \$4.00. FRED H. BURDETT, Clifton, Monroe Co., N. Y. 4d

MOLDED COMB FDN.

has advantages over all other. My new machines make it very perfect. *Thin fdn.*, warranted 10 to 11 ft. per lb. See free samples, and price list of fdn. molds, Bees and Queens. OLIVER FOSTER, 31fd Mt. Vernon, Linn Co., Iowa.

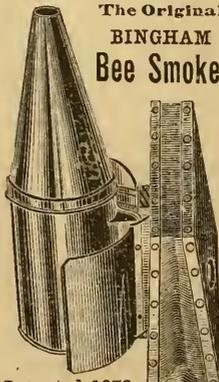
PRICE FOR LIST 1882

Bees by the pound, per lb.	April	May	June	July
1 Colony Italian Bees, Sim. hive, 10 combs.	\$2 00	1 50	1 25	7 5
1 4-frame Italian nucleus, well filled with bees.	10 00	10 00	9 00	7 00
1 2-frame Italian nucleus, well filled with bees.	5 00	5 00	4 00	3 00
Hybrids. \$1 00 less per hive.	3 50	3 50	3 00	2 50

The swarms are very strong, and well supplied with honey. Queens from last season; daughters of imported mother. Bees healthy, hardy, prolific, and industrious. Safe arrival at your express office guaranteed. R. STEHLE, 4d Marietta, Wash. Co., Ohio.

"RED TAPE!"

The Original BINGHAM Bee Smoker



Who will be the first to copy? 25 thousand in use. If you buy the original patent Bingham bee-smoker, you will aid the inventor of improved bee-smokers. Get the best, that never go out; always please; never is complained of; the standard of excellence, the world over; handsomer and better this season than ever before. Price, per mail, postpaid, from 65 cts. to \$2.00. Our patents cover all the smokers that will burn sound stove wood, or do not go out. If you buy our smokers and honey-knives first, you will have to buy no others. Send for free description and testimonials, to BINGHAM & HETHERINGTON, 4d Bronia, Mich.

Patented, 1878.

FOR SALE CHEAP. Second-hand 4-horse-power Engine and Boiler, with pump and heater, steam gauge, etc., all complete, and in perfect working order. 4 F. D. WOOLVER, Hallsville, Mont'g'y Co., N. Y.

LANGSTROTH, SIMPLICITY, AND CHAFF HIVES, and Supplies on hand and made to order. Send for price list. S. D. BUELL, 41fd Union City, Branch Co., Mich.

At Kansas City, Mo.,

I BREED PURE ITALIAN BEES FOR SALE.

Tested Queens, in May	.....	\$3 00
" " " June	.....	2 50
" " " after June	.....	2 00
Dollar " in May	.....	1 50
" " " June	.....	1 25
" " " after June	.....	1 00

BEES, per 1/2 lb., same prices as dollar queens.

My queens are bred from best Imported and Home-bred stock.

I warrant my Dollar Queens to be purely mated; and guarantee safe arrival.

If for any reason the bees do not please you, write me full particulars, and I will do my best to render satisfaction.

In ordering, please write your name and address plainly. Respectfully,

4-5d E. M. HAYHURST, P. O. Box 1131.

FOR SALE!

A Barnes combined Circular and Scroll-Saw machine, with foot power; also pulley for other power. In good condition, with circular and scroll saws; almost as good as new. Price, \$30 00. Also another saw-table, with every thing ready for work, for sale cheap. Correspondence solicited. Address
4d O. H. TOWNSEND, Kalamazoo, Mich.

WANTED.—A second-hand Gem Planer. Give particulars and lowest cash price.
4d D. G. WEBSTER, Blaine, Boone Co., Ill.

BEES AND QUEENS A SPECIALTY.

I have had 21 years' experience in breeding the Italian bee; have queens, nuclei, and full stocks, from the best strains. Price reasonable. Satisfaction guaranteed. Send your address for price list.
4-7d I. S. CROWFOOT,

Hartford, Wash. Co., Wis., April 1, 1882.

SAVE MONEY.

Single Queens, tested, in June and July	.....	\$1 50
Untested, Laying	.....	1 00
Warranted	.....	1 25
Three L. frame nuclei and untested queen	.....	3 00

All queens from Imported Mothers. You can count on me for Italians. No Cyprian or Holy-Land bees in this vicinity; and, judging from last season, nearly every queen will prove pure Italian. Shall allow no one who deals with me any cause to complain. Shall do as I would wish to be done by, both in quality and quantity.

4-6d DAN WHITE, New London, Huron Co., O.

FOR SALE, Feather Renovater, Saw, P. R. eggs, and O. cane seed.
4d N. J. ISRAEL, Beallsville, Monroe Co., O.

FOR FULL COLONIES OF ITALIAN BEES AND QUEENS, address
4-6d P. F. RHODES, New Castle, Henry Co., Ind.

Basswood Seedlings

BY MAIL, POSTPAID.

Ten nice little trees, for 25c; 25 for 60c; 50 for \$1.00. By express, \$1.50 per 100, or freight, \$9.00 per 1000. Catalpa seedlings. Good as basswood for honey, and the wood is everlasting, almost. I have seen grape-stakes that have been in use 20 years still sound.
H. M. MORRIS, Rantoul, Ill.
Nurseryman and Apiarist.

Northern Grown Seeds, Plants, Vines, Etc.,

of first hands, at growers' prices, grown at my seed farm, fruit gardens, and apiary, east side Saratoga Lake. Descriptive catalogue free.

Address, JOHN H. MYERS,
4d Box 1064, Saratoga Springs, N. Y.

1882 Italian Queens! Italian Queens! 1882

Will be ready to ship April 1st. Reared from the eggs, in full colonies, and from imported and home-bred queens, of choice and selected stock. Our facilities for rearing queens are such that we can ship 100 or more each month. All orders that can't be filled by return mail will be returned, unless otherwise stated in order. Untested Queens, \$1.00 each; warranted Queens, \$1.50 each; purely mated Queens, \$2.00; tested Queens, \$3.50 each. Safe arrival and satisfaction guaranteed. Send for circular.

Address T. S. HALL,
4-5d Kirby's Creek, Jackson Co., Ala.

HEADQUARTERS In the West

Having fitted up our shop with new machinery, we are prepared to furnish all kinds of Apian Supplies; Simplicity, Chaff, Langstroth, and other hives.

SECTION BOXES,
ONE-PIECE, OR DOVETAILED, \$4.50 PER 1000.

BEES and QUEENS,
(See special offer on Queens in our Price List.)

DUNHAM FOUNDATION AT BOTTOM PRICES!

Job Printing done on Short Notice.

LARGE NEW LIST FREE.

BRIGHT BROS.,
Mazepa, - Wabasha Co., - Minnesota.

SEE! SEE! SEE! The Bee-Keeper's Exchange.

A live, progressive monthly, edited by practical bee-keepers, and richly worth the subscription price, which is \$1.00 per annum, postpaid, or three months on trial for 25 cents. Sample copy free, including our price list of Apian Supplies. You will consult your best interests by securing a copy before you order. Address
4ftd HOUCK & PEET, Canajoharie, N. Y.

40 SWARMS OF ITALIAN BEES FOR SALE.

For terms, inquire of S. J. ANDRESS,
4 Climax, Kalamazoo Co., Mich.

BASSWOODS! At \$2.00 per 100, by freight or express. All to be over 1 ft. Can furnish a few bees and queens.
4d A. OSBUN,
Spring Bluff, Adams Co., Wis.

PURE ITALIAN QUEENS.

Bred from an Imported Mother. Sent by mail, and safe arrival guaranteed.

Tested Queens, before June 15th	.....	\$2 50
" " " after " "	.....	2 00
Untested Queens, before June 15th	.....	1 00
" " " after " "	.....	90

Give me a trial. Satisfaction guaranteed.
4-6d J. H. REED, Orleans, Orange Co., Ind.

HEADQUARTERS FOR Italian and Holy-Land QUEENS and BEES.

I use the very best of Imported and Home-bred queens to breed from; and all queens warranted to be mated with pure yellow drones. If you want bees that are sure to winter, try our Italian queens. *No black bees in the vicinity.* Dollar queens, before June 20, \$1.25 each; after that date, single queens, \$1.00; six queens for \$5.00; twelve or more, 75 cents each. Tested queens, before June 20, \$2.50; after June 20, \$2.00; bees by the pound, in May and June, \$1.25 per lb.; after June, \$1.00 per lb.

35c per lb. COMB FOUNDATION. 35c per lb.
The purest and brightest yellow foundation made. Extra thin and bright for sections, 10 sq. ft. to the lb., 45c per lb. I will work up wax for 10c per lb.
Send for sample of our comb foundation before purchasing elsewhere. F. W. HOLMES,
4-9d Coopersville, Ottawa Co., Mich.

MY FRIENDS, if you need Hives, any pattern, Frames, Sections, Italian or Cyprian queens, or queens from my apiary, where I am crossing the Brown German and Italian Bee, which produces the best all-purpose bee extant, you can have my circular and prices, by describing what you need, and addressing J. A. BUCHANAN,
4-6d Holliday's Cove, Hancock Co., W. Va.

1882. TWELFTH YEAR. 1882.

Italian Queens!

Tested Queens in April and May, - - - \$2.50
" " in June and after, - - - 2.00
Untested Queens in April and May, - - - 1.25
" " in June and after, - - - 1.00
By the 1/2 doz., 5 per cent off above prices. By the dozen, 10 per cent off above prices. Also, Syrian and Cyprian Queens (bred in separate apiaries), at same price. Sent by mail, and safe arrival guaranteed. Address W. P. HENDERSON,
2-5d Murfreesboro, Ruth. Co., Tenn.

HEADQUARTERS FOR Early Italian & Cyprian Queens.

Imported and home-bred; nuclei and full colonies. For quality and purity, my stock of bees can not be excelled in the United States. I make a specialty of manufacturing the Dunham foundation. Try it. If you wish to purchase Bees or Supplies, send for my new Circular, containing directions for introducing queens, remarks on the new races of Bees, &c. Address
11fd DR. J. P. H. BROWN, Augusta, Ga.

FOR Dunham and Root foundation, equal to any made in the U. S., and other apiarian supplies, address VON DORN, 820 South Ave., Omaha, Neb. Wax wanted. 3-6

D. A. Pike, Box 19, Smithsburg, Wash. Co., Md.

Breeder of those Beautiful Albino and Italian Queens and Bees which gave universal satisfaction last season. Send for Circular. 2-4d

1882 Consult your own interest, and send for my new Circular and Price List of Colonies, Nuclei, and Queens.
2-7d Address S. D. McLEAN, Columbia, Tenn.

HEADQUARTERS for the **GOLDEN ITALIANS** and the **ORIGINAL ALBINO BEES and QUEENS.** Send for circular.
J. M. C. TAYLOR,
31fd Lewistown, Frederick Co., Md.

Dovetailed Sections !

Before June 1st, 4 1/4 x 1 1/4, at \$1.50 per 1000; 5 1/2 x 5 1/2, \$5.00 per 1000. Sample of either, by mail, for a 3-ct. stamp. Italian queens, and bees by the pound at A. I. Root's prices, with packages included. Two-comb nucleus, with Gallup size frames, after June 1st, \$2.00; with 4 combs, in full-sized hive, complete, \$4.50. Add price of queen you want. Full colonies, with tested queens, May and June, \$9.00 each. It will pay you to try our bees!

HIVES! Material in the flat, for any common single-walled hive, with bottom, frames, and 7-inch cover, and crate with full set of sections, in lots of 10 or more, \$1.10 each; 30 cts. each less, without crate and sections. Place your orders early. First come, first served! Satisfaction guaranteed. Send money at my risk by P. O. money order, registered letter, or draft on New York or Chicago, to
No circulars. O. H. TOWNSEND,
41fd Kalamazoo, Kalamazoo Co., Mich.
See testimonials in March GLEANINGS.

Raspberries and Strawberries A SPECIALTY.

The celebrated Ohio Raspberry; Sharpless and Crescent Seedling Strawberry. Any one wishing to save money will do well to send for descriptive circular, free. Address J. IRVIN JOHNSON,
3-4d Brookside Nurseries, Palmyra, N. Y.

Albino and Italian Queens and Bees, and Supplies for 1882.

HEADQUARTERS FOR THE ALBINO BEES.

If you have any taste for beauty, desire pleasure in working, and want large yields of honey, buy the Albinos, for they are the "coming bee." In order to meet the demand for queens, I have increased my stock, and will be able to furnish several hundred per month after May 1. Also furnish hives, Novice's extractor, and apiarian supplies in general. Send for price list. S. VALENTINE,
3-5d Double Pipe Creek, Carroll Co., Md.

75 Four-frame Italian Nuclei For Sale !

I have 75 four-frame Italian nuclei, all last August queens, from Root's imported queen; \$3.00 each. Safe arrival guaranteed. RICH'D CADLE,
3-4d Shawneetown, Gallatin Co., Ill.

CHEAP !
Italian bees, \$5.00 per colony. Hives, \$1.00. Everett extractor, unused, \$7.00; Peabody extractor, used, \$5.00. E. A. GASTMAN,
4 Deatur, Macon Co., Ill.

BASSWOOD AND SOFT-MAPLE TREES.

I can furnish nice young basswood and soft-maple trees at the following prices:
Basswood, 1 foot and under, per hundred \$2 00
" " 2 to 5 ft. high, " " 5 00
" " 5 to 10 " " " " 10 00
Soft Maple, 4 to 10 ft. high, per hundred 10 00
Address CHAS. T. GEROULD,
4 East Smithfield, Bradford Co., Pa.

WANTED - WAX. - Address VON DORN, 820 South Ave., Omaha, Neb.

Italian Bees & Queens

AT REDUCED RATES.
Send for price list and be convinced. Address
3-5 T. C. CRILLY,
GRAFTON, - - LORAIN CO., - - OHIO.

PURE HONEY



GATHERED FROM
Mountain Sage of California.

This Honey is separated from the combs by the Extractor, just as it is brought in from the flower, preserving the respective flavor of each variety. It is not possible in all cases to have the contents of each jar entirely from the blossoms named, yet sufficiently so to give distinctly their characteristic flavor.

FROM THE APIARY OF
R. WILKIN, San Buenaventura, Cal.

No. 1.

1-8 POUND
CALIFORNIA MOUNTAIN SAGE HONEY,
— PUT UP BY —
A. I. ROOT, MEDINA, OHIO.
PRICE, - - - - - **5 CENTS.**

No. 2.

PURE HONEY.



FROM THE APIARY OF

B. F. PRATT, DIXON, ILL.

GATHERED FROM
White Clover Blossoms.

This Honey is separated from the combs by the Extractor just as it is brought in from the flower, preserving the respective flavor of each variety. It is not possible in all cases to have the contents of each jar entirely from the blossoms named, yet sufficiently so to give distinctly their characteristic flavor.

No. 5.

1-2 POUND
PURE BASSWOOD HONEY.

— PUT UP BY —
A. I. ROOT, MEDINA, C.
PRICE **10 CTS.**

No. 3.

LIBRARY OF
E. R. ROOT,
OPERLIN, O.

No. 4.

PURE HONEY

— FROM THE APIARY OF —
E. M. HAYHURST,
KANSAS CITY, MO.




No. 7.

PRICES.—Nos. 1 and 5, printed on gummed paper, one or more colors, or in blue and gold, or steel blue and bronze, per 1000, \$2.50; per 500, \$1.75. In black ink on white paper, four-fifths above prices.

Nos. 2, 3, 4, and 6, printed on gummed paper, one color, per 1000, \$1.00; per 500, 80 cents; per 250, 50 cents. In blue and gold, per 1000, \$1.50; per 500, 1.25; per 250, \$1.00.

No. 7, printed on gummed paper, in one or more colors, or blue and gold, or steel blue and bronze, per 1000, \$2.15; per 500, \$1.60. In black ink on white paper, 1000, \$1.75; 500, \$1.45.

The above prices include postage. When ordering labels, give the No. of label and state how you want it printed. Labels on paper not gummed will be furnished for 10 per cent less than above prices.

PURE COMB HONEY,

FROM THE APIARY OF
F. W. HOLMES,
COOPERVILLE, MICH.

No. 6.

A. I. ROOT, Medina, Ohio.



Vol. X.

MAY 1, 1882.

No. 5.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 30.

HOW THE BEES WINTERED IN THE CLAMPS.

APRIL 1st.—Dug out the bees, and found them all O. K. They were just as dry and quiet as bees could possibly be. The straw surrounding the hives was neither damp nor moldy; in fact, it was nice enough to use in filling beds. The bees were in such splendid condition in this one clamp that I opened, that I shall not open the other clamp until I return from the convention.

REMOVING BEES FROM THE CELLAR.

April 5th.—Alder, willow, soft-maple, and elm, are in blossom; the weather continues warm and pleasant, and the bees are bringing in such loads of pollen that it seems a pity to keep the poor little fellows "cooped up" down cellar, and I have placed them upon their summer stands "for good."

OFF FOR THE CONVENTION.

April 8th.—Here we are, wife, babies, and all, out at "Grandpa Simpson's," in Flushing. Grandpa S. wintered about 50 colonies without loss. They were left upon their summer stands; some in chaff hives, and others protected with straw. How warm it is to-day, and what swarms and swarms of loaded bees come in from the low ground, one-half mile away, where can be seen the crimson tops of the soft-maple, yellow "clumps" of willow, and the tall elms, with their graceful, spreading tops brown with blossoms!

April 9th.—Considerably cooler to-day. Wife and babies are left at grandpa's, while I go three miles

away to visit a brother-in-law who has 30 colonies. Some of his bees were wintered upon their summer stands, while the remainder were wintered in an out-of-doors cellar. All came through in good condition.

April 10th.—It froze quite hard last night, and a cold north wind is blowing this morning. Left my brother-in-law's this morning at 7:45, and walked down to the road to take the stage that passes on its way from Flushing to Flint. There was no stage in sight, so I walked along, thinking the stage would overtake me; but as no stage came in sight, I kept on walking and walking and walking, until I walked into Flint, a distance of 10 miles. The stage arrived half an hour later. There are two bee-keepers in Flint,—Mr. West and Mr. Coppen, whom I should have been glad to have called upon, but other business prevented. At 1:20 P.M. I took the train to friend Hunt's, at which place I arrived at about 4 o'clock.

AT FRIEND HUNT'S.

To you, friend Root, I do not suppose it is necessary to say one word in regard to the hospitality of friend Hunt and his wife. To others I will say, that their chief thought seemed to be to make my visit both pleasant and profitable to *myself*. And when I came away I was fairly loaded down with—well, shall I tell what? I guess I will. New varieties of potatoes, grapevine cuttings, strawberry plants, Early-Amber sugar-cane seed, etc.; yes, and a bottle of Amber-cane syrup, as a sample to show to the wife, babies, and neighbors. You will remember, friend Root, that friend Hunt had his hives arranged in the form of a hollow square; well, the center of this square is now adorned with a tenement hive

that is ornamented with scrollwork in that artistic manner that crops out quite frequently in many of his productions. All of his bees are in chaff hives, where they wintered without loss. The Adams horse-power was closely examined, and I may some time give a detailed description of it, together with the hints and suggestions that friend H. offered in regard to improvements that might be made. During my stay here I was surprised to see that Alsike clover is grown very extensively. If I understand the matter aright, it was owing to the efforts of friend H. that the farmers in his vicinity were induced to give this clover a trial.

GOING TO THE CONVENTION.

April 11th.—Friend H., his wife, and myself, drove to the city. We passed friend Cotterell's (near Perry's seed farm), where friends H. and C. have an apiary in partnership. (It was at friend C.'s, I believe, where you, friend Root, ate so many raspberries.) At the seed farm, the onions that are to furnish such immense yields of honey when in blossom have just nicely commenced to grow. There are about 80 acres of onions—all in such nice, straight rows. The country boy (W. Z. H.) gazed with pleasure upon the "sights" of Michigan's metropolis. The City Hall, Music Hall, Ferry & Co.'s seed-house; Newcomb, Endicott & Co.'s dry-goods house; C. R. Mabley's clothing and furniture establishments, and many other places, are certainly objects of interest to one who has never seen such "sights."

AT THE CONVENTION.

Prominent among the bee-keepers whom I had the pleasure of meeting at the convention, were A. B. Weed, Otto Kleinow, and J. H. Robertson, Pewamo, Mich. I wrote to E. E. Hasty, asking him to meet me at the convention, and what do you suppose he said? Well, here is his reply:—

"I'm 'skittish' of conventions, and don't want to go. May be, some time when my ship comes in I can afford to come all the way, and see you at your own apiary.

"My idea of the way things ought to be done, is to have apiarians divide up into little associations of about half a dozen, to meet at each other's apiaries in rotation. If all live near each other, they can meet once a month; if widely scattered, once or twice a year. Possibly a fellow might want to belong to two juntas, one of his immediate neighbors, and one of the friends he had got acquainted with through the bee papers. If you and Frank Wright and Cook and Heddon and Townley were to meet at either apiary, with no crowd, no clap-trap, no swell report, no essays, no nothing but a friendly talk, and an inspection of a live apiary—why, then I should wish very much that I was worthy of an invitation, and could go. Fraternaly, E. E. HASTY."

Now, friend Hasty, at *this* convention not an essay was read; and the only attempts at addresses were made by the president, and by your humble servant; and in neither case were ten minutes occupied, and the remainder of the time was passed in a conversational, social manner. (I know I said that I should deliver no address, but I was asked to talk about dollar queens, and I talked, but I "cut it short.") I will admit, however, that, to my mind, a very interesting convention was held in friend Hunt's sitting-room, upon the evening of my arrival, when friend A. B. Pierce, who is president of the association, dropped in for a quiet chat. Friend Pierce wintered his 80 colonies in his cellar, and wintered them successfully too. By the way, friend Hasty, or any one else, if friend Hunt ever invites you to make him a visit, you will miss a good thing if you do not accept the invitation. Friend Robertson, of Pewamo, wintered his 511 colonies in his cellar. He prefers to

have his bees remain quiet, without breeding, as long as possible in the spring. He also thought that the *best* of queens could be reared in the fall, if the bees were fed when no honey was coming in, and gave, as a reason, that there were more bees at home to "attend to the business." He had reared many queens, and spoke from experience. His bees had access to 500 acres of Alsike clover. He had tried sweet clover, and had discarded it, but *now* thought he should give it *one more trial*. Friend Hunt was quite enthusiastic over chaff hives and wired frames. Otto Kleinow raised quite a laugh by saying that sections given a Holy-Land colony last July were yet in the hive. He had not been able to remove them; and, as for subduing the Holy-Lands with smoke, he said: "The smoker does just as much good when left in the house." He found them very prolific, but not more so than *some* of his Italians.

A COLD SNAP.

April 12th.—Oh, my! wasn't it cold last night? If there are any bees that I don't worry about, those under ground are the ones. This day was very pleasantly passed at friend Hunt's, and in visiting friend Pierce's apiary.

ONCE MORE ON THE ROAD.

April 13th.—Here I am at Plymouth, waiting for the train that is to carry me back to Flint, where I expect to meet Mrs. H. and the babies. As I have had nothing else to do, I improved the time in writing the above notes.

Two o'clock P.M.—It has been only four days since I saw the faces of my loved ones, yet it seems like a long time; and how slowly the express train does seem to move!

Five o'clock P.M.—Myself and family are aboard the cars, bound for Tuscola County, Michigan, where we are going to visit "Grandpa Hutchinson." Those of my readers who have not seen their parents during the past year, can perhaps imagine with what pleasure I look forward to the meeting.

April 15th.—Here I am, off upstairs at Grandpa Hutchinson's, writing again. I have a younger brother who has not yet left home, to whom I have been sending GLEANINGS the past two years. Slowly but surely he has been getting the "bee fever," and I have promised to give him a colony next spring.

HOME AGAIN.

April 18th.—As Mrs. Hunt remarked, "It is nice to go visiting, but it is nicer to get home." I dug out the remainder of my bees yesterday, and found them all in good condition, except the very lightest colony, which was dead. These bees had been confined five months, and yet they were perfectly quiet, with no signs of dysentery, and with what a will they did go to work when they were released!

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich.

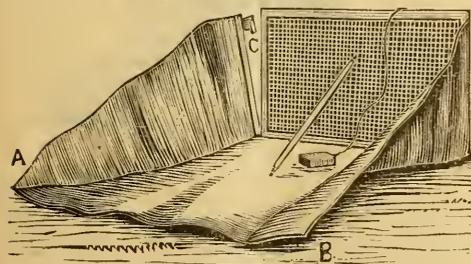
Very good, friend H. I rather think it does you good to go visiting. Neighbor Blakeslee once said it always did him good to visit other bee-men, because it took the "conceit" out of him. I shouldn't wonder if this were the case with all of us. And I most heartily approve of the kind of conventions friend Hasty wrote about, and the one you attended.—So you have really conquered the wintering troubles, friend H., or at least you have during such a winter as last. Now

the question is, Would it have made any difference with those buried bees, whether the winter were mild, like this last, or like the one a year ago? Theoretically, no; but I am not quite so sure practically.—Tell friend Hunt to give us a photo of that hollow-square apiary, and we will have it engraved for you all to take a look at. You may write a description of it, and give us those hints about the horse-power.

HOW TO MANAGE A SWARM, WITHOUT HAVING IT CLUSTER AT ALL.

A SEASONABLE INVENTION.

AS the swarming season is close at hand, I send you a little invention of mine that does away with the necessity of "breaking one's back, almost," in moving the original hive from its stand (in case the queen is clipped). Last season I concluded to let my bees swarm naturally, and, as the queens had their wings clipped, and the hives were too large and heavy for me to move without help, I began to study up some plan by which I could prevent the swarms from returning and entering their old hive, and this plan has proved a success.



BROOKS' SWARM-CATCHER.

To use it, let the swarm issue; catch and cage the queen; place the wire screen over the mouth of the portico. The stick holds it there, as shown. Lay the queen-cage (which should have a piece of wire attached as shown) on the cloth, and against the screen, and you are ready for them to return, and will have plenty of time to get their new home in readiness. The bees having clustered on their queen, pick up the two corners A and B of the apron with one hand, and the top of the screen with the other; carry them to the hive to be occupied; place the catcher on the ground, with the side C let down, and close to the entrance. Start a few bees, and the queen in the entrance, and they will soon give themselves. To use it on plain hives without porticos, there should be an inch tin band tacked to the frame, projecting *back*, to keep the screen away from the front of the hive, to admit air. If you allow your bees to swarm, arm your boys with one or two of these catchers, and give them a trial. I am satisfied they will be pleased with them.

Columbus, Ind., April 5, 1882. JAS. M. BROOKS.

Friend B., I should say you had hit the nail on the head exactly, from what experience I have had with swarms where the queens were clipped. It is no use to let them go back, after they once come out; and a hive heavy with section boxes nearly filled, is no small "lift," as you say. An-

other thing, after we have got a hive all fixed up, resting on half-bricks, banked all around with cinders, white sand, etc., we don't want it hastily jerked away, and planted all askew somewhere else, just because a few excited bees demand it. Have your apiary all laid out, and have it fixed with as many empty hives as you are going to need during the season. When swarms start out, take our friend Brooks' plan, and in a sober, methodical way, put them where you want them. Friend B., we take the liberty of crediting you with \$5.00 for "professional services" rendered to the craft. If it isn't complete as it is, some of our bright boys and girls will be sure to discover the "missing link" ere the season passes.

KEEPING HONEY.

SOME SEASONABLE HINTS FROM FRIEND C. C. MILLER.

ON page 113, N. F. Case gives some valuable instructions, and I may be doing a favor to beginners to call their attention to them. Many, however, having only a small quantity of honey, may not find it convenient to have a room such as Mr. Case describes; and to such, a few suggestions may be useful. Besides, to have the benefit of a draft, as Mr. Case suggests, the room must be rat and mouse proof. I am sorry to say, that as yet my honey-room admits mice, and I am obliged to keep the honey covered up close, except when the brimstone smoke is in the room. It will not be difficult to find in any house a place where a small quantity of honey may be kept pretty well, providing we keep in mind the principles that control the giving and taking of moisture by the atmosphere. The air is something like a sponge to hold moisture, only it will hold a great deal more when warm than when cold. It is not a good plan to keep honey in a room where there is no fire, but which has opening into it part or all of the time a room where there is a fire, especially if the latter room be a kitchen or other room where there is much steam. In that case the warm air becomes saturated with moisture, and when it passes into the cooler room where the honey is, the air, on cooling, gives up its moisture to the honey, whether extracted or in the comb, thus making the honey thin; and if it is warm enough after thinning, it may sour. We are ordinarily told to keep honey in a dry, cool place. I think I would rather have it in a dry, *warm* place. In fact, I don't believe it matters how warm, provided it be dry. Neither do I care if it is not so very dry, providing the air that comes into it be drier than that which goes out. For instance, honey will keep well in a warm kitchen, even if there is a good deal of steam in it, because the cold air that comes in has, as it becomes heated, a greater capacity for moisture, and takes up all the moisture, leaving the honey dry. I have now some crocks of honey that I extracted in 1877, keeping nicely in a loft over the kitchen, the door being seldom open, so that no steam goes into it from the kitchen. There is no plastered ceiling, simply the shingled roof overhead, and in summer it is so hot it is suffocating. As I

have now tested it for five years, I call it a good honey-room.

STIMULATIVE FEEDING.

To-day (April 20) I have been feeding my bees, as they seem to have very little to work on, till the fruit-blossoms open. Not readily getting rye meal, I fed them shorts. I also fed them a syrup made of granulated sugar and water, taking a pound of sugar to make 5 pints of syrup. As I have 175 colonies (I sold one last week), and don't know of half a dozen anywhere near me, I fed them in the open air. To feed the shorts (for which they were, I think, more eager than for the syrup), I used 8 hive-covers, putting perhaps half a peck of feed in each. I raised up one end of each cover by placing a small stone under it, or, rather, by putting the stone under it near the middle. In the course of half an hour or an hour, the bees would have the meal all worked down to the lower end of the cover. Then I turned the cover around, so that the meal was at the upper end, reversing it as often as the bees dug it down. If I did not do this, the bees would soon have a surface of coarse bran through which they could not dig down to get what they wanted. After they have worked over it all day, the remainder can be fed to cattle or chickens. I have heretofore used ground corn and oats, which is also eagerly taken, but have never tried rye, which is said to be best. To feed the syrup, I got 5 of the largest dripping-pans I could get. Then I made for each a float by taking strips of $\frac{3}{8}$ -inch stuff an inch wide (for one I used strips two inches wide, and it is as good, if not better), placing them $\frac{1}{2}$ to $\frac{3}{4}$ inch apart, and nailing them together by a strip across each end, making the whole float about half an inch smaller than the bottom of the pan. Putting the float in the pan, I put over each a piece of cheese cloth large enough, when tucked down in the pan, to leave a couple of inches hanging over the sides. Then I fill up the pan with the syrup a little warmer than milkwarm, and it is ready for work. To carry the syrup out, and pour in the pans, I use a common watering-can without the rose. When the pan is perhaps half emptied, I fill up with syrup quite hot, for that in the pan has cooled, and, mixing with it some quite hot, brings it to the right temperature. If I pour the hot syrup directly upon the bees, it will scald them to death very quickly; so I raise one corner of the cheese cloth and pour the syrup rather slowly under the cloth. To prepare the syrup, I put 10 lbs. granulated sugar into a common kettle on the stove, and fill up with water. When dissolved, I put about a fourth of it at a time in the watering-can, which holds six quarts, and fill up the can from the reservoir, and melt another kettle full as fast as it is used up. To-day I have used about 50 lbs. of sugar, making about 30 gallons of syrup. Of course, I keep the feeders in a sheltered place.

C. C. MILLER, 67.

Marango, Ill., April 20, 1882.

I entirely agree with friend Miller in regard to the care of honey, but I do not know that I could have given all the reasons for it as well as he has done. Never keep honey in a cellar, and never keep it in any place where you will find moisture condensed on it.—In regard to the stimulative feeding, if friend M. keeps it up just as he has described, whenever there is a dearth of pasturage I predict he will give us a greater report this season, if it prove a fair one, than he did last.

AN INSTRUMENT FOR MEASURING THE LENGTH OF BEES' TONGUES.

SOMETHING NEW FROM FRIEND MARTIN.

SEND you by this mail an electrotype of my instrument,— bees'-tongue register. I have often desired an instrument of the kind to test the reaching power of certain swarms of bees in my own apiary. I first tried to make a self-registering instrument, the pointer to be operated by a float in diluted honey. I could not make this work satisfactorily, as the specific gravity of the liquid used at different times would cause a difference in the record, if we wish to register a hundredth part of an inch. I finally discarded the self-registering idea, and perfected the instrument I send you, which is operated as follows:—



BEES'-TONGUE REGISTER.

A glass feeding-tube will be found by turning the cover upon which the wire cloth is attached. Fill the tube level full of diluted honey or syrup, return the cover carefully to its place, smear a little honey on the wire cloth and down along the base of the instrument. Set it level in the hive, and give the bees access to it until they remove all of the honey they can reach. Then remove and set it upon a level surface and uncover the tube. Now turn the thumbscrew in the center of the back of the instrument until the ring that encircles the tube is on a line with the extreme upper surface of the honey. The pointer will now record the length of tongue upon the dial in 100th parts of an inch, and even higher, if you read the record between the lines. When not in use it is a good plan to keep it in the box in which it is mailed. The test occupies but a few minutes of time.

This register is worked internally by an eccentric, and can not possibly get out of order, or make mistakes.

If we wish to breed for the reaching power of our bees, this instrument will enable us to do so without trusting blindly to the development of this quality. A general trial with such an instrument will soon teach us whether the large yield of certain swarms is dependent upon this quality of our bees. It will teach us whether climate makes a difference in the length of tongue. It will also register the length of tongue. It will, too, register the length of the tongue of any honey-loving insect, from a fly to a bumble-bee. I have made the register to the capacity of a full inch, with the expectation of the arrival, ere long, of *apis dorsata*.

JOHN H. MARTIN.

Hartford, N. Y., April 19, 1882.

Our readers who are conversant with our back volumes will recognize friend Martin as one who has contributed not a few novel inventions to the cause of bee science; but the one described and illustrated above is perhaps the most novel of all. You know I have rather held to the idea, that by breeding from the best honey-gatherers, without regard to tongue measurements, we should have reached just what we wanted, by a short cut, no matter where it came from. Well, even granting this, it will certainly be quite an object to find out whether the long-tongued bees are the ones that get the most honey, and this instrument will do it to perfection. It occurred to me at once, that something better than wire cloth was wanted for close, accurate measurements, and so I wrote friend M. on the matter, sending him some samples of perforated zinc I had received from England. Here is his reply:—

I have tried to get wire cloth 3-32 of an inch mesh, or a little less than $\frac{1}{8}$ of an inch, for I think the mandibles ought to work through the mesh. Dr. Brown advised $\frac{1}{8}$ inch; but that will let in a bee's head clear up to the eyes, and that would be a little more than the tongue. How can I get some of that perforated metal? If you order any other goods from the parties who sent you the samples, put in an order for several sheets of the metal with $\frac{1}{8}$ -inch holes. J. H. M.

The instrument will be furnished at \$2.00.

BEE'S VOIDING DRY EXCREMENT.

BY THE EDITOR OF THE BRITISH BEE JOURNAL.

I AM rather amused at the apparent uncertainty which seems to exist in America, if we may judge by the reading of the various journals, as to whether bees void dry excreta, but I do not think there would be much doubt about it if any of your people would take the trouble to examine a swarm-box in which a swarm has traveled for 24 hours without comb. I have seen hundreds of instances where, in these boxes—about 15 in. square and 8 or 9 deep, covered with perforated zinc so that the bees could fly—in which there have been thousands of grains of bee excreta, about the size and color of coarse gunpowder, so I have not the least doubt on the question. When bees travel with combs the case is different; they appear to be too cleanly to foul them, and hence protracted confinement produces what, for want of a better term, we call "dysenteric symptoms." C. N. ABBOTT.

Fairlawn, Southall, Middlesex, Eng., Mar. 27, 1882.

Many thanks, friend Abbott, for your timely suggestion. I have often noticed the gray powder found on the table, or wherever our cages of bees are set down, even a little while; but as they are always gnawing and biting at the wood of the cage, their candy, and whatever else they can have access to, I had dropped the matter, thinking it was little bits and shreds they had bitten off. While you speak of it, however, it occurs to me that bees that have been sent in to us almost invariably show something on the bottoms of the boxes that both sight and smell would have little difficulty in pronouncing excrement.

KLOER'S BEE-FEEDER.

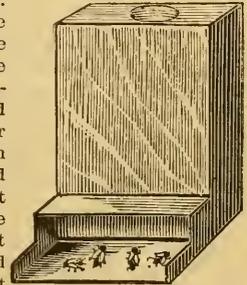
AND A FRIENDLY CRITICISM ON THE KENDEL FEEDER.

I HAVE just finished reading the article on Kendel's bee-feeder, page 174 of GLEANINGS; and as I invented the same feeder over two years ago, with the only difference of having a square tin can soldered on the base, instead of the Mason jar. I will warn you and the readers of GLEANINGS that Kendel's feeder *will not feed*, just as little as mine did. It is a failure, notwithstanding you indorse it so strongly. Undoubtedly, friend Kendel's enthusiastic description of it is only theory, and I do not believe he had, at the time of writing said article for GLEANINGS, yet made or tried the feeder. If you look at the picture again, you will observe that there is a space several inches in width by $\frac{3}{8}$ of an inch deep between the jar and the perforated part of the base. Well, my *experience* says, the bees will not get one drop of honey out of the feeder, beyond what runs out under the perforations when first righted up, the solid column of honey preventing any air from going up into the vacuum and letting down more honey. The feeder *will stay in the jar*. I write this to save the friends from loss, who may intend to make this feeder. If you make it for sale, as I conclude from your remarks on the feeder, you have, no doubt, by this time, found to be true what I say. I modified my feeder by leaving off the perforated tin and admitting the bees into the base, so they could go up to the very mouth of the can, and it worked very satisfactorily then. Adjoined is a drawing of my feeder.

Push it into the entrance up to the bridge, one side against the side of the entrance, and an entrance block moved close against the other side, and no outsider can interfere in the least, and the bees can get the last drop of honey out. Come to think of it, I will just mail you one of my old feeders. You will see it was made of an oyster-can; but never advise any one to use oyster-cans, as the tin is of the poorest grade, and soon rusts so the feeder is worthless. I will hereafter always take the best new tin for them. The bridge might be left off entirely, and the feeder would work just as well by pushing it snug up against the hive; but it assists in filling the feeder, acting almost like a funnel. By laying the feeder on its back, and elevating one side a little, so that the air can escape from the can as the syrup enters, it can be filled quite rapidly, and without immersion, which latter is objectionable for an entrance feeder. It will feed on top of the frames just as well, and is, I think, one of the best and cheapest feeders made. I would never have published this, were it not that I am afraid some of the friends will be led to invest in Kendel's feeder, which is utterly worthless. I think some of the friends ought to put their theories to practical tests, before making them public. T. H. KLOER.

Terre Haute, Ind., April 18, 1882.

Many thanks, friend K.; but if you will excuse, I think you are a little uncharitable toward friend Kendel. Without question,



the difficulty or differences are in slight variations in construction; but you have given us a timely caution, and as your plan seems to be rather easier of construction, it seems to me I should prefer it. I would suggest, that the slit where the syrup comes out should not exceed 1-16 of an inch, or the bees will push their heads into it when trying to get the last drop, and often get caught by their necks. We had a good deal of this trouble with the Hains feeders. By making a right-angled fold on the edge above the slot, the matter is helped; for then there will be no sharp edge to catch into their necks. I think I should prefer the glass fruit-jar, that you may see how fast they are taking it. The great objection now to all feeders of this class is, that it must be drawn from the hive to fill, instead of being filled with a coffee-pot, like the covered Simplificities. As a quart fruit-jar full is enough for quite a little time, it may not be so great an objection, after all. We will furnish these feeders, all tin, like cut, to hold about a quart, for 10 c., or \$1.00 per doz.; or, made with a quart glass fruit-jar, 20 cts., or \$2.00 per doz. The former can be sent by mail for 10 c. more.

A TIMELY HINT ON TRANSFERRING.

BY AN ABC SCHOLAR.

FOR the benefit of the ABC class I write you this. Last year I tried both the drumming-system and your favorite way in transferring. To-day I tried a plan of my own which may have been practiced by others, but if so, not within my reading. I arranged a Simplicity hive, into which I wanted to put my bees, by putting some frames of comb into it; I removed the cover, and set my box hive right on top, bottom down, removed top of box hive, and smoked bees down into Simplicity hive; removed one side, and cut out honey and combs as fast as I could work, and had no trouble from bees, which were all below, and quiet. As fast as I could get brood into frames, I set them in an empty hive that was on old stand. When through, all I had to do was to double up the frames into one hive, and then I had no bees crawling around on the ground. More than that, I was done and cleaned up in about the time that I would have been, had I drummed them out. If you have never tried it, do so at once. I did not use veil or gloves; the latter I never use.

I. D. PEARCE.

Kirkville, Mo., April 20, 1882.

Very good, friend P., and we all give you a vote of thanks for the idea, especially if we are going to do any transferring. I think, if I were to do it, though, I would set the hive of empty combs right on the stand, and as fast as I got a frame filled with brood, I would move the old box hive a little, and get it right down among the bees, where they would keep it warm, and safe from robbers, and where it would hold them all together also. The modern way of transferring is to use frames of fdn., chiefly, and transfer only the combs containing the brood and the most of the pollen. All the rest is melted up into wax. The odds and ends, dripping with honey, may be laid over the cluster, over night, or until all the honey is taken below, and then melted into wax.

FOUNDATION TO FILL THE 1-POUND SECTIONS.

SOME EXCELLENT SUGGESTIONS FROM A PRACTICAL HONEY-MAN.

PLEASE send me by express, 25 lbs. thin foundation, in sheets as nearly as you can so that I can cut it $3\frac{1}{4} \times 3\frac{1}{2}$. What you sent me last was beautiful and excellent; and if I did not think you would take it as a favor, I would not criticise it in the least. But I know you want to get as near perfection as possible, and want to help what little I can to get up a standard size of fdn. for starters. In your remarks in last GLEANINGS, you lay some stress on having starters so they can be shipped. But please remember, that the great bulk of it is not to be shipped till after the bees fill it with honey, and, barring your presence, we honey-raisers don't care a fig whether it can be shipped or not. What we want is the best fdn., and the most of it in a section. Allow me, therefore, to say what I conceive your last shipment lacks of perfection. The sheets were $16\frac{1}{2} \times 3\frac{1}{2}$ inches. They should be $18\frac{1}{4} \times 3\frac{1}{2}$, so that the starters can be cut $3\frac{1}{4}$ inches long; for the length of the starter, as it runs up and down in the section, must correspond with the length of the sheet, for two reasons. First, I want to use the edge that I cut myself to fasten in the section, as I can then cut it as true and square as I wish; second, some of the sheets are inclined to split up into ribbons, and this is always lengthwise of the sheet, so these pieces can only hang in the section in the direction of the length of the sheet. This splitting of the sheet is another evil to be remedied; for it is a tedious task to pull the paper off them without splitting and breaking them badly. Another fault is the slight curving still left in the sheets, which I suppose is exceedingly difficult to overcome; but your last shipment is such an immense improvement over previous efforts, that it is possible sheets may yet be made entirely straight. Of course, it would do just as well if the sheets were 15 or $22\frac{1}{2}$ inches long, only so they would admit of being cut into starters $3\frac{1}{4}$ inches long.

C. C. MILLER.

Marengo, Ill., April 15, 1882.

To be sure, I shall always take it as a favor, friend M., to have our patrons tell us wherein we can improve, or make our work adapt itself to their work. I have read your letter to the foreman of the wax-room, and we are now following all the suggestions you have made. While it is not always possible to have these thin strips exactly straight, we are getting so we can come pretty near it. It is those who order made-up hives, or a complete sample hive, who want their sections already filled with fdn.; but if the sheet must be allowed to hang, as you do it, of course they can not be shipped in that shape. We can easily cut them in any of the lengths you mention. I have published your hints, chiefly for the benefit of fdn. makers, and they are now a small army scattered abroad through our land. Foundation mills are so cheap now, that every neighborhood should have one, and thus save the expense of shipping wax and foundation. Express charges on wax and fdn. are often quite expensive; and unless the quantity is 25 lbs. or more, freight is about as bad. Every State, at least, should have a reliable supply dealer; and where many bees are kept, three or four in a State might be an accommodation.

DRONES FROM FERTILE WORKERS.

ARE THEY CAPABLE OF THE FERTILIZATION OF QUEENS?

IN your reply to Mr. K. Edwards, of Montrose, Scotland, on "The Sex of Eggs of Queens," in March No., p. 126, you say, "It is a matter of great doubt whether eggs from fertile workers ever produce drones equal to the task of fertilization."

During the summer of 1880, Dr. A. P. Coulter, a neighbor of mine, and fellow bee-keeper, ordered two queens of you—one a Holy-Land, the other a Cyprian. I took the Cyprian queen and introduced her to a strong colony of bees. She proved to be a very prolific queen, and when I put them into winter quarters in the following winter she had her hive full of bees and plenty of stores. Those who had bees will certainly remember the winter of 1880 and '81 for a long time to come. The severity of the cold, the length of the winter, and the destruction of bees, will not soon be forgotten. Our bees did not get to fly out from the last of October until the middle of February but once (something unusual in Southern Illinois). On the 15th of Feb. they had a good fly, and, being anxious to see how the "new kind of bees" were standing the cold, I opened the chaff hive that was the home of my Cyprians, and when I lifted the quilt, drones that were bred in worker cells boiled out of the hive. My eyes opened wide, I tell you. "There, my Cyprian queen is dead, and the bees have raised another queen, and she could not meet the drone, and she has gone to breeding drones," was what I thought.

I went through the hive and looked for the queen, and looked again and again, but could not find her. I found drone brood in all stages, but no queen. I closed the hive and went after Dr. Coulter to come and help me find her. We went through the hive time and again, but found no queen. In a few days we looked again, and shook the bees all off from the combs in front of the hive, but could see nothing like a queen. The doctor then pronounced it a "case of fertile worker." I put in brood from another hive, suitable for rearing queens, and closed the hive. The weather turned cold for two weeks. I examined again, and found that they had constructed queen-cells, but had torn them down; plenty of eggs and drone brood, but no queen. I had a hive of pure Italians standing a rod away from the Cyprians. They were very beautiful bees. In looking at the entrance of this hive, I found the queen lying dead. On opening the hive I found some queen-cells sealed over. I determined to test this very question whether drones bred by fertile workers could fertilize queens or not. The doctor and I examined all of our hives, but could find no drone brood. They were not in condition to breed drones. The conditions were favorable, in every respect, if I could raise a young queen, to test this matter. In a week I had a fine young Italian queen hatched. On warm days the air was full of these little Cyprian drones. This was nearly the middle of March, 1881. In ten days my young queen began to lay. The doctor and I watched the brood closely until it was sealed, to see whether it was drone brood or not. It proved to be worker brood. We watched closely to see the result of my experiment. Finally the young bees began to show themselves. There was the cross plainly to be seen. Some had the peculiar markings of the Cyprian, while others were marked

like the Italians. In one particular they all resembled the Cyprians—they were easily shaken off the comb. They were very quiet and good-natured. They could hardly be teased enough to make them sting. They were not very energetic; while my Italians were busy, they were loafing about the hive.

I am satisfied, from the time of the year and from the condition of all the bees in the vicinity, that this queen was fertilized by one of these little Cyprian drones, whose mother was a fertile worker. The Cyprian and Holy-Land bees seem to produce more fertile workers than the Italians do. Dr. Coulter's Holy-Land queen died this winter. Her hive has one or more fertile workers in it. At any rate, there are hundreds of worker drones in it.

For my part, I have had enough of both Holy-Land and Cyprian bees, and propose to stick to the Italians for a while longer.

WILLIAM LITTLE.

Marissa, St. Clair Co., Ills., March 7, 1882.

Many thanks, friend L. Although it is barely possible there was a colony somewhere in your vicinity, capable of having natural drones at the season you mention, I think the probabilities are all on the other side, and that those small drones do at least sometimes fertilize queens. The next point to be considered is, Are the worker progeny equal to ordinary worker bees? If I catch aright the drift of your remarks, I should opine you think them not. You surely do not mean to say the Cyprians, reared from your original Cyprian queen, were lacking in industry, do you?

OVER-STOCKING.

DOES IT PAY TO KEEP 100 COLONIES IN ONE APIARY?

DIFFERENT bee-keepers have given various opinions with regard to the number of colonies which can to the best advantage be kept in one place. I think I have a good location. It is a first-rate dairy region, and has different altitudes that help to prolong the time that honey can be gathered from the same species of flowers. Thus, when flowers begin to bloom in the spring, I find them at work in the valley, or near the river, where the soil is sandy, the country protected from cold winds to a great extent, and, consequently, vegetation is earlier. In a few days they are at work on the next elevation, upon which my apiary is situated, in a sunny glen well protected from every wind, being about midway between the different elevations of land. As the season advances they work higher, until at last they finish upon Tug Hill, a place of so much elevation that corn can not be successfully grown. I believe that, with every species of flowers, the season is prolonged considerably by the different altitudes at which my bees work; and as the soil is all of average fertility, I call this a good location. I have for a number of years kept 100 old colonies; that is, after the losses of winter and spring are past, I aim to have that number, and have succeeded for several years. I try to take the best of care of them, and do every thing at the proper time; yet I find that apiaries of from 20 to 30 hives, in localities that I do not regard as good as mine, will do far better; that they will fill their hives with brood, and begin work in sections sooner in the spring; will make more honey; and last, but not least (and here I find the most difference of all),

with the same management they will need but little, if any, feeding to fit them for winter quarters, while mine, with scarcely an exception, need from 5 to 20 lbs. per colony.

My bees are nearly all pure Italians, or hybrids of selected strains, while those with which I have compared them have been, in nearly every instance, blacks; so it can not be in the bees, for I found the same difference when my apiary was all blacks. From what experience I have (and I have given the matter my particular attention with a view to determine the number of colonies I should keep) I can say that, to get the *very best* yield, not over fifty old colonies should be kept in one locality; and if I kept over 100 I should expect to keep them at an expense instead of a profit.

N. F. CASE.

Glendale, Lewis Co., N. Y., March 27, 1882.

I think, friend C., you have put it a little strongly in favor of small apiaries, although doubtless 100 is rather too many for most localities. In an average locality, if I were going to work 100 colonies for honey alone, I think I should put them in two, if not three, apiaries, and I should prefer to have them from three to five miles from each other. In rearing queens as we do, I should not hesitate to have as many as 500 nuclei in one place; but very likely these would not make, all together, 100 good strong colonies for honey-gathering. He who keeps 100 or more strong stocks in one place, must expect to feed a great deal that would be saved, by having them scattered in apiaries of about 20 or 30 hives each.

MELOMETER INDICATIONS.

(Continued.)

FRIEND ROOT, I want to heave a "whole half-brick" at you for wet-blanketing me with the reckless and incorrect statement that you made on page 204, "That heavy showers *always* put a stop to the honey-yield, and that it recovers only gradually." Say *sometimes*, or *frequently*, instead of *always*. Bees not infrequently do a staving business when it rains "like suds" every few hours. That the flowers should be so prostrated by a shower that they could only recover gradually, like a man getting up from a fit of sickness, is a trifle absurd. In point of fact, there is sometimes a cessation of honey-flow, and gradual renewal, sometimes a pretty steady continuance of honey-flow, and sometimes even an increase. These varying results show that it is some other cause, and not the mere sprinkling of a little water on the bloom, that determines the cessation or flow of honey. The figures given last month afford of themselves the means of refuting the above-mentioned explanation; but I need not cite them, as there is abundant evidence in the figures of 1881, which I now proceed to give. When there has been little or no decline after a rain, I will put in an asterisk (*); and where there has been an actual increase I will put in two of them (**).

In the spring of 1881, not a single ounce was indicated by the scale until May 30th, after which we had showings as follows:—

May 31th, 3, 7, rain. So much rain soaked into things that the drying-out overbalanced the honey-run of the next day. I noted down the fact, how-

ever, that honey was coming in, and the next day there was more rain.

June 4th, 0, 4, slight rain.

June 6th, 0, rain, rain, rain. It was cloudy on June 6th, and rather too cold for bees to work, which may account for the cipher.

June 10th, forgot to weigh at morn.

June 11th, 7, 9, rain.

June 13th, 5, 7, 6, rain. The apparent decline of one ounce on the 15th was probably not an actual decline. The bees were disturbed that day, and were also making preparations to swarm. I repeat the last series to show its connection with the next rain.

June 13th, 5, 7, 6, rain, 10 (**), and rain again the same day.

June 17th, 2, 8, 7, slight rains. (Rule VI.)

June 21st, 2, 0, 0, 3, rain, 8 (**), rain.

On June 23th, the honey record suddenly ran up to 28 oz. (**), more than twice the yield of any previous day this season; and the next day there followed a shower with violent wind, unroofing hives, and making muss generally. (Rule III.)

June 30th, 0, 3, 1^o, 12, 19, 16, 18, rain. This run of honey is the opening of the basswood bloom.

July 7th, rain and 13 (*), rain and 6, 13, rain and 13 (*).

July 11th, 0, 10, rain.

July 13th, 0, 0, 1, 0, rain. (Rule V.)

July 18th, 0, 2, 6, rain, great rain and 2, heavy rain.

July 23d, 0, 0, 0, 0, 0, slight rain. (Rule V.)

July 28th, 3, 0, 0, 3, 2, 8, 9, 9, 13, slight rain. Rule VII.)

Aug. 8th, 3, 12, 10, 10, 13, slight rain. (Rule VII.)

Aug. 14th, 5, 16, 18, 22, rain.

Aug. 19th, 24 (**), 30, 32, 29, 34. The next day could not be recorded, as the hive swarmed. The succeeding day gave an 0, perhaps because the flying bees had nearly all gone with the swarm. The series seems to be an example of a fair-weather run, not eventuating in rain.

Aug. 26th, 17, 14, (41 in 2 days), 38, 32, rain. Two or three days of showery weather followed, with the honey yield about steady at 19 oz. (*). The next day, Sept. 4th, the scale indicated no gain, but the secretion of honey may not have ceased—the colony had resolved to swarm again. Sept. 5th, the issuing of a 3-lb. swarm made a record of the honey-run impossible. Sept. 6th, I neglected to weigh the hive.

Sept. 7th, 9, 3, 0, no rain.

Sept. 10th, 3, rain, 1, 0. This is the last ounce indicated for the season of 1881.

The present season, early as it is, has already given two runs of honey, both of them followed by rains.

Perhaps I am not the proper person to judge, but I should say that there is assuredly a direct connection between the approach of rain and the rise of the honey-secretion, not a mere accidental coincidence. The real question is, How will the new instrument compare in utility and reliability with the instruments already in use?

While my figures are before the public, I am tempted to give tongue a little on another subject. Quite likely some of our fraternity have inwardly accused me of cutting a pretty big swath in the papers for a man whose honey-harvests have been so moderate. Please notice that the figures for 1880 aggregate only 99 lbs. The figures for 1881 add up only 52 lbs., about the same as our Texas comrade claims as the yield of one day! Upon this meager yield I realized an average of 63 lbs. of sections to the colony, spring count. Of course, it would be

utterly impossible to do this in any other way than by first largely increasing the number of colonies, and then lying in wait for the fall honey. If any comrade wants to take my daily runs and win a bigger harvest from them, let him raise the hand.

Richards, O., April 10, 1882.

E. E. HASTY.

Friend H., I have heard a story of how Bonaparte ordered a smith to make a coat of mail for him that would turn bullets. When he brought it home, the great general bade him put it on. When done, he very coolly walked off a proper distance, and fired bullets at him until the poor fellow was almost scared out of his wits. When he found he wasn't hurt, nor the coat of mail either, Bonaparte explained that he was simply trying it, to see if it were a good one. I felt a deep interest in your theory, as I do, in fact, in the grains of truth gathered and brought in by all the "comrades," as you term them; and if I have found a great deal of fault, and objected a great deal, it was only to see how they would "stand fire." I can not remember that I ever saw the bees do a staving business within half a day after it had rained "like suds." Let us all take notice right now, amid the fruit-bloom, and see how it is. We have been often accused, by wise old heads too, of publishing a great deal that soon transpires to be all moonshine. By the way, friend H., why is it that you do not have any larger *daily* yields? In this paper, if I am correct, you have not gone higher than 34 oz., and yet your colony was strong enough to make preparations for swarming. With us, we have, almost every season, single days in which a good colony would gather 8 or 10 lbs. in a day.

WATER FOR BEES.

BOTH INDOORS AND OUT.

GLEANINGS comes to our house regularly, about the third of each month, and is a most welcome visitor. I noticed in its last evening, that W. Z. Hutchinson queries in regard to water for his uneasy colony. I will venture the opinion, that if he had given it drink it would not have been necessary to remove it from the cellar. I have 65 stocks in wintering-house, and during the first of March I made an examination, and found 6 or 8 very uneasy; took a coffee-pot of water, and turned it into the entrances, and the little chaps gathered round the pools of water and drank as eagerly as pigs. I have an idea, but do not know to a certainty, that these uneasy, thirsty stocks were breeding, while the others were not. Will Mr. H. tell us if his were or not?

The next morning after watering these bees, I went into the house again, and found all quiet. Perhaps the above does not prove my opinion to be correct; yet, "straws show which way the wind blows." I notice that Mr. Duster has had just my experience with water too; so that goes to strengthen my conviction, that water is sometimes beneficial during winter. My wintering-house has been too warm this winter, and as a consequence I expect brood has been reared nearly all winter. I have lost more bees than usual by their getting on the floor.

SINGLE-WALLED HIVES.

I have built my last single hive, unless something

occurs to change my mind. Last fall I built 4 twin hives, which I like very much. They are packed with 6 inches of chaff on sides, 4 inches on bottom, and 8 or 10 on top. Loss on 73 stocks, 2; died from starvation, with plenty of filled combs in honey-house,—well, perhaps I'll learn by and by.

F. H. COMINGS.

East Berkshire, Vt., Apr. 5, 1882.

I am sure you are right, friend C.; and furthermore, I am convinced it is not only bees in the cellar that suffer for want of water, but bees outdoors as well. Listen: We have had a week of weather that did not permit the bees to fly. Well, on Friday night, the 14th, we had quite a little frost, and, to please the children, I tapped a couple of the maple-trees over. Toward noon, as it got warm enough for the bees to fly, they came out in great numbers, and were all over the ground so one could hardly step without killing them. At one time I thought they were robbing somewhere. They crawled down through the grass, and seemed searching everywhere for something they had lost. Finding a place where it was low and damp, where they seemed in unusually great numbers, I carried a grooved board and jar of the new sap, as shown in the A B C. It was black with bees as long as it was warm enough. The weather was still warmer on Sunday morning, and I kept jars full of sap on the grooved board, while I sat by studying my Sunday-school lesson. "If it wasn't Sunday," said I to my wife, "I would tap every one of our 40 maple-trees this morning, and teach the bees to gather every drop of the sap as fast as it runs." You see, the trouble had been, heretofore, that the sap ran on days the bees could not fly; but this day, the conditions were just right. It was church time, and I had to leave them; but just as soon as Sabbath-school was over I filled the jar again. To my great surprise, they had lost their appetite for sap. Now, it began to be clear to me. It was water the bees wanted, and they would have behaved almost the same had I taken water from the well. During the warm and pleasant day, they went to the creek and brought as much water as they needed, and therefore my jar was comparatively unnoticed, because the sap does not contain sugar enough to make it an object to them, aside from the water it contains.

Moral.—If you want your bees to keep away from the sugar-bushes, teach them to get water at a convenient spot near the apiary. The grooved board and water-jar is perhaps the most convenient way in which it can be given them.

Moral No. 2.—When a number of days occur in the early spring, when it is too cool for the bees to fly, they often suffer greatly for water with which to dilute the thick old honey, that it may be worked up with the pollen, as food for the great quantity of brood that is to be supplied; and pure water, or quite thin syrup, given warm in a Kendel feeder, at the entrance, would no doubt comfort the bees, as well as the pocket-books (?) of their owners.

Query.—Is it not possible that the water in the feed, in spring, is often of as much value as the sugar?

H. A. BURCH & CO.

SEVERAL intimations have come to us, that Mr. Burch proposes to fill all unfinished orders this season; but the most direct encouragement we have had is in the following letter:—

Friend Root:—I have been keeping bees some years, with but little profit. I can generally winter without loss by using enameled cloth and cushions; but being black bees, they make but little honey, so I thought I would get a better strain of bees; and as H. A. Burch & Co. claimed to have the best, I wrote to them on the 21st of April, 1881, and sent them a postoffice order for \$6.65 for a colony of Italians in a standard L. hive. I have waited patiently, but up to date I have not received my bees. So a few days ago I sent them a card, and this is the answer I received:—

Yours of 8th April received; please accept thanks. Will do what we can; but between the action of the bee journals last year, and our loss by fire in January last, we can't name any dates. If we can send bees by and by, will do so. Yours truly,

H. A. BURCH & CO.

South Haven, Mich., April 11, 1882.

Rather poor encouragement, after waiting so long, as I wished to Italianize and try to make my bees pay. I am seventy years old, and a poor man, and not able to do much hard labor, so I thought by taking GLEANINGS and reading the A B C I might make keeping bees pay, as there is plenty of basswood here on the creek, besides fruit-blossoms and white clover; but it seems I must wait for the "sweet by and by." I could hardly spare the money I sent them; but as they seemed reasonable in their prices, I sent the price asked. If I had felt able to pay Dadant & Son's prices, I should have gone over into Illinois and purchased a colony of them, as they live only about 15 miles from me. Dear sir, tell me what to do in this case; it is very hard on me; they should have sent my money back, and not have made use of it.

HENRY J. ALVIS.

Montrose, Lee Co., Iowa, April 17, 1882.

We are very sorry indeed for your disappointment, friend A., and I do not think I am taking any liberty in saying the bee journals, all of them, would most gladly do any thing in their power to assist Mr. Burch in making good all these claims. If any one can tell us how to do so, we will consider him a public benefactor. We will gladly publish statements from all as soon as they receive their bees, or, in fact, any thing else that goes to show they are settling up in an honorable way.

A HALF-STORY SIMPLICITY HIVE,

ARRANGED TO HOLD ONE TIER OF SECTIONS.

WRITE concerning the half-story crate, of which I wrote last fall. I send you a sample. You will see by measuring, that it is just half as high as the regular Simplicity hive; and by removing the nails which hold the bottom, or rack, in place, you can easily take it out, and by having the metal rabbet in the ends, and placing two of them together, we have a Simplicity hive complete. Now, this is not all I wish to say in favor of them. You well know, that the greatest reports in comb honey have of late come from those who practice the tiering-up plan; and as it is utterly impractical with the

crates made by you, I trust you will unhesitatingly express your opinion in their favor, and keep them constantly in stock for the benefit of your customers. You may say what you will; but with my experience, which is somewhat limited, a full-sized hive is too much to be added, all at one time, and I feel myself substantiated in saying, that better results can be obtained from it than from any other crate now in use. But, my object in sending it to you is to obtain your price for them. I shall want about two dozen. Please let me know as soon as convenient. Perhaps I should have stated in the beginning, that it is the invention of Mr. Wm. Fry, and has been used since 1876, and has come under my observation during the last two seasons.

BASIL BLEASDALE.

Warrensville, Ohio, April 15, 1882.

When I first invented the Simplicity hive, a part of the original idea was to have whole bodies and half-bodies; and two half-bodies were to make exactly one whole one. The hoop hive, that some of you may remember, was made exactly on this plan. Now, friend B., I think you a little hasty in saying the greatest yields of honey are positively from the tiering-up plan. Our greatest yields of comb honey, in the hands of the masses, have come from the chaff hive; and with this it is certainly not very convenient to tier up, by any way that I know of, unless you consider Doolittle's plan, of taking out the sections as fast as they are capped, and substituting empty ones, on the tiering-up system. If so, the chaff hive, I should say, is the very handiest for that purpose. Again, you surely have read your price list and A B C book enough to know that we use a half-story cover, especially to hold a single tier of sections. Well, when the bees get this single tier pretty well filled, and need more room, there are two ways of giving it them. The first is to give them an upper story, filled with wide frames, putting the nearly filled sections in for the upper tier. This is some work, but not much more than taking out a part of the sections that are filled, and replacing them. The second way is to raise up the whole case of partly finished ones, and put a new case under it, having all sections with open tops. Of course, your cover will not go on now, and so we must have a half-story, made of half-inch lumber, and then we are all right.

Now for the new plan, and I hope the friends will be patient while we consider it, for it is one of the vital points before us. In many of the cases in use, and illustrated in catalogues, the sections are held over the brood-nest in such a way that the bees can cover the under side of the sections with wax and propolis. This should never be, for it is a fearful task to undertake to scrape it all off, before sending the honey to market. The bees should never be permitted to touch the outside of a nice basswood section; therefore we must have the sections rest on wide wooden bars, with spaces between to match the spaces between the sections. These bars must be attached to and form the bottom of the section-case, or half-story, and this spoils all idea of ever using two of these half-stories for a whole story, to hold frames at some subsequent time. Well,

friend B. surmounts this obstacle by having these bars made into a sort of frame, or grate, such as we show you below.



GRATE, TO PUT IN THE BOTTOM OF A SIMPLICITY HIVE, TO REST SECTIONS ON.

This grate is held so as to come just $\frac{1}{4}$ inch above the frames in the lower story, by what he calls a pair of metal rabbets, attached to the lower inside edge of the half-hive. Thus you see we have it. When you want to put on sections, just drop in the grate, put in your sections, wedge them up, set it up over the Simplicity hive that is ready for honey-storing, and just put on the regular cover. When all are filled, take off the whole, put the cover down on the hive again, and take the whole to market. When you wish to fix the hive for winter, use these same grates, put in a cloth, fill with chaff, and there you are without any chaff cushion; and friend Townley, if I am correct, thinks loose chaff better than cushions. I have given friend B. \$5.00 credit for the idea, and he can share it with his friend Fry, as he chooses. Now, please do not think me fault-finding when I mention the objections. I do not want to see a lot of you go into these new things precipitately, and then repent afterward. GLEANINGS should present you new ideas every month; but yet we do not wish to have it said, it is always urging you into new investments that are to be soon dropped for something else.

OBJECTIONS.

The cost of making will be exactly the same as a whole Simplicity body; for if they are to be used interchangeably as hives, we must have metal rabbets on every one, and the strips before mentioned, to hold the grate, besides. You may say, have these on only half of them; in that case, when they get mixed up all through the apiary, you will find the kind you want, just where you can't get at them without much trouble. I should say, all must be made alike. I think, on the whole, they will cost about the same as whole stories, unless we should have quite a demand for them. Now, here is a much worse trouble: If we are to use these for sending honey off to market, they are heavy, expensive, and can not very well look as nice and clean, after being exposed to the weather, as the light case that is covered with an outer cap. Worst of all, our Cleveland honey-man, A. C. Kendel, says now that a case must be so cheaply made that it can be given away with the honey. The job of hunting up empty packages, and sending them back, is more than can be borne, especially when honey is passed through several hands before it reaches the consumer. This is a point that hits all of us; and I don't just now see how it is to be met in the best way.

One more word about tiering up: If you raise a case nearly filled, and put an empty one under it, you will have the sticky and dauby under side of the crate resting right on the tops of clean sections. Besides this, you interpose between the sections, and those under them, the thickness of this grate. This latter point, I am sure, is bad. A break in a sheet of comb is always bad; and if the break is separated by more wood than the necessary thickness of the sections, it is always a detriment to the crop of honey. Putting the sections in short frames, made so as to hold a single tier, is still worse, besides being a great additional expense. The wide frames and chaff hives, it seems to me, are the simplest and most easily handled of any arrangement we have had yet, even if we do have to put the honey into an extra case to send it to market.

If you wish to use the combined case on the $1\frac{1}{2}$ -story hive, either omit separators, and send it to market just as the bees fill it, or use open-top sections, covering the openings until the bees get them pretty well filled, then proceed as follows: Get another case of sections exactly like the one on the hive. Invert it so the spaces all match exactly. Now, holding the two firmly together, lift them from the hive, and set them back, exactly the other side up. This tiers them up at one stroke, and the empty sections are between the brood-nest and those partly filled. The bees can not daub a section, and the two tiers are as close to each other as they are in the wide frames.

Care should be used in inverting a case of sections, to see that all the sections are far enough along so the new combs of honey can by no means tip over; but as tiering up should not be done until the first tier of sections is near completion, there is no necessity for any troubles of this kind.

SAWBUST VERSUS CHAFF, FOR CHAFF HIVES.

PROVED BY EXPERIMENT.

SINCE reading George Grimm's letter in the April GLEANINGS, it has occurred to me that if our most successful cellar advocates are going to try packing hives, we ought to know what kind of packing will retain heat the longest. I have been making some experiments with this end in view, and will now give you the result of them. I took a flour-sieve, put in two 1-in. blocks, and laid my thermometer on them, and packed chaff under and over it to the depth of an inch. I then put it under a chaff cushion in a chaff hive until it reached 63 degrees or over, examining it at stated intervals, and taking notes, until it reached that point. I then took out the sieve, and examined it at stated intervals (first placing it in an out-building, so as to be out of sudden gusts of wind), and took notes to see how long it would retain heat. I tried 4 samples — 3 of chaff and one of sawdust. I was induced to try sawdust, because a neighbor living 3 miles from me, and having quite a large apiary, packs his hives with sawdust, and winters with good success, I believe. In the A B C you quote Mr. Townley as saying sawdust is not as good. Now, had friend T. tried

sawdust that was perfectly *dry*, and as fine as the sample I send you? I send you samples of all kinds but the oat chaff, which you are well acquainted with. These samples were treated exactly alike, or as nearly as possible, the temperature being about 2 degrees below the freezing-point both days when making the experiments. I was astonished at the result, but am not satisfied yet. I think we need more experiments in the same line. I would remark, that the sawdust, being heavier, would pack down tighter around the thermometer than the chaff, the latter being so light and springy. I send you a table giving the time required in warming up, and also the time consumed in cooling off, which shows pretty plainly, I think, the relative power of the different samples to retain heat.

In using No. 1, clean clover chaff, the temperature rose to 45° in 15 minutes; 50° in 30 m.; 56° in 45 m.; 60° in 1 hour; 63° in 1¼ h.; 65° in 1½ h. In cooling, the temp. fell 3° in 15 m.; 15° in 45 m.; 25° in 1¼ h.

With No. 2, oat chaff, the mercury rose to 47° in 30 m.; 50° in 1 h.; 60° in 1¼ h.; 63° in 1½ h. In cooling, the mercury fell 3° in 15 m.; 19° in 45 m.; 25° in 1¼ h.

With No. 3, dirty clover chaff, the mercury stood at 40° in 15 m.; 52° in 45 m.; 57° in 1 h.; 59° in 1¼ h.; 62° in 1½ h.; 63° in 1¾ h. It cooled 9° in 30 m.; 15° in 45 m.; 24° in 1¼ h.; 26° in 1½ h.

With No. 4, sawdust, the mercury stood at 44° in 30 m.; 52° in 1 h.; 56° in 1½ h.; 59° in 2 h.; 61° in 2½ h.; 62° in 3 h.; 63° in 3½ h. It cooled 2° in 15 m.; 13° in 45 min.; 21° in 1¼ h.; 24° in 1½ h.; 26° in 1¾ h.

Oberlin, O., April 20, 1882.

CHALON FOWLS.

Our readers will see at a glance, that the thermometer was colder under sawdust, after 3½ hours, than it was under the chaff after only 1½ hours. In cooling it off again, a similar result was obtained. I am not at all surprised at this. Had he encased the sawdust in a tight paper sack, it would have hindered the heat from passing out or in, still more. In adopting chaff, we had in mind the great array of facts that have been for years before us, and brought out recently still more strongly, that bees must have an abundance of air, to keep healthy. Ilives without bottom-boards at all, and those with cracks from top to bottom, are a success, where all others fail. See Gallup, in this issue. In support of sawdust, fine and dry, I would say that D. A. Jones is right on that track now, and he talked it at the convention, and has recently written me, that a hive made of narrow slats, almost like our wood mats, both outer and inner shell, with an inch or a little more of fine dry sawdust, would winter better than our nicely painted chaff hives with four or six inches of chaff. He may be right about it; but at present the matter lacks demonstration by experiment under all trying circumstances. It seems to be working toward my old "hoop hive," with sawdust packing added.

RESULTS OF MY TRIP TO JEFFERSON.

ALSO SOMETHING ABOUT HONEY-BOARDS.

CHAPTER III.

THOSE who have followed me thus far, I will say that my intention was to let the twenty colonies purchased do the honey-gathering, while the remnant of my own apiary would be devoted to increase; but "the best laid plans o' mice and men gang aft aglee," and my plans went so far "aglee" that the honey-gatherers increased to 29,

and gathered 1400 lbs. of white-clover honey by July 15th (enough to pay for themselves), while the 12 colonies and 3 small nuclei that were to do nothing but increase their numbers, persisted in gathering so much honey that the extractor was brought into requisition; and the result was, I soon had two barrels full of honey, besides increasing them to 42 good colonies by dividing. My object in keeping the two lots of bees separate was to see if those bought would pay for themselves; and as this was accomplished by July 15th the apiary was run as a whole after that date; and by Sept. 1st I had 71 good colonies of bees, and 5300 lbs. of honey, one-half of which was white clover, and the other half buckwheat, nearly all of it extracted. From this should be deducted 500 lbs. of sugar fed to 25 colonies, for winter stores. I am aware that the above yield has been exceeded by many; but when the weak condition of the colonies (many of them occupying but three or four combs June 1st) is taken into consideration, together with the absence of basswood from this locality, I have reason to be satisfied.

I will say just here, that my bees are all alive at this date, April 14th, and apparently in good condition, with two or three exceptions, and those have too many dead bees to drag out every morning. Twenty-five were wintered on sugar, no pollen; 13 on drone combs full of buckwheat honey, no pollen; 5 on white-clover honey and pollen, and the rest had fall honey and pollen. Not many lessons learned this time, although I tried hard.

Now a few words about honey-boards and quilts, and I am done. I have used the quilts ever since you, Mr. Novice, called my attention to them when GLEANINGS was young, but have now discarded them for the old-fashioned honey-board, with all its failings. The objections I urge against the quilt are these: First, they are expensive. The first cost is not so much greater than the board; but while the latter will last a lifetime, the former has to be frequently renewed. Second, too much labor for the bees. Not only has the entire surface of the quilt to be covered with propolis, but every time it is replaced on the hive, a crevice the length of the inside dimensions of the hive, together with that of both sides of the top-bars of each frame, has to be filled. This, in a ten-frame Langstroth, is equal to a crevice about 440 inches long, while with the board, the crevice would be but about 58 inches. Third, untidy top-bars. The propolis accumulates continually on the top-bars, and, if not frequently scraped off, will, in a few years, raise the quilt from a quarter to half an inch above the frames, while with a honey-board, if smoothly dressed and painted, and the top-bars to frames also smooth, we have only occasionally a pillar of wax built between.

J. L. WOLFENDEN.

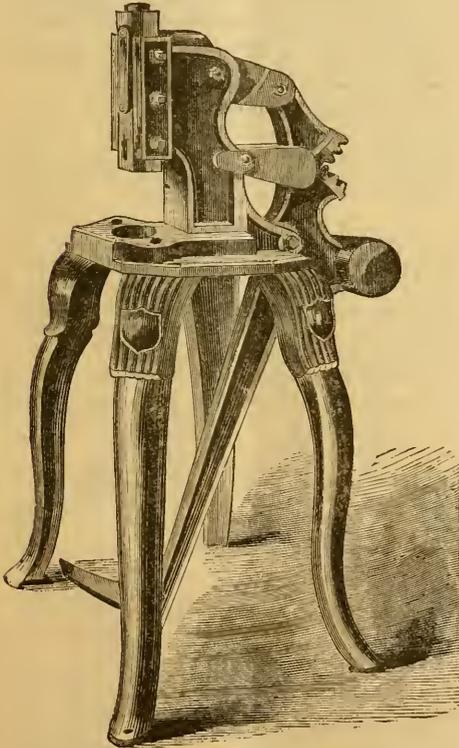
Adams, Wal. Co., Wis., April 14, 1882.

But you are a little behind the time on quilts, are you not, friend W.? We have not used quilts, nor advertised them, for years. The great staple now for covering the bees in summer time is the enameled cloth, and we have just bought of the manufacturers, in one single order, nearly \$200 worth. The demand this spring is tremendous, while honey-boards, and even the cheap wooden mats, seem to have been almost dropped. You can spread it over the bees without any danger of killing them; they can not stick wax or propolis to it, and

they very seldom bite through it, if the hive-covers are not leaky. True, it is not a very great protection against cold, but in cool weather we keep a chaff cushion over it.

MACHINERY FOR MAKING HONEY-CANS.

AT the present time, a great deal of interest is being taken in the matter of cans for fruit, and considerable in cans for honey. Friend Wilkin, at least, has purchased the tools for making his own honey-cans, and apiarists will, in the future, very likely have this work done on their own premises during the winter, and at other seasons when they or their employes can not well work in the apiary. The press shown below is for stamping out the tops and bottoms, and also for making deep covers, at one operation.



PRESS FOR MAKING COVERS FOR HONEY-CANS.

We have just received one of the above machines, and the workmanship pleases us so well that we asked the makers, Messrs. Stiles & Parker, to lend us the illustration. The treadle, as it goes down, moves back; and while it gives a long stroke, it at the last, by a sort of toggle-joint, gives a most prodigious power. The press alone costs \$75.00, and the new and improved dies cost about \$25.00 per set. With it the tin is cut out and the edge turned up, at one single stamp of the foot. Even a deep cover, like those used on the Jones honey-boxes, are made at a single stroke. Compared with

the old slow ways of working, these machines seem almost like a sort of sleight of hand or witchcraft.

“Remindery.”

Or Department for duties to be attended to this month.

This department is intended for the purpose of reminding our friends of the duties of each month.

I SHOULD like to suggest to you a “Remindery Department” in GLEANINGS. I think it would at least be as important as the Growlery. It would remind us each month of the various things that are very necessary to be done, which are very often neglected for want of thought. Now, as you make a good reminder in Our Homes for doing our duty in a spiritual sense, which is, I think, far more important than any other thing in this world, you could conduct a “Remindery Department,” reminding us each month what to do with our bees.

J. H. THORNBURG.

Winchester, Ind., April 13, 1882.

You can see, friend T., that I approve your suggestion, by the heading above. There has been quite a call for something of the kind, for some time; but I was deterred from attempting it, because the seasons differ so widely where GLEANINGS goes. Well, it finally struck me like this: Of late, I have been obliged to shift my many cares, one after another, on to the shoulders of others. I am now going to ask you, my friends, to help make this department what it ought to be. Let us remind each other of the important things for each month, as we think of them; and if we get short suggestions from quite a number, we shall be sure to hit the most of you. I will start it, something this way:—

In our locality it will be time to transfer, with most of you, when this reaches your eye. Read what is said in this number about it, and directions in A B C. Those who have no A B C can have a transferring sheet sent them, by asking for it. During fruit-bloom, give your bees every opportunity of getting out and in their hives rapidly, by removing all grass and weeds near the entrances. A single spear of grass will often knock down hundreds of bees in a day. Don't be satisfied with pulling out a little grass now and then, for it will be right in the way again, after the first May shower. Dig the grass all up for a foot around, and then put down gravel or coal cinders, banking it right up to the entrance; then cover it with white sand, patting it down hard, so every bee can buzz right in. If you can't see them express their thanks, you don't understand “bee talk.” Do it before they are out in the morning, or use a smoker. Don't have any unpleasantness about it. Leave on the chaff packing and the Hill's device until they begin to build comb under it. Do every thing that ought to be done, and look into every hive, and see every queen at least once a week. Give some frames of drone combs to the queen you wish to have rear drones. After the flow from fruit-blossoms is over, feed a little every day, and keep comb-build-

ing still going along slowly. Read friend Miller's article on spring feeding.

When you don't know what ought to be done, study the bee books and see if they do not remind you of something.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

WHAT shall I do now? In the winter of 1880-'81 I lost all my bees; so I bought 10 in the spring for \$50.00; increased to 20, and got 80 lbs. of honey. It turned off dry in the fall, my bees lacked stores. I fed them 300 lbs. of honey. They sealed it up nicely, and were strong in bees, so I thought they were in good fix. I built a good cellar that cost me \$100. In February I found my bees were dying with dysentery; March 1st, 11 left. The weather was pleasant; they began to carry in pollen and honey, so I thought all was right; but the 15th I had 5 left, and April 1st, all gone. Now, my family think I had better quit, though I have plenty of hives and nice combs, and trees also. I sowed clover seed. Now, when the honey season comes I shall want bees, though I have spent my money, and have no more to spend. Now, what shall I do? Every few years I lose my bees by this same disease.

Dunlap, Kan., Apr. 12, 1882. S. P. SOWERS.

Buy a couple more colonies, and try again, friend S. Never again, as long as you live, think of feeding honey for winter stores. Where they have stores in the comb nicely sealed up, that you have reason to think are good and wholesome, it may be well enough to let them have it; but when you are obliged to feed, by all means feed granulated sugar. You can get it at any store or grocery, and your honey, if any way decent, will sell for more than enough to buy your sugar. If the honey is so poor it won't sell, by no means think of feeding it to your bees for winter stores. Try again, but don't invest very much money. Go slow, and learn to winter without any loss.

My bees all died this winter, with the dysentery. I want to try it again this summer. Please let me know what you can furnish this bill for.

W. B. ZINN.

Holbrook, Ritchie Co., W. Va., Apr. 3, 1882.

Why, friend Z., I thought you were discouraged, and were going to give it up; but I guess I must have made a mistake, and you don't belong in this department at all. I wanted to make a kind of respectable showing for this department this spring — but I declare it is hard work — hold on! Our next friend will fill the bill sure, and he tells it in poetry too. Just read: —

Written for GLEANINGS.

MY FRIEND'S REQUEST AND REPORT.

"Jim," said a friend of mine to me one day,
 "I've thought it over, and believe 'twill pay —
 If the bearings I have rightly reckoned —
 To attend Joe Harvey's sale the 2d,
 And buy, just to try them, some of his bees.
 He has nine scaps that he don't want to keep,
 And I know I can get them 'dogged' cheap;
 Besides, they're things that don't need much care;
 Just live them, and set them anywhere,
 And let them do exactly as they please.

"I don't go much on these new adoptions
 (These new-fangled hives and such contraptions),
 Because they're just made to get your money,
 Not to give you more gallons of honey;
 And I won't have any of them about.
 These hifalutin editors may talk
 About their patent hives and foreign stock,
 But the man that's fool enough to buy them
 Will find, to his sorrow, after he tries them,
 That they'll rank with the biggest humbugs out."

Well, he went to the sale and bought the lot
 For thirty-seven dollars, on the spot; —
 Nine old box nives and a big box of comb —
 And, one cold day in March, he hauled them home,
 Hoping, as he did so, they wouldn't freeze.
 "Now," said he blandly, "I'm just starting out
 In something I don't know much about;
 I can't well do a thing I don't know how;
 But, if you happen 'round a year from now,
 Don't fail to call and see me and my bees."

A year rolled by; and I, as requested,
 Sought the report on cash invested
 At "the sale," in apicultural stock;
 Also to indulge in a friendly talk
 On the various questions of the day.
 We talked about horses, cattle, and sheep,
 And other kind of stock that farmers keep;
 But 'twas some time before I could persuade
 Him to redeem the promise he had made,
 And have, on bee-keeping, something to say.

"Well, Jim," said he at length, "yonder they are;
 And, hoping that my harsh words will not mar
 One of the geeish offspring of your brain,
 Or kind opinion that you entertain
 On bees and bee-keeping, I will report.
 Over yonder, beyond that bed of scives,
 Lie the nine historical old box hives,
 Smashed and broken — as you can plainly see,
 And wanting the hum of a single bee —
 Its busy life, alas! how very short!

"You mind, I bought them along in March,
 And set them against that old boiler-arch?
 Well, they sat there all right till 'long in May;
 Then my wife ran agin the stand one day,
 And knocked four of the best ones in the run.
 The comb, you may bet, was mashed about right,
 And I had to 'sulphur' the four that night
 To keep them from drivin' us off the place.
 As it was, eleven stung me in the face,
 And nearly killed my sister's little son.

"To make it short, the others all swarmed twice,
 Settled on the pear-trees all right and nice;
 Calmly surveyed my apicultural goods,
 And then six of the ten went to the woods —
 A part of the programme I hadn't billed.
 I then had eight swarms; five old and three new,
 And they fought along the whole summer through,
 And, with buckwheat fields and clover all around,
 Of box honey they never made a pound;
 Then the profitless mess all winter-killed.

"That's my report," said he, and I replied:
 "My friend, I'm sorry that your bees have died;
 That your investment of time and money
 Should bring you, instead of bees and honey,
 This grievous melancholy retrospect.
 Yet, in your experience you have earned
 A prize; for you, undoubtedly, have learned
 That, to make bee-keeping a grand success,
 You must know and keep their laws, nothing less —
 Failures are but the fruits of sheer neglect."

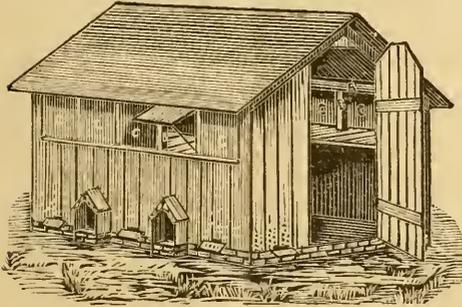
F. F. M.

Now, to tell the truth, friend "F. F. M.," I am not very much astonished at your friend's bad luck, but I am astonished to know that there is a woman in this broad land so awkward and unfeeling as to run against a bench, and bump those poor little bees down, and "astonish" them clear out of their poor little wits. I presume the moral to this sad tale is, that the women folks who have husbands addicted to apicultural pursuits must step around a little more carefully.

OLIVER FOSTER'S HOUSE APIARY.

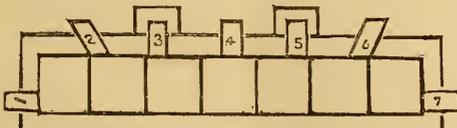
A SUCCESSFUL 14-HIVE HOUSE APIARY.

HERE is a sketch of the house apiary I promised to describe. It is 6x10, and 7 ft. high; 4 feet at sides. The roof is of inch boards, matched to turn water. They are nailed at top to a 2x4 scantling, which passes under the ridge the full length, and at the lower side to a similar piece shown at A. These are supported in the middle by posts, B B. Between these posts are hung trap-doors which open out as shown at C.



FOSTER'S HOUSE APIARY.

There are 7 two-story hives on each side, with a space of two feet between the rows. The frame used in this apiary is $9\frac{1}{4} \times 12\frac{1}{4}$ inches. The inside walls of hives are of half-inch stuff. The 7 hives of each row are all built together in one box 9 ft. long, and wide and high enough in lower story to take the frame crosswise. The partitions between the brood-nests are half-inch boards, and 15 in. from center to center. The top stories are built to take the frame across the other way, and are 20 inches long, which makes it easy to remove lower frames. The spaces at sides and ends, and below each row of hives, are filled with chaff. Chaff cushions are used in top story in winter. The entrances pass out from under the brood-nests something like this:—



GROUND-PLAN OF ONE SIDE OF APIARY.

The portico on Nos. 3 and 5 prevents bees mixing. As I said, this house is a success summer and winter. I would rather handle bees in it any time than elsewhere. When it is warm, and I want to work in the "open air" with a nice shade overhead, I just open all the doors. When robbers are troublesome, I open one door in front of the hive I am working, and all the bees that take wing fly out. In extracting, bees can be shaken into top story or in front of entrance. When I said that I intended to "adopt this principle unanimsly," I meant that I would place the colonies close enough together in winter to keep each other warm. But I reserve this subject for another time. OLIVER FOSTER.

Mt. Vernon, Linn Co., Iowa, March 9, 1882.

The idea of having a little door or window over each hive is, I believe, something after the plan of a house apiary built by friend Nellis; but as we have never heard any fa-

vorable report from it, we had supposed it was eventually dropped, like almost all of the other house apiaries. No doubt but that the plan of friend Foster will work well; but it seems to me it would be rather expensive, having so many doors to work nicely; and I am a little afraid, too, that in the hands of the average bee-keeper it would get out of repair. Notwithstanding this, I feel very much inclined to make just such a house apiary now, and I rather think I shall like it. Our own house apiary is now destitute of bees, but we are talking of stocking it up again, just as soon as we can get bees enough ahead to raise comb honey. I believe more honey will be secured in a house apiary than in hives outdoors, on an average.

FOUL BROOD.

WHAT OUR OLD FRIEND, J. BUTLER, ADVISES ABOUT IT.

IN writing on this subject, we do not expect to tell you any thing new, but to give a little of our experience. Probably no man in this section has suffered so much loss from foul brood as our old friend Ezra Rood, of Wayne, Michigan. At a convention in Jackson he was asked the question, "What shall we do with it?" and his reply was, "Bury it so deep that it can never be resurrected;" and after 3 years' trial with it we fully indorse what he said.

It seems natural to most of us to try to do something, in some way or other, to save something out of the wreck; but after a number of trials, spending money and wasting time, and then suffering disappointment, we say positively, do not try to save either bees or combs. In the first place, foul-brood stocks are weak in numbers, and the best of them will not contain more than the bulk of a fair second swarm; and if the bee-keeper tries to save them they will cost him more than they are worth. We have been through the mill, and think we know whereof we speak. We have, in a number of cases, saved the bees, and confined them 48 hours without honey, in a clean hive; then transferred them and set them at work, and after a while gave them a frame of brood to help them along; but in nearly all cases they are still infected with foul brood.

In the October, 1880, No. of *A. B. J.* was a long article on foul brood and its positive cure. We used the remedy, but the combs still remained foul. And now, friend Novice, if I were going to give advice it would be, "Don't spend money and time to no purpose."

In locations where smallpox has been raging, great care is used to prevent its spreading; and I am fully persuaded that the same care is needed to prevent the spreading of foul brood. But if we go dabbling around, trying to save a little honey or wax, the chances are that it will tend to still further spreading of the disease. I was at first fearful that swarming would tend in the same way; but foul brood will not be augmented by swarming, for not one in twenty with me has ever cast a swarm, because foul-brood stocks can't mature queens. They build queen-cells, but I have never found one that contained living larvæ, but all rotten foul brood.

Now I will tell you what I save, and how I do it.

WHAT TO SAVE, AND HOW I DO IT.

Cases to hold sections; all good hives; bottom-boards and alighting-boards.

I have a caldron, or kettle, that holds a barrel of water. I set it on blocks or stones, and fill it nearly full of water; then I put in $\frac{1}{2}$ bushel of unleached ashes; stir it up well, and after hives and every thing has been scraped clean, and the kettle boils, dip in your hives; keep turning them over quite often, so that all parts will get an equal soaking; ten minutes for each piece will be enough. After they are rinsed off, and dry, it's fun to see how nice they will take a coat of paint. All hives that have contained foul brood should be kept where the bees can have no access to them until they are cleaned.

I am sanguine that this dreaded malady can be rooted out, but it will take a little time and a great deal of care. If any should be so unfortunate as to get it, I would say to them, "Examine every stock in the fall; just before the last brood is hatched is the best time to see whether there are any cells that contain foul brood. Stocks that have it only lightly are the ones most likely to be overlooked, for a bad case is seen at first glance. All stocks should be closely examined at or near the close of brooding, just before all the brood is hatched; but if left a week or ten days later, the bees will remove it, and the bee-keeper will pass them as a sound stock."

How we got foul brood, we can't positively say; but we will, at some future time, tell what we think about it, as a word of caution to others *not* to do likewise. It came all on a sudden; and before we were aware of it we had sown it broadcast all through the apiary. Three years previous to the advent of foul brood with us we had 3 splendid seasons, and our apiary numbered 112 colonies, and we had nearly surplus combs enough to supply all new swarms with a full set of brood-combs; but, alas! we did not know which had been exposed and which had not; so we thought the only safe way was to destroy all.

OUR LOSS IN THREE YEARS.

Forty stocks, and burned 20 chaff hives (at first we did not know how to clean the hives); more than 600 bee-combs, 2500 $4\frac{1}{4} \times 4\frac{1}{4}$ sections; these had all been on the different hives, and we did not know which were which, so we burned them; straw mats, chaff cushions, etc., all cremated. J. BUTLER.

Jackson, Mich., March 20, 1882.

SOME OF FRIEND TAYLOR'S VAGARIES.

WISE, AND OTHER — WISE.

"Out of the Frytug-pen — Into it Again!"

HAVE never seen bees come through a winter (even as mild as ours generally are) as bright and lively. I thought last year at one time that I was out of the bee business. I had sold out my entire stock, fixtures, etc., to a neighbor.

BEES COMING BACK TO OLD "MARSTER."

After the bees were removed a considerable distance to their new home, I noticed a few returning to their old stands. I fixed up a box, and in two or three days enough had returned from three miles distant to fill a quart measure. I gave them a queen-cell (from a neighbor's apiary), and they thrived amazingly. To-day they fill a 20-frame L. hive, and — well, I'm going to pit this colony against all North Carolina the coming season for a big yield.

LARGE YIELDS OF HONEY.

Some friend, I have forgotten where he abides, has spoken of large yields of honey as "fishy," "snake story," etc. I believe the friend who is skeptical upon reports of "large yields" resides in Texas, or — somewhere in the South. I want to whisper to him gently, that he may expect a big "snake story" from this neighborhood this summer; and if he resides near enough, I should be glad to have him come and see the "snake." With this one colony built up from "nix" I shall make — let me see — well, I won't say yet, but I now prophesy, Novice, that even you, with all your charity for the brethren, will raise your eyebrows, when you hear my report, and no doubt think of the "snake" brother, with a mind to join him against me. Wait and see.

HANDLING BEES IN WINTER.

When I first began handling bees, only four or five years ago, I wrote and asked the question through GLEANINGS, whether or not the bees returned all the honey they "sucked up" out of the combs while being handled. I concluded they returned it, but know better *now*. I am positive that they do *not* return all. When being handled frequently, they seem to think "it's master's honey and master's bees," and that it's *too good* to put all back; and from that time they certainly use more stores than they would have done if left unmolested, especially if the weather is just a little pleasant. I shall not in future molest a hive of bees during the winter season, even if they are out for a fly, unless I see manifest symptoms of something being wrong with them.

BEE-KEEPERS.

Regarding the business of keeping bees, as a business, there is not one doubt existing in my mind but that it will support a man *and family*, almost in any locality, always *provided* the man is possessed with a love for the bees and their ways, and the pursuit itself, and especially *industry*. Why, I know of over a dozen men who with their families have moved into our town in the last two years, from farms; they claim that farming is "played out," "no money in it," etc. They "have to work 14 hours out of every 24," etc. We know that many, very many, succeed at farming; do well; many grow wealthy, while others fail.

Now, I am convinced that, in bee-keeping, every man would not do well; but from the fact of one's failing in a business, we can not justly condemn that business, especially when we know of many who are making the same lucrative in every respect.

LAZY PEOPLE.

I wonder if many of us think that we are lazy? Any way, if you have the very smallest doubt on the subject, dear friend, don't undertake bee-keeping for a living; if you do, you will regret it. Don't forget this. Laziness in any form (and I am sorry to say there *are* various forms) and bee-keeping won't go together to one's financial satisfaction. I know of one bee-keeper near me who thinks he is the most industrious man in existence; he *thinks* it, I am sure; but I can see better; he neglects his bees; his apiary is kept slovenly; he seems to delight in being as far *from* his bees through the day as possible. He works at times hard, but soon gets over it, and lags. This man will fail. He will not succeed at the business, I am certain; yet he has entered the ranks as a bee-keeper, and follows no other business. I have a mind to have a photo gotten up next

month of this apiary; and I want to suggest to all bee-keepers, whether they are making specialties or not of bee-keeping, to keep things picked up about the apiary; and just imagine at all times that Novice, or some of the "big guns" in the business are to step in to see our little apiary, and we must "spruce up" a little.

DRONES—THEIR ORIGIN.

I want to say something more; catch hold of something to keep from falling, now. I have made up my mind that the queens don't lay the larger percentage of drone eggs. I am of the opinion that ye fertile (so called) workers do the "drudgery of laying drones" (patent applied for). I don't say the queen can not, but I think that mostly all the drones, during the busy portion of the season, are laid by the workers. I could give you reasons, but this is ominously long now; so *that*!

What do you think of my theory, Bro. Doolittle?

R. C. TAYLOR.

Wilmington, N. C., April 7, 1882.

Why, friend T., you and others of late seem determined not to give me a shadow of a chance to hold on to my idea, that bees don't fly over three miles. And why didn't you pay your friend for that quart of bees? I watched all through your story to hear you say you did, but didn't see it. Now about drones: It is almost what I expected, after Doolittle said there weren't any two-banded bees anywhere. You know another friend, in this same number, almost proves that worker eggs produce good drones. I will go so far with you as to say some drones are produced from worker eggs.

GALLUP ON VENTILATION.

ALSO A TOUCH ON POLLEN.

NOW, Mr. Editor, I am going to give you fits. You say that Gallup thinks Mr. Quinby was right. Now, I don't even think, I *know positively*. In wintering bees in Canada on their summer stands, we had the old straw hive, the Weeks, or Vermont hive, and the common box hive. In wintering in the box hive, the hive was raised on inch blocks placed under the corners. In the Weeks hive the bottom-board was suspended an inch below the hive in winter. Now, if any one undertook to winter without raising the hive, or giving the air-space, he would almost invariably lose all his bees with dysentery, except the hives that were made of hemlock boards, and had a crack from top to bottom, open enough so you could see right in on the bees, and in many cases wide enough to almost put your hand in. They would invariably winter well, and come out strong in spring, providing they had stores enough. Your careless bee-keeper who made very rough hives, with open joints, and the bottom saved off so much out of square that it could not be got down to the bottom-board, could keep bees, while your nice workman, and one who was going to keep his bees warm and nice, had no success whatever. All would die with dysentery long before spring. Now, bees in the suspended hive, with the open bottom; your box hive raised on blocks; your straw hive with the summer entrance open, and a two-inch hole open in the center at the top (I wintered in such a hive for 15 years with perfect success), and your hive with the crack from top to bottom, would winter well;

and when the thermometer was 40° below zero, blow in the hive, or jar it, the bees would fly out as quickly and readily as your bees do in the heat of summer; and you know, Mr. Editor, that when a bee flies out and is blinded with snow he alights on his back, kicks up his heels, and just before he dies he discharges the contents of his abdomen. I have seen 'em do it in thousands of instances, and it was dry and powdery like—so much so that it would not smear or adhere to any thing; as much so as sheep manure where sheep are fed on dry hay and straw in winter. The fact is, that any bee-keeper in Maine, New Hampshire, Vermont, Northern New York, or Canada, who has not seen bees discharge dry powdery excrement under the above conditions, is not and *can not* be a very close observer; and I do not doubt in the least, that if Mr. Quinby were alive today he could tell that he had seen the same repeatedly in his locality. Why, Mr. Editor, you might as well deny that there is such a place as Santa Ana, simply because you have not seen it. Your old colony, with "lots and slathers" of pollen, would winter the best; your new colony, with new comb and but very little pollen, are the poorest to winter every time.

Now, I am not disputing with any one on your wintering problem; I am simply stating facts. I lost every colony down to my old straw hive (and that was the old nest-egg) for several winters, simply by being too nice, and trying to keep my bees in nice warm well-made hives, while a neighbor who made his after the bees swarmed, and set them on top of stumps, without any bottom-boards, had good success. I took extra pains to make my hives nice, and have them set in a nice tasty shed to shelter them from the cold winds and storms. You see, in those days it was all luck; the neighbor was lucky, while I was unlucky.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., March 27, 1882.

Then, friend G., why didn't you stick to the Weeks hive with its suspended bottom-board? or why don't bee-men now make their hives without any bottom-board, and thus save—lumber? I am really afraid, since reading your article, that some one will patent the idea of using hives without any bottom, and we shall all be compelled to put bottoms on them, even if we don't want them. Joking aside, I am well convinced that many of us have erred sadly in making the hives too tight below. We now leave the entrances to our chaff hives open all winter full length; and if the Simplicity were pushed well forward, so as to have a very large entrance all winter, I think it would many times have saved the bees.

IS BEE-KEEPING PROFITABLE?

MY crop of honey raised during the season of 1881 was most of it sent to commission merchants, as I was not able to find a sale for it at prices which I thought it ought to sell for, hence the present time finds me hearing from the last lot which closes out my entire stock. The most of my crop was shipped in lots of about 300 lbs. each to different commission men in New York, Boston, Philadelphia, etc., and was sold quickly at from 20 to 22 cents per lb., while the lot just closed out, which was shipped to a large dealer, together with a large consignment of my neighbors', on the co-operative plan

recommended by some, brought from 12c. per lb. up to 20, thus proving that the co-operative plan is not always the best. After placing the amount of this last sale on my ledger, it was but natural that I should look over the debit and credit columns to see what my bees have paid me for my season's labor. After footing up the whole receipts, and deducting the expense incurred by the bees therefrom, I find I have an average profit of \$29.63 for each colony I had in the spring, as the cash receipts free of all expense. Thus it will be seen, if a person can care for 100 colonies of bees (and it is done by many of our practical apiarists), this would give an income of \$2963.00 a year. But to be on the safe side, suppose we call it 50 colonies, thus giving a salary of \$1481.50. I will admit, that the season of 1881 was better than an average one for honey in this locality, and, therefore, to be sure and not get our figures too high, we will take off \$481.50 from the above, when we have left \$1000 as an average yearly income for one person. As proof that the above is not overdrawn, I will say that I have cleared on an average over \$1000 from my bees each year for the past nine years, with an average of less than 50 colonies each year.

That bee-keeping will compare favorably with any other pursuit in life, I firmly believe; and the trouble why so many fail in it is that they do not properly attend to it. Men will give their horses and cattle the best of care; but when it comes to the bees, they let them take care of themselves, with the exception of hiving swarms and putting on and taking off boxes. What would they expect from their cows, if treated in that way? The keeping of cows means milking twice a day for at least 210 days out of the year, and feeding them three times a day for 180 days, saying nothing about cleaning stables and other work necessary to carry on a dairy. When men are willing to thus care for bees they will find they will give a greater profit than can be obtained from cows, or any other branch of rural industry. Bee-keeping means work, *energetic work*, a place for every thing and every thing in its place, and to know how to do things just at the right time and in the right place, if we would make it profitable. We also want the best bees, the best hives, and all the modern appliances, just as our enterprising dairymen would have the best breed of cows, and the best utensils to care for the milk. Also a man must have a liking for the business. No man will ever make bee-keeping profitable who prefers to lounge about a country store or tavern instead of working in his apiary. In fact, a person will not succeed in any business, unless he has enough love for his calling in life so he will be diligent and faithful thereto. "Seest thou a man diligent in his business? he shall stand before kings," was what Solomon told his son; and the saying is as true to-day as it ever was. If a person is not willing to spend the time on bees which they require, he had better keep out of the business; for sooner or later they will become disgusted with it, if it is undertaken with the idea, that "bees work for nothing, and board themselves." G. M. DOOLITTLE.

Borodino, N. Y., March, 1882.

As friend Doolittle truly says, there is no great good without great labor; and our boys and girls who hope to succeed must not only work hard, but they must know exactly what they are doing, and all about it. A few days ago I went into the wax-room and found a couple of hands rolling fdn. One

was looking out of the window, and his assistant, who turned the crank, was looking over his shoulder. The sheet had torn in two, and one part was going round one roller, and the other the other. If a bee-keeper expects to succeed, he must work in quite a different way, for it needs hands, eyes, and thoughts, all together and all at once.

BEES OF AMERICA.

THEIR ANTIQUITY, GEOGRAPHICAL RECORDS, AND RANGES.

MR. ROOT:—You say, "I must still be a little incredulous about any thing like Italian blood being found in America before their importation." It is judicious and commendable in an editor to be incredulous enough to doubt facts, until evidence enough has been drawn out to establish them; but I have the impression that truths susceptible of proof should be given the preference; that probable truths, sustained by analogous testimony, should take the second place; and that theory against which analogous testimony bears strongly, shall be given the last, or rejected as unworthy of the confidence of men.

To remove this incredulity I took a journey of 13 miles, and obtained the inclosed statement, which speaks for itself. Mr. Capps is a gentleman of good standing in society; is familiar with the country for many miles around; he knows the use to which his statement is intended to be put, and the necessity of caution in stating the facts. It would be interesting to learn how far north, and how far in other directions, a tendency to assume yellow bands has been developed in this race of bees. Our Southern friends have furnished no reliable means by which we can trace them beyond Arkansas and New Mexico; and Mr. Teter, though he established the fact that they exist in Minnesota, has said nothing of their being tinged with yellow. Such of the readers of GLEANINGS as wish to trace the facts produced concerning them, will find them given in the July, October, and December numbers of GLEANINGS for 1880. Many others must be familiar with these bees, and the silent indifference with which they view the subject is surprising.

THEIR ANTIQUITY.

The Rev. Edward Stevenson, Secretary of the Beekeepers' Association of Utah, in the *News* of Salt Lake City, has added much light concerning the "Bees of America," and their ancient importation. Mr. Stevenson quotes the "Book of Mormon," and in a letter to me cites passages from the Bible to show that the honey-bee was brought here 600 years before the birth of Christ, by a colony from the Eastern Continent. Strongly confirmatory of Mr. Stevenson's quotations is the recent discovery of a cave in Kentucky, in which were found several mummies, Masonic emblems, and a pyramid. It is certain that they have existed here long enough for the Missouri River to remove a body of earth some fifty feet thick, ten or twelve miles wide, and many hundred miles long, since the petrified bee that Mr. Murphy certifies to was deposited in the rock on the shore of the Missouri River. Bees may have reached here by the above-mentioned colony, and they may have previously reached here, or the same conditions that produced one pair may have produced several

pairs in various parts of the world, in accordance with the will of Him who has ordered the reproduction of the different races. It would be hardly fair to restrict God to the creation of one pair only, when we see an infinity of creations around us.

GEOLOGICAL RECORDS AND RANGES.

Geologists teach that our continent is an ancient sea-bed elevated above the surrounding sea, and offer the petrified remains of marine animals, gathered upon its surface, as evidence that can not be gainsaid. That their views are correct, is a self-evident fact. Were North America to sink 1000 feet, it would be covered by a body of sea-water extending from the Gulf of Mexico to the Arctic Ocean, and the eastern coast of the west part in the State of Nebraska would be in about the same longitude as Omaha. Were it to sink 10,000 feet, all that would remain would be a few islands extending from a few hundred miles south of the source of the Platte River, to a few hundred miles north-west of the source of the Missouri River; and we should then have existing here, conditions similar to those existing on the Eastern Continent at the time of the so-called Flood, or the subsidence of that continent, when, Herodotus says, many inhabitants were saved on the highest mountains. The sea is uniformly the same in bulk; and when this continent was in the condition given above, the sea was drained from elevated positions elsewhere, and the earth's center of gravity probably was not as at present. In compensation for the sea-bed formed here, what is now the bed of the Pacific Ocean may have been elevated into dry land, and continuous from the Eastern Continent to this. In such case, the races common to that continent would gradually find their way toward this part of the world, and eventually, as this continent reached a higher elevation, spread out over the dry surface of land. Similar conditions may have existed along the eastern part of the continent, producing similar results there. This would account for the two great geographical ranges to which so many races are almost exclusively confined.

INES WHICH THE HONEY-BEE MUST HAVE FOLLOWED.

The honey-bee, reaching the elevated lands of the West, could spread only as the waters receded, and the river-courses became timbered. Ages would be required for the suitable conditions to be reached, and ages more for them to colonize the vast extent of country over which they are known to have spread. By the way of the large streams of the North, and their tributaries, they could reach the timbered sections of that part of the world, and spread over Minnesota and the Hudson's Bay Territory, as they have been shown to have done (see GLEANINGS, July No., 1890), and they could reach New Mexico along the line of the mountains; but, owing to the vast timberless tracts of prairie on the west, they were compelled to follow the course of the Missouri River and its tributaries to reach here. Advancing from here along the course of the Missouri and its tributaries until they reached the timbered lands of the South, they would spread indefinitely.

JEROME WILTSE.

Falls City, Neb., April, 1882.

MR. CAPPS' STATEMENT.

I have lived in Missouri and along the Missouri River since 1846. I have been accustomed to hunt bees, and have handled them all my life. I have seen yellow bees frequently, ever since we first arrived in Missouri. In the year 1854 or '55, I killed a deer in Kansas, near the Missouri River, about 17 miles above St. Joe, and large yellow bees, marked with yellow bands on their bodies, came and sucked the blood, and returned to their tree in sufficient numbers to have lined them; but owing to the

thick growth of vines and brush and rushes, we were unable to get them. It was the body of the bee, and not the hair, that was yellow.

W. J. CAPPS.

Many thanks, friend W. Were it not that Mr. Capps is an old bee-keeper, and used to handling bees, I should be tempted to suggest that those yellow bees were some sort of a yellow-banded hornet that has its nests in trees and swampy jungles. I have seen a sort of wild bee, with yellow bands, that for brilliancy far outrivaled any Italian; and from what I know of their habits, I should judge them far more likely to suck up the blood of the deer, as he states, than any kind of honey-bees. I really beg pardon, friend W.; but is it not possible that he was mistaken in thinking these were veritable honey-bees? We are very much obliged indeed for the trouble you have taken to collect and furnish these facts.

COMB FOUNDATION.

JAMES HEDDON.

PERHAPS never before in our lives, Mr. Editor, did you and I come so near agreeing upon any important subject as we do upon this one above. There are, however, a few less vital though not unimportant points in the highest successful use of comb foundation upon which we do not see quite alike.

Here is one. You say, that the sample of Given thin fdn. I sent you has not as thin a base as some fdn. you have had sent in, and made upon your roller mills. Can it be that I made a mistake in not sending you a fair sample of my thin Given fdn.? By this mail I inclose one in a box to you, and this is a sample of what I can and did make upon the press rapidly. Now, who wants a thinner base than this? Is not a majority of natural comb of thicker septum? Does this sample not contain a bulky line, for fdn. that runs 10 to 11 feet to the pound? Please weigh and measure this sample. I do not recommend so light fdn. for full sheets in boxes. I prefer that about 8 square feet per pound, with thin base. Comb foundation has a lively value, outside of procuring straight combs and inducing early commencement on them; it also aids very greatly in their *rapid development*. For this latter object we want the heavy line, or side wall, containing plenty of wax.

I have received, both solicited and unsolicited, very many samples of fdn., and I have never seen any thing in the line that equals the Given for thinness of base and heft of line combined, or either one taken by itself. The sample that you "could not locate," that is almost "artificial comb," was a portion of a sheet that we made upon our 12-inch heavy Vandervort mill; and though very many good and experienced judges would choose this in preference to the more homely flatter-lined Given, our experiments proved that the bees took to the Given first, drew it out quicker, faster, further, and thinner, and consequently made a much more delicate and beautiful comb.

We differ in our opinion as to the desirableness of the manufacture of a "real honey-comb," for I do not believe that science will ever "evolve" wax into comb, said comb being eatable; and as for the brood department, do we not now have more trouble than the bees do, with the manufacture of the *shallow cells* we are making?

Now in regard to the press putting fdn. in wired frames. After I had devised the lye process last season, I supposed I had all sticky troubles at an end; but we have now been at it one more day this year, and I can not make the lye process work nearly as completely as it did last season. I shall have two new die-books here in a few days, and I will then make a new trial, and report. The Given press has enough advantages in its favor, that it needs no bolstering by denying the fact, that hand-pressed sheets work to perfection.

I have shipped many hundred wired frames of Given fdn. over the country as far as 300 and 400 miles away, and I have heard of some complaint of the fdn. breaking loose in transit, but am led to think that most of it went safely. The great objection to the general sale of made-up frames of fdn. is the high transportation charges; and for that reason I said the following in my circular for this year. I quote:—

I believe it will pay all who keep 40 or 50 colonies of bees to own a press and make their own foundation, inasmuch as the transportation on that on wires in made-up frames is high, and the press makes the very best we have ever seen for both departments, besides making it in wired frames.

I have no doubt of the perfect adaptability of made-up fdn., pressed on to wired frames by hand, after looking over my colonies this spring. I have a number of combs (say 300) drawn from hand-pressing, and *all* is in good and perfect order. I really believe it will pay those who have no press, and not colonies enough to warrant the purchase of one, to buy their frames in the flat, wire on the spool, and fdn. made up, and make up and wire their frames, and press on their fdn. by hand. It is not so formidable a job as it seems to be.

I paid girls $\frac{1}{2}$ cent per frame, and they hand-pressed the wires into the fdn. with the end of a nail, pressing it into every cell the wire ran over, one by one, and made wages.

Will you do us the favor to detail your latest approved method of hand-pressing on fdn. in this May No. of GLEANINGS, for I think I am away behind in that matter?

I had always supposed that the Given fdn. was the *least* "brittle" of all. I know of no better style of fdn. for hand-pressing on to wires than the Given. The bulky, soft, low side-wall makes it well adapted to that purpose.

To conclude, I really much prefer the press and its product to any of the roller mills, both for the ease with which I can run the sheets off, and the rapidity with which the bees use it. If I can't obviate the sticky troubles we are now having with the wired frames, without having to bother with half-nailed-up frames, or pulling off the bottom-bars, I shall put my sheets of Given fdn. on by hand, knowing, as I now do, that the operation is not complicated or expensive, but practicable in every point of view.

I am opposed to metal corners; and if you will use a regular half-inch end-bar (as given to us by Mr. Langstroth), and make it of whitewood, as all end-bars should be, you will find that one *3d* fine nail will hold a pull that will pull your bottom-piece in two in the middle, before it will give way.

Now, friend Novice, you are too old and experienced for us to excuse you for using any arrangement that allows the bees to glue the bottom-bars of the upper frames to the top-bars of the lower ones. The objection, that heavy end-bars take up too much room, is "straining at a gnat and swallowing a camel." I am one who cares not for early

and late breeding, and many other supposed adjuncts to this pursuit, but do enjoy bees free from chol—dys—diarrhoea, and seasons in which the nectar flows lively. I am much interested in the "fresh-air" ideas. I can and will add something in favor of the fresh-air theory, by and by.

Dowagiac, Mich., April 5, 1882.

P. S.—Please explain to us why you think hand-pressed fdn. will stick to the wires better during transit, than those put on with the Given press.

Thanks, friend H., for the determination you show in helping to work out this important matter now before the world of beekeepers; and thanks, too, for the very beautiful specimens you have sent, of thin fdn. made on the press. If you will excuse, however, I think the samples I send you are a little thinner in the base, and they are made on a \$30 nine-inch mill too. Very likely, a wall so heavy that 8 feet will weigh a pound will be better than that thinner. We can make either the light or heavy wall on the same roll or press, either, and I can not well see why the product of the one should differ very materially from that of the other, providing the embossing is the same on each. Very likely, the deep cells may never be found desirable for general use; but we need more experiments in the matter. I presume the greater first cost per square foot would stand much in the way.

I have given in the supplement, issued April 15th, our method of putting fdn. into wired frames. We pay the little girls half a cent apiece for putting in the wires, and it is worth about half as much for putting the sheets of fdn. in, and doing it nicely. The greatest reason why I think the fdn. would stay better put in by hand, is because we catch the edges of the sheet of wax on the sides of the frame, with the fingers. This same thing may be done with the press yet, and I hope it will. We can do it nicely with the rubber plates, and have the melted wax catch right on to the wood of the frame, only said melted wax will get on the wood-work in too great a quantity, and the trouble of getting it off takes more time than the hand method. If just enough wax could be poured on the plate *evenly*, and no more, the rubber plates would be ahead of all. In regard to the metal corners, about $\frac{1}{4}$ of all the frames we now sell are metal-cornered, and we often have single orders for 10,000 of the corners alone. Two machines are now at work constantly, with a capacity of about 5000 a day, and we find it hard work to keep up.

I really wish, friend Heddon, you would explain to us A B C scholars how to keep the bees in a two-story hive from building between the upper and lower frames.

Now I wish to revert to a subject referred to on p. 140, March No. It is the little point that distinguishes the Dunham fdn. from all others. I mean, making a cell a little nearer round, or, rather, rounded at the corners, instead of the natural hexagonal shape. After deciding that fdn. made thus has a much greater strength, besides coming from the rolls much easier, and also giving a thin base with much less pressure, I directed Mr. Washburn to make a conical hollow punch, and strike over a pair of our

second-hand challenge rolls. The result was, that this mill at once made the nicest fdn. we have ever had; it came from the rolls the easiest, and it would make strips for comb honey, of the thinnest base of any thing that ever went out of our establishment. The reason of this latter is, that the wax flows, as it were, away from these rounded surfaces, in a way it could not get out of the way, of flat plates. Away back in the old volumes of GLEANINGS, if I am not mistaken, I suggested that if we could get some lead shot of the right size, and solder them to a plate, we should have just what we want for a plate for making fdn. Well, now it transpires that we are about to go back to this old idea. Have the rolls so struck that the surface looks not unlike shot. Roll them together with moderate pressure, and the spheres will flatten each other where they touch, and these faces thus made will be a perfect fit. These spheres let go of the wax, and put all surplus wax into the walls, as friend Heddon has so vehemently advised. Perhaps a dozen others have advised pretty strongly the same thing. It is simple enough, when we take a look at it, and the difficulties of making fdn. with deep cells, and a thin soap-bubble base, are very much lessened. Mrs. Dunham's mills always came pretty near this; and had she, in her application for a patent, claimed this point, it would seem there might have been some reason for claiming a new invention. As she has not made any claim on this, I will, if she will accept of it, give her \$100 for having partially developed this great improvement. Now, friend Heddon, if you will have your new die-books made on this plan, you will give the Given press a very great start; and if all makers of fdn. mills will use this hollow punch, they will save once going over the rolls, making the labor of making considerably less, and confer a lasting boon on all who use the rolls. So great is the improvement, in fact, that I would not use a mill of the old kind a day, if I could help it. Send it to the man who made it and have it punched over. The free samples we send you are of the improved kind, and they, when compared with any make of old fdn., will show at once the difference. Do not accept any fdn. mill, of any kind, of any maker, until he makes the corners of the cells rounded, in the way I have mentioned.

This fdn. is not only worked out by the bees quicker, but it will stay in the wired frames better for shipment, because those braced side-walls support it. I might add, that, to have fdn. stay well for long shipments, the sheets should be of pretty good thickness, say 5 feet to the pound. With these new mills, the rolls never need adjusting differently, only as they wear; for the bases of the cells are thin any way, and if the dipped sheets are made thicker, it gives

a heavier fdn. by putting the extra wax into the walls, so the mills are always ready to make either thick or thin fdn., according to the width and thickness of the sheets of wax that are put through them. By using dipping sheets of the width of your section boxes, and dipping once in wax pretty warm, you can get fdn. 10 or 12 feet to the pound with very little trouble; but still, as friend Heddon suggests, I am inclined to think fdn., even for starters, is more profitable with enough wax in the walls to make it weigh about 8 square feet to the pound.

STERILE EGGS.

TRANSLATED FROM THE "BIENEN-ZUCHTER," BY
W. P. ROOT.

MR. MEYER, of Dietingen, Lorraine, writes: "Last year I observed a curious fact in my apiary. A young queen laid a mass of eggs that never hatched. What do you think of this fact?"

The queen in question had laid sterile eggs. Happily, such cases are very rare. It has been observed among queens which, after their first laying, produced only such eggs, and also among those that have passed through a sufficiently long period of fecundity, sterile eggs have been produced to the end of life. This fact is attributed to an organic defect in the ovaries of the queen.

Very learned naturalists, such as Messrs. Siebold, Claus, and Dr. Leuekart, have furnished the solution to this question. They dissected some queens thus defective, and proved that their oviducts had suffered an alteration, and that a fatty substance had formed in the elements, known to science as vitellogenous cells.

It was at first believed that sterility of the eggs is one cause of non-fecundation, as this has taken place among other insects, and even among fowls when they have not been fecundated. But it has been sufficiently proved that a young unfertilized queen commences, at the end of 40 or 50 days, to lay eggs which develop perfectly into larvae, nymphs, and drones. It is to the celebrated apiculturist Dzierzon that we are indebted for this important discovery, called parthenogenesis. It has likewise been demonstrated, that a queen from which the vitalizing fluid has been exhausted after three or four years of fertility, has continued to lay eggs which produced drones.

One may easily believe, that a colony having a queen laying sterile eggs is on the rapid road to ruin. Also in straw hives the bees have perished in like manner, without their owners being able to account for the cause which led to their ruin. What a priceless advantage over such a state of things does the hive with movable frames afford us! Nothing there escapes the eye of the intelligent apiculturist. The habits of the queen, as well as her defects, can be easily controlled.

Our readers will recollect that such queens have been mentioned in our back volumes, several times. We have had perhaps half a dozen such, in the past ten years. After a few days, the eggs have a shriveled-up look, and in this way we detect the trouble before the colony runs down badly.

BEESWAX.

A FEW QUESTIONS PROPOUNDED IN REGARD TO IT.

ONE of our friends who "wants to know, you know," propounds the following, and we answer the best we know how:

Will you or some one of your contributors please write an article on beeswax, and answer the following questions? What is the wax product of the U. S. annually?

I can't give the figures, but I would suggest that about 100 tons a year is now used in making foundation.

For what is wax generally used?

Making foundation.

For what is wax principally used?

Making foundation.

Can wax be substituted by any other product or substance?

For almost every purpose, except making fdn., ceresin, or mineral wax, answers; but it will not answer at all for fdn.

What will be the commercial value of wax after scientific bee-keeping has reached its highest point?

This is a pretty hard question. If the demand continues to increase faster than the supply, it may go up indefinitely. If, however, our bee-men find they can produce wax at a profit, at 22 cts. per lb., even with advanced modes of managing bees, I suppose it will stay at about that price. I have for many years been repeatedly astonished to see wax hold its own, or even go down, while such a demand was constantly increasing for it, for the manufacture of fdn. It is now at this date, April 4th, steadily running up, in consequence of the many demands for it for foundation.

Can a progressive bee-keeper afford to sell his wax at 20 cents per lb.?

H. S. HACKMAN.

Peru, Ill., March 28, 1882.

No, I do not think he can. If he has fifty colonies, it seems to me he should have some sort of a fdn. machine, and work up the wax. If he is too busy with work that will pay better, it may be cheapest for him to sell his wax and buy fdn. But I am inclined to think he could make it more cheaply, if he cared to. Who will answer the above questions more definitely?

A "REVOLUTION" IN BEE CULTURE.

OR, AT LEAST, A "REVOLUTION" BEE-HIVE.

IN February number, in describing Mr. St. John's \$25.00 hive, you state that the old chaff-hive problem (how to get at lower story) is solved after a fashion. Now, let me solve it after another fashion, thusly (only it may not work with a chaff hive): Take a Simplicity hive, turn it bottom side up, and set on your super. Now set two posts in the ground, one on each side of the hive, and opposite each other, with an auger-hole in each, near the top. A pivot is to be fastened to each side of lower hive, in center, near the top, to turn in these auger-holes, so that, when you want to examine lower story all you have to do is to give your hive a "tilt," and up comes lower hive, down goes super; take off cover which was bottom-board, and — there you are!

The super, of course, would need to be fastened on, as would also cover and bottom-board; and the frames, by some ingenious device, would have to be made to *stay in their places* until wanted.

Now, I want to illustrate the beauties of this arrangement for comb honey. You can run it on the "Deane system," Doolittle's, or any other; you can combine side (end) storing with top, bottom, or any other kind of storing, with the least possible labor; for instance, arrange some sections at one end of the hive; and when they are ready to go on top, give your hive a quarter turn, and — presto! sections on top. Now put more sections on the side or end which was top; and when you take off the full sections, replace with empty ones, and give your hive another tilt; top is side, and side is top. "Wonderful is the ingenuity of man!" The bees might get cells a little crooked by this arrangement, but — friend Root, you tell the rest. R. TOUCHTON.

Santa Paula, Cal., March 14, 1882.

Well done, friend T. If you haven't given us something new, you have at least revived the old hobby of our friend J. M. Price, who published and illustrated his "reversible, and revolvable," bee-hive in the *A. B. J.*, perhaps 10 or 15 years ago. Can't we have it so as to put the empty sections in at one side, and keep turning it the same way, so as to take off the finished ones on the other, something on the plan of the modern fruit evaporators? You know Doolittle strongly favors getting the comb built at the sides of the frames, and then lifting them up on top to be filled. Surely it would be less trouble to simply give the whole hive a quarter turn. Well, the idea is here in black and white, for you all to work on.

A SUGAR FACTORY.

HOW SORGHUM SUGAR IS MADE,

IT may not be uninteresting to the readers of GLEANINGS to know that in the State of Ohio a successful sorghum-sugar factory is in operation, and making a really fine article of sugar and molasses, free from objectionable color or flavor, and actually to be classed with our fine-grade sugars. This is not theory, but fact. I helped to make the sugar myself. Just out of the village of Jefferson (½ mile west) is a large imposing structure, the big white letters upon its front, telling that it is the "Jefferson Sugar Works," Henry Taleott, proprietor. For years, two things have operated against making a sugar product of Amber cane: First, its own acidity; and second, the lime, which, while correcting the acidity, was about as destructive to the sugar crystals as was the acid. Then, nothing was found effective to remove the dark, objectionable color and flavor. These difficulties are now overcome by the Stuart process at this factory.

Briefly, I will tell you how sugar is made. The cane is first run through the great crusher, which extracts about 95 per cent of the juice. It is then run through a sieve, or cloth, to free it from pieces of stalks, and it is then put into the "heating-pan" and warmed up to about 185° when milk of lime is put in to correct the natural acidity of the juice. The lime is stirred in, and the pan subjected to just enough heat to bring it to a boil, when it is taken off the fire. The juice is then emptied into a "settling-

can;" then the sediment heavier than the juice falls to the bottom, and the clear juice is drawn from the top. This done, the juice looks somewhat dark, and will always be so if the lime is not next neutralized. The juice is then put into copper evaporators, and a mixture known as "solution B" is added. This is a formula of sulphur and water, generated into a gas, and then precipitated into water, making a mild form of sulphurous-acid gas, and having power both to bleach and destroy the lime. It gives the juice a clear straw color. The boiling is now "pushed." The faster it boils, the lighter will be the color of the sugar. When finishing off, the syrup is continually stirred, to prevent burning; and as the mass becomes thick it does not cook even, owing to its density, so that agitation is necessary. To tell exactly when it is cooked enough, requires great experience; it is, therefore, a matter of skill to know just when the syrup is finished. It weighs about 12 lbs. to the gallon, and as soon as it is removed from the pans it is placed in granulating tubs, where it remains for several weeks, the temperature of the room being kept at a uniform point of about 100°. It is now placed in the "centrifugal," the basket holding about 200 lbs. of "mush." This is then whirled at the rate of 1700 revolutions per minute, the molasses being completely drawn out through the wire meshes of the revolving cylinder. This gives a nice light-brown sugar in paying quantities, and a fair proportion of excellent syrup. The returns of an acre of good land are far greater than if put into wheat. This was the first season, and a very poor one at that. More and better machinery will be added another season, to save labor. We can soon get the pure cane sugar for feeding our bees. Inclosed I send you a sample of amber-cane sugar, made by *this* the Stuart process. H. A. SIMON.

Lordstown, Trumbull Co., O., April, 1882.

Very many thanks, friend S., for the valuable facts you have furnished us. The sample of sugar you send us is far ahead of any we have had, and would, without question, command a ready sale anywhere. With the additional experience we have had with the amber cane, we can say that it is very easy to raise. In fact, it self-sows on our ground, so as to be quite a troublesome weed, if the ground is not frequently cultivated. Your article will doubtless call forth a "power of questions;" but I presume our friend Talcott is prepared to answer them.

CHAPMAN'S BAR - PIERCER, AGAIN.

EFFICIENT TOOLS FOR WIRING FRAMES WANTED.

I HAVE made a good strong piercer from the description in GLEANINGS for October last (p. 480), which pierces half-inch bottom and top bars as fast as the stuff can be handled, and I am not a mechanic either. While trying to work it out I thought the description needed to be amended in several particulars, and I see by the April No. of GLEANINGS, just at hand, that E. T. Flanagan confesses he was not equal to the job, without a model, and had to order a machine from the inventor. I first made a little one, using the measurements as given, except as to the width of the bottom-board and levers, just to see how the machinery of the thing worked, and to find out what was required. As the description

said nothing about the thickness of the stuff, or the kind of wood, I used inch pine for my full-sized machine. It would do the work well enough, but would not last, because the stuff was too light, and the wood too soft; so No. 2 was a failure.

I then purposed getting hard-wood plank for the bottom, and dovetailing hard-wood uprights into its sides; but failing to get any wide enough, I made a frame of hard-wood scantling for a bottom-board, using coach-screws instead of mortises and tenons. Two carriage-bolts in each, fasten the uprights to the sides of this frame. Instead of a broad plank cut down to a handle for the upper lever, I used a piece of plank about 10 in. wide, lengthwise between the uprights, and across this is bolted a lever 4 ft. long.

The head-block is the most particular part to make. I selected the very largest-sized awls, and had to cull two stocks to get enough of the same size. The word *obtuse* second line from the bottom, p. 479, should be *acute*. The beds for the awls must be cut of even depth, and not quite deep enough to let the awls half way down. Instead of 8d nails I drove wire nails for the notches of the awls. These projecting ends are filed to a point. When the second piece is screwed on, these wire stops are imbedded at each end in a hard-maple block. No beds are cut in the second piece. The two pieces are fastened together by putting a quarter-inch carriage-bolt through each end, and one between every two awls. When screwed up, these two pieces come close together. There is no possibility of these awls either shoving up or drawing out. Any one who has to bore by hand 20,000 holes will save a sore wrist and probably a blistered hand by spending a day getting up such a machine, and save time, and do a better job besides. S. CORNELL.

Lindsay, Ont., Can., Mar. 6, 1882.

I fear, friend C., our readers will find it a little difficult to get this before them. If you will make a rude pencil sketch of your machine we will have it engraved for our next number. With the great demand there is now for wired frames, it behoves us to have something efficient for this laborious piercing. Can not some one offer a good machine for sale at a low price?

WINTERING BEES WITHOUT A QUEEN.

ALSO SOMETHING ABOUT FERTILE WORKERS, ETC.

THIS may do all right with Italians, but not with Holy-Land bees. I had one colony that I was going to try wintering without a queen. I examined them a few days ago, and found that the bees were not clustered close together like other bees, and had considerable larvæ queen-cells, and sealed drone-brood, and thousands of eggs laid by worker bees, and the bees had consumed twice the amount of honey that other colonies had. I united them with another colony. The Holy-Land bees will accept a queen quicker, if queenless, than any other bees I ever tried, even if the hive is full of laying workers, and such will be the case very soon after they are made queenless.

I had a nucleus last summer that had laying workers all the time that would commence laying just as soon as I would take out a queen, and keep it up until they would have a laying queen again, and I do

not now remember of having one queen-cell destroyed in those colonies. Did you ever notice this peculiarity in the Holy-Land bees?

TWO NUCLEI IN ONE HIVE.

There is one more experiment I tried last summer that proved successful, that does not agree with other authority. I put a division-board into a hive, making two apartments, but leaving it so that bees could pass from one to the other. I then put a nucleus colony into each department, and gave each one a queen-cell. Both queens hatched, and one queen commenced laying before the other did. I took her out and gave them a queen-cell again; after taking her out, the most of the bees went over in the other department, where the other queen was; but there would enough bees stay to take care of the brood and queen-cell; but after the second queen commenced laying, and was removed and given a queen-cell again, the bees would go back again; or, to make a long story short, in whichever department there would be a queen, especially a laying queen, there is where the most of the bees would be. I reared queens in that hive all summer, and do not think I had one queen-cell destroyed, or one queen killed. I. R. GOOD.

Nappance, Ind., Feb. 6, 1882.

I know the Holy-Lands and Cyprians behave differently, but I have never tried wintering a queenless stock of either. We have seldom had trouble in giving a colony with fertile workers either a queen or queen-cell. I have had two nuclei in one hive, exactly as you describe, with no division-board at all. Each one occupied three combs, and this left a space between them equal to four combs. They did very well until the honey-flow ceased, and then the robbers made trouble. Brood was kept in each side, of course, and they built queen-cells, and had the queens fertilized, both using one common entrance. Of course, the entrance was the whole width of the hive. Some strains of bees will mix thus peaceably, while others will not. If we could keep up one uninterrupted flow of honey, the season through, it would be quite possible to rear queens in this way. Perhaps the 100-acre honey-farm may do it, when worked up to perfection.

PARTHENO-GENESIS.

THE DZIERZON THEORY, AND QUEEN-BREEDING.

APRIL GLEANINGS contains a couple of articles of more than ordinary significance in their bearing on the development and perpetuation of the "coming bee." Partheno-genesis, literally, *beginning from a virgin*, is an accepted fact, not only among intelligent bee-keepers, but among scientific entomologists. It is not only characteristic of the honey-bee, but of several other tribes of insects, and seems to be a provision of nature against their utter extinction. The study of it may well prompt the exclamation, "Great and marvelous are thy works, Lord God almighty." It was long ago observed, "An undevout astronomer is mad," and the same may be said of an undevout bee-keeper. Nowhere in nature have I seen such manifest traces of a divine hand, or felt such an impulse to adore

the Infinite Wisdom, as in the wonderful economy of the bee-hive.

The Dzierzon theory, as I understand it, is distinct from that of partheno-genesis, though to a certain extent dependent on it. Partheno-genesis is the ability of a virgin queen to produce, unaided by the male, a drone progeny capable of begetting worker bees. The Dzierzon theory maintains that the drone progeny of a queen conforms perfectly to the nature of the mother, even after her impregnation by a male belonging to another race of bees.

Mr. J. E. Pond, Jr., in an article on p. 185 of April GLEANINGS, calls this theory in question, and, I think, with good reason. In another article, p. 187 of the same number, he says it is not the Dzierzon theory he doubts, but a deduction from it. Is he not confounding partheno-genesis with the Dzierzon theory? What he questions is not, it seems to me, a deduction from the Dzierzon theory, but the theory itself, the essence of which, I take it, is that drone nature follows, with absolute identity, that of the queen mother.

The question, whether this is really so, is one of great importance to bee-keepers, and I think Mr. Pond's arguments from analogy go a long way toward disproving it. There is no denying the facts he cites from other departments of animated nature. Successive colts bear the impress of the horse that first impregnated a mare. Physiologists have shown that this law operates even in regard to the human race. If we can trace it all the way down from man to the poultry tribes, is it not reasonable to suppose that it extends to bees? It will perhaps be said, that partheno-genesis is peculiar to the bees, and may counteract the law under consideration. It *may*, and then again *may not*. "Who shall decide when doctors disagree?" The prepotency of a stallion or bull is limited to one pregnancy, yet it affects the nature of the female for a long time, and, perhaps, ever afterward. The prepotency of a drone lasts during the lifetime of a queen, as the result of a single impregnation. Might we not expect that so powerful and lasting an influence would affect the whole nature of the queen to a much greater extent? All this, I know, is reasoning from analogy, but that is good reasoning, and amounts at least to high probability. It is strengthened by the fact, that in every neighborhood where there are black bees, there is a constant tendency to admixture of blood, rendering frequent purchases of queens necessary from large apiaries, in which the Italians are kept in such numbers as to heighten the probability of pure mating.

If we are ever to have a fixed strain of bees that shall, with absolute certainty, possess the qualities we want to perpetuate in our honey-gatherers, we must in some way control fertilization. It is thus that the qualities have become fixed in the various breeds of horses, cattle, sheep, hogs, and fowls. Until we find some way of securing fertilization of queens by particular drones, we can not breed "points," except by the isolation of selected colonies.

HOW FAR BEES CAN FLY.

It is here that the other highly significant article in April GLEANINGS comes in. I refer to that by Mr. March, p. 181. You call it a "climber this time." I think it is. The whole bee-keeping fraternity owe Mr. M. thanks for the persistent investigation he made, and for the interesting account he has given

of it. You receive the narrative "*cum grano salis*" (with a grain of salt), as the saying is. It appears to me a very small grain of consolation, that the bees will "go further over the water than over hills and forests." After these bees had gone $5\frac{1}{2}$ miles over a sheet of water, they stretched their flight two miles on land. I would be inclined to think they might go further over land than over water. As forage became scant in a given locality, they would naturally wander a longer distance, and even a pedestrian, adding a mile daily to his walk, will go an astonishing distance in a day. For myself, I give it up. I don't know "how far bees fly for honey" or for mating. They may, for all I know, take an occasional holiday trip, like human beings, a long way from home. When I first got the Italians I had no reason to believe that any one else had them within a distance of 50 miles. How far I found traces of them, I do not like to tell. Perhaps I may venture, after Mr. March has taken another tour of observation. Certainly I feel very like Cowper about Johnny Gilpin—

"When he next doth ride abroad,
May I be there to see!"

My belief is, that to get the "coming bee" with fixed points of highest excellence, we must have a queen-breeding establishment in some absolutely isolated locality, far from all possibility of inferior admixture. Mr. Jones has struck out the right idea, but there are serious difficulties in the way of success. It is too costly an enterprise by far. The transport of bees 100 miles back and forth, expressage of supplies, and expense of attendance, foot up an enormous bill in the course of the season. So far, money has been sunk in the enterprise. Very few will be willing to pay the prices that must be charged to make such an undertaking pay. It would be well if a more genial clime could be found where bees can stay all the year round. Is there no spot in the "Great American Desert," with an oasis in it, where a secluded queen-bee nursery could be established? The enterprise is big enough, almost, to demand that the government should take hold of it. If we could once get the bee we want, with length enough of tongue to gather the red-clover stores, there would be an enormous addition to the national wealth. There is not much likelihood, I suppose, that the government will be wise and patriotic enough to embark in such an undertaking. It seems to me, however, that a company might be formed. If the shares were put low enough every intelligent bee-keeper on the North American continent would take stock in it. The experiment is well worth trying; and I hope there will yet be forthcoming, men of brains and means, with pluck and faith enough to set it going. Wm. F. CLARKE.

Listowel, Can., April 8, 1882.

Many thanks, friend Clarke, for the encouragement you have given us, if nothing more. Truly, we have a great field before us, and there is room enough for us all to labor, and even write our peculiar ideas, on partheno-genesis, and the Dzierzon theory, without any clashing or hard feelings. I thank you, too, for pointing out the difference between partheno-genesis and the Dzierzon theory, in a way that I should say is correct, although I am hardly capable of judging, without going back and studying the matter up, in a way I have hardly time to do now. Who among us can tell where we shall find that island, 50 miles from shore?

THE LANGSTROTH FRAME FOR WINTERING.

ONE WAY OF USING.

IN February GLEANINGS, Mr. D. A. McCord gives an instance of losing a large colony where all the frames were left in the lower story full of honey, and seven frames above, where they clustered and starved. I have experimented some in this direction, and have lost colonies under similar conditions. But when I removed one-half of the frames from the lower story, and placed them above the lower ones in the center of the hive, and covered top and sides with pieces of carpet, I never lost one, and I believe it is one of the best ways of wintering. They are surrounded on two sides and top by a covering that will keep out the cold, yet let in plenty of fresh air, and allow all moisture to escape; thus insuring good ventilation and dryness, which, with plenty of good feed, are without doubt the conditions most essential. It is adapted to either large or small colonies. If the colony is small they will locate in the upper frames, which will contain food enough for them; if large, they will extend down into the lower frames and have access to the stores below as well as above, with the best of winter passages. It has the advantage of confining the colony to a few frames, without the disadvantage of removing all but 5 or 6 frames and confining the colony upon them alone; for it is hard to tell the exact size of a colony early in the fall, and to know how many frames they will occupy, and how much honey they will consume, especially when the frames are not all well filled; and it frequently happens that the largest colonies are lost from starvation by being confined on too few combs to contain sufficient food. Or when the frames are not well filled, which is usually the case, especially when breeding has been kept up till late in the fall, we have to give too many frames to give sufficient food, which leaves too much lateral space to keep warm. By placing the heaviest combs above, the bees will cluster in the center and have access to the honey below in moderate weather, and to that above in cold weather, if a large colony. A small colony will find sufficient stores above, without any lateral space to chill them.

I use two pieces of carpet, and let them lap on top of the frames, for convenience of examination, and extend to the bottom of the hive. The spaces between the carpet and sides of hive may be filled with dry leaves or chaff or cushions, but I have found two thicknesses of carpet sufficient for the coldest weather.

THADDEUS SMITH.

Pelee Island, Ont., Can., April, 1882.

Pretty well done, friend S. You have revived an old idea, and presented it so well that I really feel like trying some strong colonies in that way next winter. We can dispense with the fill devices and winter passages, and who knows but that we may do the same with chaff cushions. The plan will also come in favor with those who have been insisting so strongly on the importance of bottom ventilation. It just now occurs to me that I paid one of our friends a dollar for the idea, several years ago, but never used it, and I am not really sure I ever published it before. May be the idea well worked out will enable us to winter safely in the two-story Simplicity hive.

Heads of Grain, From Different Fields.

AN A B C SCHOLAR'S REPORT, AND WHAT HE THINKS
OF FDN.

I BOUGHT 3 queens of you last season, but let my son-in-law have one of them. Now, it is admitted by all who have seen them, that one colony is the finest Italians they ever saw. I got one colony from the 2 lbs. of bees, and they have wintered finely. I took no honey from them, but fed the young colony some, as there was nothing but "dust" to make honey of here after they came. They were well packed in chaff during the winter with chaff cushions on top of frames, and one foot nearly all around the hives, and young bees are making their appearance in plenty, and yesterday they were bringing in pollen, and I doubt if there has been more than two dozen dead bees seen from each hive. The same may be said of my son-in-law's; he has 3 colonies. I tried to utilize comb filled with honey from my dead bees last year, but shall use no old combs again; they make crooked combs of it. I shall use foundation.

V. TOURGEZ.

Kingsville, Ashtabula Co., O., April 3, 1882.

GUM-TREES.

In answer to A. S. Davison, page 85, Feb. GLEANINGS, I will say that we have two species of gum-trees that grow and seem to be at home here. The sweet gum, which yields no honey, if I am correct, and black gum, which does yield honey; and for color, I will place it upon the same step with clover; but for taste, I would put it away below the foot. Of this honey I wrote on page 124, GLEANINGS for 1880. The honey has a very bitter, pungent taste; in fact, to me it is a sickening taste, for its presence in the apiary can be detected by the (to me) disagreeable odor, even at a distance. Its time of blooming is between fruit and clover, being a very useful thing at that time. It does not yield honey every year—probably one year in three it will yield a good crop. The sweet gum exudes a kind of glue that bees gather for propolis. Any information in my power will be given by request on this or any other subject.

T. J. COOK.

Newpoint, Ind., April 8, 1882.

QUEENS GOING VISITING.

I must tell you of a freak of one of my queens. She is a young Italian, raised last year; colony not very strong. Well, on looking them over I found a queen-cell sealed over. I thought my queen was gone, sure; but I soon found her on another comb, with a circle of eggs about 5 inches in diameter, 4 or 5 in a cell, some brood sealed, and some just ready to seal; no very young brood. She looked as if she had been visiting, and just got back. I left the cell, and they kept it two days afterward, then tore it down. They are all right now. Can you explain it? I can't.

H. C. JOHNSON.

Reesville, O., April 8, 1882.

The question was discussed some time ago as to whether queens ever go visiting and come back again; and although instances were given where it seemed they were gone long enough for the bees to start queen-cells, and then they came back and began to lay again,

I can not think they were really out of the hive. Sometimes a queen in a very weak colony, in the spring, will leave the hive in disgust; and after she comes back she will go to another part of the hive and desert the brood already under way. Well, the bees will often start queen-cells on this little patch of brood, and she may then, in a day or two, conclude to come back to it with her few loyal subjects, and this would give about the state of affairs you witnessed.—The four or five eggs in a cell is the result of too few bees, and hence, too small a field for the queen's labors.

MY PLAN OF FEEDING BEES.

I have been trying for a long time to devise a plan to fill combs with syrups, but have never succeeded until recently. Then I exclaimed, "Eureka!" Take a common fruit-can that has become unfit for putting fruit in. Take a small awl (the small end of a hand-saw file will do) and punch the bottom full of holes about ½-inch apart. Now get a pan large enough to admit of laying the comb down flat inside of it, to save any syrup that may be spilled or run over the tops of the cells. Hold your can over the comb and pour syrup into it, which will run through the small holes in the bottom of the can in small streams. Hold your can about a foot above the comb, and keep moving it backward and forward over the comb and you will soon fill it full. I have frequently put in from a quart to three pints of syrup in a single comb in Langstroth frame. After your comb is filled, open your hive and put in your combs at the sides of the brood-nest, and watch the little fellows "go for it." Don't have your honey or syrup too thick. The streams falling into cells drive the air out, and fill them full. Any one with a little practice can fill a comb almost entirely full. It will not hurt the combs any. Try it. When you have filled one side, turn it over and fill the other. The syrups will not run out. After it is full, stand it on its edge in the pan, and let it drip before you put it into the hive.

WM. LITTLE.

Marissa, St. Clair Co., Ill., March 7, 1882.

Your plan of feeding, friend L., is very old. It was some years ago illustrated in the *American Agriculturist* by our old friend Quinby. If I am right, it has been dropped because of the daubing it necessitates, and the danger of inciting robbing. If you do it at a season when the bees are trying to rob, they will soon learn to literally cover every comb before you can get it out of your comb-bucket, and hang it in a hive. Doing the work by moonlight will answer nicely, if you are enterprising enough to work all day and moonlight evenings too.

ANSWERS TO PRAYER, ETC.

In Our Homes for February, I see you have been instrumental in stopping quite a lawsuit through the efficacy of prayer. As this is a matter of dollars and cents to the parties concerned, I would suggest that you widen the field of your usefulness, and offer up business petitions to the Deity. Ask him to reveal unto you the secret of wintering bees without loss, especially your own, and then sell the recipe. Ask about the origin of foul brood, the true cause of dysentery. Find out whether bacteria is to be feared, and don't forget the "pollen theory."

We need a little inspiration just now to help us out, and we look imploringly to you for help.

Holly, Mich., Feb. 10, 1882.

S. D. MOSHER.

Friend M., have you not overlooked the fact that God grants our requests only when it will be for our own good? I hope and trust I am widening my field of usefulness day by day, but I am by no means sure it would result in permanent good to have the bees of careless bee-keepers (like myself) saved from the wintering maladies. We are asking God to help us to understand the mysteries connected with foul brood and the like, and the answer is coming through the voices and writings of many people. Again, you speak of my selling the "secret," after God has given it me in answer to prayer. One of the most emphatic injunctions of the Bible is, "Give, and it shall be given unto you." Some of you have laughed at me for giving away things so freely, and because I have no patents, and trust humanity; but were you here to-day it seems to me you could not help saying God has given me back "good measure, pressed down, shaken together, and running over."

SHEPARD'S SWARMING-BOX, ETC.

I have sold 100 colonies to G. W. Stanley, Wyoming, N. Y.; will have 30 or 40 left, if they don't die this spring. That my sight is failing me some, is one reason of my selling. If I were young, and wanted a business, I should not look for any thing better. I see a Mr. Jones has been *improving* our hiver. I should consider that he had spoiled it, at least for my use. It is always unfortunate, friend Root, when any one attempts to instruct other people about something he does not quite understand himself. If plenty of holes are bored in the box, the bees will get in fast enough. I always leave one end open, so that the bees can be easily shaken out. When I get them to the hive I always keep 5 or 6 ready for use on boxes of different lengths. I have had them all full at one time, and all the swarms taken from one limb of the tree.

Cochran, Pa., Feb. 20, 1882. N. N. SHEPARD.

Gently, friend S. I should not have published the "improvement" had not quite a number of others suggested the same thing, and I thought I might answer all at once. The difficulty seems to be that so many will have it that bees must be carried like water, in a pail right side up, while just the contrary is true. I have often carried bees in a basket, but I did it by keeping the basket always upside down. If I had turned it over in the usual way, they would have crawled up the handles, or flown away. By the way, why would not a 5-cent basket tied to a pole be just about as good as any swarming-box? The corn-popper recently suggested by one of our lady friends will probably soon be tested pretty well.

BEEES AND — SUNDAYS.

Please don't be offended with me if I ask you one or two questions. The queen you sent me last spring was a very nice one. I made 7 swarms of Italians and hybrids. I went into winter with only 11 swarms; they are all to-day, strong and lively. I have not, to my knowledge, lost an ounce of bees this winter; but as you admonish people to delight in "God's law" (page 204, April), I wanted to ask

you if you keep it. Is it your delight to remember the Sabbath day to keep it holy? or do you keep the pagan Sunday, and so dishonor both the Bible and the God of Israel? Yours in hope of the truth,—

Alden, N. Y., April 6, 1882.

J. C. CLARK.

I trust, friend C., that my delight is in the spirit of God's law, rather than the letter. One of the saddest sights of the present age, to me, is to see Christians wasting time over such (as it seems to me) unimportant matters; crippling their powers to do good, as it were, while a great nation of people are not only almost ignoring *any* Sabbath day, but on that very day they take God's name in vain, drink, gamble, and commit crime, and yet we Christians let it all go by, for fear we are keeping the wrong day for Sunday! When Jesus was on earth he went into the synagogues and taught on the Sabbath; and the burden of his teaching was to have men repent of their *sins*; and it seems to me, friend C., that if Jesus should come among us now, he would join in with the customs of the people in *such matters* just as he did then.

SEEDS; HOW TO BE SURE YOU SEND OUT GOOD ONES.

Our friends will remember we sent out some bad rape seed last season. Well, we told our enterprising seedsman, A. C. Kendel, about it, and this is the way they do with their seeds before offering them for sale.

The bag of rape seed we send you germinated 49 from 50. I have set aside 5 bags growing 45 to 50 from 50, first count.

A. C. KENDEL.

Cleveland, Ohio, April 4, 1882.

You see, they count out exactly 50 seeds, and put them in the hot-house. After the plants are up they are counted, and thus we know just what the seed *will* do with good care.

DIVISION-BOARDS; AN EASY WAY OF MAKING.

I send to-day one of the cushions at your request. The band, or tape, of this cushion might have been one thickness more, to make it fit snugly. Some prefer to pack, which can be done with any coarse material, without covering the back, the tins being ample to keep it in. I don't tack the tape, or band, to the frame as this is, but just hold it on the frame in place, and slip it in the hive.

C. H. BEELER.

Philadelphia, Pa., March 14, 1882.

Thanks, friend B. The division-board referred to is made of a common wide frame with the sections removed. The tin separators cover one side, and thin wood is tacked on the other. The principal feature now comes in here. To make the frame fill the hive and stay in place, a strip of burlap, long enough to pass over bottom-bar and ends, is folded until it gives the requisite thickness. Counting the time required, this latter plan is probably cheaper than the chaff filling we have used; but rough frames of lath can be made much cheaper than a good wide frame to hold sections. Where one wishes to get along with much economy, they can, without doubt, use the frames that hold sections in summer, for a division-board in winter; but the labor of taking off the sides and taking out the chaff, etc., will hardly pay, it seems to me, for general use.

REARING ITALIAN QUEENS IN HIVES CONTAINING OLD BLACK QUEENS.

Last July I placed a queen-cell in a hive in which there was a laying queen that was old. The young queen came out all right, and superseded the old one. The cell was placed in the corner of a frame outside of the brood-nest, and the bees were gathering a surplus at the time. The same experiment was tried on another hive in September, with a like result. The old queens were blacks, and the young ones Italians.

J. M. BEATTY.

Shaw's Landing, Pa., April 14, 1882.

Why, friend B., I feel ashamed of myself to think I have never thought of what you suggest before. We have, for some time back, been learning that hives often contain an old queen and a young one at the same time, and I have, too, mentioned cases where queen-cells had been given nuclei, supposing their queen was lost, and it transpired that both were in the hive when the first queen began to lay. Now you have gone and capped the climax, by showing us how we can Italianize without having a hive queenless a single day, and without even being obliged to hunt up the old queen. The great drawback is, that we don't always know how old our black queens are, and that, unless they are old, the bees would probably destroy the queen-cell, or the young queen after she is hatched. You may remember I have mentioned letting queens from the lamp nursery into hives containing queens. Sometimes they tolerated them several days, but I always took the old queen out after they were well received. Such experiments succeed better with either pure blacks or Italians. Hybrids are not much given to accepting strange queens or queen-cells.

DRONE BROOD RESULTING FROM INJURY TO THE QUEEN.

Last fall I bought of a neighbor a Cyprian queen, which had mated with an Italian drone, and she produced some large, fine, marked bees. When I looked at them in March, there was some worker brood capped over, with some four or five drones, in worker cells, raised and capped. After that, all of her progeny were drones. On examination, I found the second ring of the abdomen, on the left, indented. Could that have been the cause of her producing nothing but drones? It was a mystery to me until I saw the secret which I believe to be the cause of it. But, why should it cause her to lay all drone and no worker eggs? Would it keep the sperm from coming in contact with the egg as it passes out? If so, then all eggs must be drone eggs until they come in contact with the sperm. I leave it with scientists to solve, if there is any mystery about it.

Bees are in good condition, and breeding up nicely. Fruit-trees are in full bloom, and bees are busy gathering the nectar.

GEO. W. FORMAN.

Ripley, Brown Co., O., April 6, 1882.

You are probably correct in your deductions, friend F.; for, if I remember rightly, we have several cases on record where queens laid only drone eggs after injury from careless caging, or something of that sort. It seems a little difficult to account for the injury you mention, unless it was done by careless handling of the combs, and you speak as if it happened in the winter,

when the hive was not opened. All eggs are drone eggs, I believe, until the queen has been fertilized.

ARE FREQUENT IMPORTATIONS NEEDED?

I am satisfied, from what experience I have had with bees, that, if we wish to keep up our stock to a proper standard, we must keep adding pure blood. They will do very well to about the third generation, and then we had better stop and get a pure imported queen. We will get more or less black blood, and whenever we begin to cross these hybrids with each other we have the most worthless set of bees that can be gotten up. Cross pure drones with pure black queens, for one cross seems to improve them; but mate a black drone with a pure Italian queen, and we make them worse at the start; and the longer they are crossed, the worse they get.

M. YOUNG.

Loveland, O., April, 1882.

Although there may be truth in what you say, friend Y., I can not help thinking you put it almost too strongly. I would advise having an imported queen to rear from, about once in four or five years, and I have never been able to see any difference in the working qualities of hybrids produced by either of the methods you mention.

STARTING WITH ONE COLONY.

Bees have wintered splendidly here this winter. Mine have not consumed over 10 lbs. of honey per colony. I commenced the spring of 1881 with one very weak colony of bees; increased to three strong ones, and got but very little surplus honey, on account of dry weather in the fall. I bought three colonies of blacks this spring, so I will commence the season with 6 good colonies—3 Italians and 3 blacks. I shall Italianize the blacks, and run three for comb honey, and three for increase. I forgot to say, those dollar queens I got from you proved purely mated; one of them (the first I got the 14th of May, 1881) produces the nicest yellow three-banded bees I have seen anywhere.

JOHN R. CROOKS.

Keith's, O., April 1, 1882.

The winter of 1880-'81 was a most disastrous one for bees in this section of country. I think the loss must have been fully 80 per cent. Very many lost all of their bees. I was one of the lucky ones. I went into winter quarters in October, 1880, with 11 colonies—9 blacks, 1 Italian, and 1 weak hybrid. To prepare them for winter, I went through each hive, weighed the frames, and cut winter passages through the combs. I then packed them on their summer stands with oat chaff between the frames and body of the hive (I use the closed-end Quinby frame), put a thin cloth over the frames, and put on a chaff cushion about 5 inches thick. My bees came through all right, excepting the hybrid; that died in February. I had fed them unsealed honey in the fall, and think it caused their death. The honey season of 1880 was very poor here, my 11 colonies giving me but about 50 lbs. surplus. I never saw bees build up so rapidly as they did last spring. Long before I expected it they were storing honey very fast. But, from what I afterward learned, I suspect they did not get it all honestly. Several of my neighbors, who had lost their bees, neglected to secure what honey the bees left in the hives, and before they were aware of it their honey was gone, and very likely my bees and my neighbors' bees made use of it. I commenced

the season of '81 with 10 colonies. They commenced swarming June 4th; ended July 10th. July 2 I took off first sections. Got no fall honey, on account of the drought. Have taken 1012 lbs. of honey, 896 in sections, and 116 extracted, and increased to 23 colonies, with which number I went into winter quarters last fall.

THOS. DECKER.

Otsdawa, N. Y., April 10, 1882.

TRANSFERRING; HOW AND WHEN.

My business in the spring of the year is selling hives and transferring bees for my neighbors, and many at a distance; and as I transfer from all sorts of hives and boxes to the Langstroth hive, I have had considerable experience. I transfer from the middle of April until swarming time; but the best time is in fruit-bloom. My method is to puff a little smoke in the entrance of the old hive; invert, and carry to some old house or shade-tree, placing a box where the hive stood, to catch returning bees; then with a cold chisel about three feet long, and a saw, I remove two sides of the box. I don't drum the bees out unless the swarm is very strong, but commence to cut out the combs, placing them in pans; and as you commence cutting out the combs, smoking the bees a little occasionally. They will crawl to the opposite side of the hive, and oftentimes they will cluster on the outside, out of the way. There I let them remain for a time while cutting out combs; and if any young bees remain on them, I brush them off into the new hive, which I have close by. They will not fly out, but stay there. After this is done I commence to fit the combs into the frames, taking nothing but nice straight worker comb; but *now* how are we going to fasten these nice white heavy combs, filled with honey, in hot weather? I have tried tin clasps, wire, cord, and, in fact, almost every thing I "ever heard tell of." But nothing gave satisfaction, for oftentimes when I went to examine them, what would I find? Well, some of the heavy combs had fallen down, and packed bees and honey into one side of the hive. Bro. Root, I tell you I did not feel good on such occasions. At last I concluded something had to be done to keep the combs where I put them; and now I think I have that part about to perfection. Instead of using tin, wire, yarn, etc., I use little sticks $\frac{1}{4}$ inch square (or about that), reaching from the upper edge of the top-bar to the bottom of hive; place from 3 to 6 sticks between every frame of comb (or as many as are necessary), letting them rest on the bottom of hive. If there are not combs enough to fill hive, fill with fan; by this method it is impossible for combs to fall down. After the hive is filled I shake the remaining bees right on top, or in front, and let them crawl in and carry to old stand. Always remove the sticks as soon as the combs are built fast.

Mr. Root, perhaps this is not new to you, but I never saw it in print. When robbers are troublesome I transfer in a cage; and after placing the hive on the stand I cover it with a large sheet of muslin for about half an hour, when all is well, generally. Speed in transferring is necessary in all cases.

H. A. SIMON.

Lordstown, Trumbull Co., O., April, 1882.

If you will look in our price list, friend S., you will see that we illustrate clasps, sticks, and wires. Your idea, of having the sticks long enough to rest on the bottom-board, is somewhat new; and as I read it, the idea occurred to me that they might be made to

stay in place by simply wedging the whole of the frames until they are kept in place.

Here I come again, with something to tell this time. I had a drone-laying queen; sent her to Dr. Armstrong, Flemingsburg, Ky., so as to give two chances to test and solve that mooted question, whether or not such drones can fertilize a queen. I had a queen hatched March 25th, and on the 8th of this month she was laying splendidly, and I know, beyond a doubt, that there was not a drone from any other queen. Now, if a large amount of royal jelly is essential in the production of good queens, the two I have are not good, because they seemed to be raised without any, as I could see the larvæ plainly just before sealing.

M. L. WILLIAMS.

Vanceburg, Ky., April 12, 1882.

I agree with you, friend W., that the facts go pretty strongly to show, of late, that these drones are as good as any; but still, I do not feel it is quite proven beyond a question.

A "PECK" OF BEES.

That little magnetic tack-hammer is a wonder for ten cents. I can pick up tacks, and drive them faster now than I could pick them up before. My bees that swarmed the 7th of March have built 8 combs, and have something in nearly every cell. Is a peck any thing extra for a swarm of blacks? I now have two colonies of Italians and 10 of blacks; am a little less than a year old in bee culture, and want to wake up myself and this part of Arkansas pretty soon.

A. R. NISBET.

Dobyville, Clark Co., Ark., April, 1882.

As a quart of bees averages about a pound, your peck would be about 8 lbs., and that is rather above average *good* swarms, friend N.

WANT OF WATER FOR BEES.

Bees have wintered well in this vicinity, and were doing well up to the 9th of April; had commenced to work on soft maple, when a polar wave came from the north, the thermometer going 11 degrees below freezing, and is cold and freezing yet. Bees died off rapidly for want of water, flying out for some when too cold to return. First natural pollen, March 29, from aspen-tree. Fruit-bloom is partly killed by frost; also maple.

SAMUEL HEATH.

Reimer, Armstrong Co., Pa., April 17, 1882.

There it is again, friend H. It was want of water, as you say, and I begin to think it has been want of water all along. Heddon says it's pollen, but I say — beg pardon, suggest, that the want of water is what has killed all our bees except, if you please, those of our friends down South. It wasn't quite want of water that ailed the bees there for a few weeks past. It has turned off warm now (April 18), and the sap has dried up, so I filled their jars with water, and they take the water just about as well as they did the sap.

CYPRIONS.

My Cyprians are bringing in pollen and honey with tremendous energy. The peach-blossoms are alive with them. They have been visited but once by robbers (blacks). It was laughable to see them go for the robbers, which they vanquished in a very short time. I saw one catch a robber on the wing, six inches from the front of the hive. Hurrah for the Cyprians!

C. S. CALLHAN.

Jem, Mo., April 5, 1882.

THE GIVEN PRESS, ONCE MORE.

I tried making *fdn.* last Saturday, and I find it is more difficult to fill L. frames, and do a nice job, than to fill the short L. frames that I use. If you use No. 30 wire, you will have to have heavy sheets of wax or it will cut the wire; or if you take thin sheets of wax, such as you use for making thin *fdn.*, lay one sheet on the dies, then your wired frame, then another sheet on top, having the wires between the two sheets; press the two sheets together in that way, and it is not apt to cut the wires. The greatest difficulty I find is in keeping the wires stretched and straight after the tin bar is taken out, and then putting it back in again after the wax is pressed in. This is something I had no experience with, as I do not use them in my short L. frames. I. R. GOOD.

Nappanee, Ind., March 20, 1882.

It would seem from the above, that I was not so far out of the way after all, in deciding that the Given press is hardly yet perfected for filling full-sized L. frames with *fdn.* Of course, we can make the top-bar to the frame so heavy there will be little danger of its sagging, and then, by dispensing with the tin bar, get the frame pretty nearly filled. But there are two objections to this: First, top-bars nearly an inch in thickness will often sag considerably, under the weight of a great mass of honey. Secondly, such great top-bars are heavy to handle, and occupy space that might just as well be filled with brood and honey. The diagonal wires and the tin bar give us a frame that can not sag a particle, practically, although they are made of $\frac{1}{4}$ -inch pine all round. With our five-cent button-hook, and full-sized sheets, we get perfect sheets of comb clear up to the wood. No one has yet answered in regard to shipping frames of *fdn.* made on the Given press. Has any one received any safely, that had been shipped a long distance?

GOOD FOR AN A B C SCHOLAR.

I worked to some disadvantage, having too much farm work on hand; and it being impossible to get men at any price, my bees were neglected. A number of swarms having no room, left for the woods; so my report is not as good as it might have been. I took out of winter quarters 13 stands in very poor condition, not more than half-swarms, and from them I sold 1800 lbs. of extracted honey, and 100 lbs. comb in 1-pound sections — 19.0 lbs. in all, making an average of 146 lbs. per swarm, not counting what we used in the house daily, and increased to 30 colonies, which I think is a fair report considering their condition in the spring. Honey was gathered from white clover, basswood, and buckwheat — mostly from the latter. I sell honey at 10 to 11 cents per lb. I winter them in a bee-house built on top of the ground. H. E. CHRISTIE.

Oxford Mills, Ontario, Canada, March, 1882.

DOLLAR QUEENS.

The drift of much that is written is, pay more for your queens, and you will get better ones (doubtful). A dollar queen is usually sold before her brood hatches out, in which case she is termed tested (after her brood is out). If there is fraud in the queen business, I hardly think advancing the price would prevent it. A queen sold after she has been laying five days is worth as much to the purchaser as she would be at twenty-five days. In the latter case she

would be tested. It seems to me, if queen-breeders have sent out worthless trash in the shape of queens, they would do the same thing if the price were doubled. I have bought only tested queens so far. If worthless queens are sold, don't put the fault on the buyer, when, nine times out of ten, the seller is to blame. G. W. WHITE.

Hickory Grove, Ga., March 21, 1882.

I have just bought 100 colonies of neighbor Rice, to be delivered in May, and the question came up as to what the queens should be. His queens are all tested, reared from imported mothers; but I told him I would just as soon have dollar queens reared in May as tested queens raised last season. Judging from the orders we get, it seems almost everybody else has come to pretty nearly the same conclusion. It is not so much in what the queen is called, as it is in the man of whom we buy.

SOUR HONEY.

Can you or some one of your subscribers tell me if honey will sour in the comb? About six weeks after I put my bees into the cellar I noticed a bad smell in passing one of them. I lifted up the cover, and it smelled like rotten eggs. I doubled up a number of swarms in the fall, which left me hives and honey. I filled one with sections filled with honey, and transferred them to-day, and they are all right. Some of their honey smelled and tasted sour. What made it sour and smell so badly? This is the only one out of 72 swarms of the kind. Had I left them in the hive all winter, would they all have died?

C. C. HOLMES.

Sauk Rapids, Benton Co., Minn., March, 1882.

I think the whole trouble, friend H., is want of ventilation in your hives, and possibly in your cellar. Bees will, by the warmth of their bodies, evaporate the moisture from the honey, providing they can have a circulation of air to take off this surplus moisture; but if they have not this circulation of air, and the moisture condenses in small drops on the honey, it will, by the warmth of the cluster of bees, be made to sour; and this state of affairs has been suggested as a cause of dysentery. If the water condenses on the pollen, we have sour pollen, and no wonder the bees get sick. See what Gallup says on another page, in regard to hives cracked from top to bottom, and hives with no bottoms, for wintering.

STARTING BASSWOODS AND OTHER TREES FROM CUTTINGS.

We noticed something you said in a recent number of GLEANINGS about striking cuttings of basswood, in which you did not give full directions, if we remember right. We would say, in addition, take the straight growth, not from branches; cut with a sharp knife close to an eye; set in clear sand or powdered charcoal, and keep the bottom 10 to 20 degrees warmer than the top, which will cause a growth of roots speedily in any plant that can be grown from cuttings. A. C. KENDEL.

Cleveland, O., April 4, 1882.

Many thanks, friend K. Our basswood buds started finely at first, but for some reason did not hold out, and we suspect it was just because of the lack of that same bottom heat you mention. Since you speak of it, we find that much the same directions are given

THEORY AND EXPERIENCE.

Theory is a good thing in its place, and a very necessary thing; for upon it depend all discoveries and inventions that are not the result of pure accident; in other words, it is impossible to seek out a hidden truth without having some theory to direct the experiments or investigation. The endeavors to prove or disprove a theory may result in the discovery of new truths, either directly, as an accidental discovery, or indirectly, by leading to the formation of new theories, and their subsequent demonstration. So, theory is a good thing in its proper place, and those who cry, "We want no theory, but only experience," only go to the opposite extreme of those who are too willing to accept theory for fact. Let us all draw the line between the two so plainly that no one will be led into error by confounding them; so, let us have the experience of all on matters pertaining to bee culture, and enough theory to keep the ball of investigation rolling.

ODD-SIZED HIVES AND FRAMES.

I have just been reading friend Root's editorial on this subject, found on page 205, April GLEANINGS, and I think his remarks are very sensible. Customers do not seem to understand the difference between standard goods kept in stock, and goods made to order. Many do not seem to realize that it costs more to cut out odd-sized frames or hives, or that it takes any longer to fill such an order. The following is from a letter received a few days since, from a customer who wanted six odd-sized hives made. "As it will not take as much lumber to make these hives as the Langstroth or the Simplicity, I suppose the price will be less." This only shows what some expect. Such customers consider a dealer's prices "steep" when he charges only enough to make himself whole. There can be no more sound advice given to beginners, than to use only standard goods that are kept in stock by nearly all dealers. Orders for such goods can be filled promptly, and without any annoying mistakes. I believe, if we would all give up some of our pet theories in regard to frames and hives, and adopt the standard Langstroth frame, bee culture in the United States would make a steady and rapid advancement. Then would the danger of drawing erroneous conclusions from the reports of bee-keepers be avoided, and the results of wintering be compared to the advantage and profit of us all.

E. A. THOMAS.

Coleraine, Mass., April 18, 1882.

CHAFF HIVES VS. CELLAR.

Seeing various reports from others in regard to mode of wintering their bees, I will give my plan. I went into winter with 62 colonies, 37 in chaff hives; the rest were put into the cellar. To-day I have 51, the most very strong. I lost one that was in the chaff; the other 10 were in the cellar. Doesn't this speak well for the chaff? Those in the cellar had the dysentery badly. Now, right here let me ask you one question. Why not let us chaff-hive men have a chaff-hive department, so we won't have to search GLEANINGS all through to find these chaff-hive men?

O. R. MUNSON.

Meredith, Del. Co., N. Y., April 12, 1882.

Why, friend M., when Geo. Grimm comes over to chaff hives, and we get the chaff hive made just as it should be, thickness of chaff, ventilation, food, and all that, we *all* expect to come over to chaff hives.

A SUGGESTION AND REPORT FROM FRIEND C. C. MILLER.

It would be *such* a pleasure and advantage to know the number of colonies each contributor keeps, that I wish you would throw the weight of your influence in favor of having each one sign, immediately after his name, the number of colonies kept by him on the 1st of May last, preceding the time of his writing. At the last meeting of the N. W. Bee-keepers' convention at Chicago, it was voted, I think unanimously, that this was desirable, but no one seems to set the ball in motion, although, possibly, every one wishes it. Like every one else, I have wintered my bees well, not having lost one out of 177, except one that was put into the cellar queenless, with a very few bees, so that they would have died out, even had there been no winter. The last colonies were taken out April 4, having been confined without a flight just 5 months lacking one day. So I have 176 colonies in nice condition; but as it is not yet May 1, I must sign myself —

C. C. MILLER, 67.

Marengo, Ill., April 15, 1882.

With all my heart, friend Miller; and although I have about 194 good ones now, I must sign myself A. I. Root — as near as I can remember, about 10 very poor ones.

A RAILROAD APIARY.

We read with great interest your valuable paper, and all the many instructive articles it contains. There is so much said on all subjects, that it seems there is very little we can say; still, we feel like those who speak in meeting, that it is our privilege and duty. We began the season with 250 swarms in all. We have one apiary of 100 colonies, situated within ten rods of our railroad station, and laid out in tracks, and switches, etc. These 100 we shall run for extracting, and we have a box car that contains extractor, etc. We shall be in readiness this year for the flow of locust honey, which is of no little consequence with us. Our other 150 colonies are equally divided, and situated, one apiary 3 miles east, the other 5 miles east, surrounded by basswood forests, slashings of brier patches, and white-clover pastures, and think we can reasonably look for a fair yield of honey. These we shall run for one-pound sections. We have a mill (water-power) fully rigged for manufacturing bee-hives, sections, etc., but we are able to do but little this year besides our own work, and our would-be customers we refer to A. I. Root.

A NEW SUBSTITUTE FOR POLLEN — COTTON-SEED MEAL.

We have made a discovery which may be new; that is, in furnishing bees material for pollen, they leave out meal, rye meal, and every thing else, for cotton-seed meal (which is being introduced here by Mr. Waldo as cattle-food), and they act as though they were perfectly happy with it, rolling and tumbling over each other in their eagerness. It may be the sweetness of the cotton-seed meal that makes it so attractive to the little beauties. Please give us your opinion. Will write more later.

H. A. WILLIAMS & CO.

Berkshire, N. Y., April 12, 1882.

That is right, friend W.; we should feel it a duty to say something, and I, on my part, am going to make a greater effort to give you all an opportunity of being heard. If I am correct, cotton-seed meal has once before been mentioned; but if it is really a

fact, that bees take it better than oats or rye, it might be well to offer it for sale. Who will tell us what it is worth?—I should much like to see that railroad apiary.

CATALPA.

In speaking of catalpa, you forgot to state that, in the long hot days when there is nothing else, the under side of its leaves furnish lots of honey for weeks in little wells, much like those you tell of in Simpson, and like the honey-holes at the base of petals in cotton bloom.

STING IN THE EYELID; HOW TO GET IT OUT.

Dwight Beldin, of this place, was stung in the eyelid; and after going into the house, the empty sack and a portion of the sting were taken off, but the face and cheek swelled awfully, and turned black and red, so that for a day or two you or his best friends would not know him. His eye was badly inflamed, and evidently had something in it like sand. After many examinations, the sting was taken out from the inside of the lid, covered with matter. All right now.

We have had swarms all along since April 1st, but the last five days we had a cold wave, and they have been silent, young queens and larvae thrown to the entrance, etc. Fortunately, it being cloudy all the time, we have escaped frost, and a great crop of fruit and mast is in prospect.

QUEENS' VOICES.

I heard four distinct voices of piping queens in one hive the last four days; now the 16th day since that hive swarmed.

A. W. BRYAN.

Hot Springs, Ark., April 15, 1882.

True, friend B., I had forgotten that honey was reported from the leaves of the catalpa, last season. I do not think, however, we can depend on this, for it is a sort of freak of nature, and may occur with almost any other thrifty plant, when the conditions are just right. If it really is a common occurrence, we should be glad to hear of it.—A sting in the eyelid may often be drawn through from the under side of the lid as you suggest.

DRONES ALL WINTER.

Do bees keep their drones all winter? A friend of mine has a box hive of black bees which was tipped over twice last winter by the cows. He bought them about the first of March, and moved them 25 miles in a lumber wagon. When he got them home there were drones in the hive, and they are there still.

J. R. BRUSH.

North Hampden, Delaware Co., N. Y., April 17, 1882.

It is very unusual for drones to be found in a hive all winter, unless the queen is a drone-layer, and then we should hardly expect a strong colony. I have been told that powerful colonies sometimes have a few drones all winter, but I do not think I have ever seen any such; that is, with natural drones, in the normal condition. Perhaps the cows may have stirred them up to unusual activity, and, following out this line, who knows but that a few more cows might have helped them to raise queens, and swarm in the winter? Any way, the tumbling-down and 25 miles in a lumber wagon, seems to have had an opposite effect from that narrated by our poetical friend on another page.

QUEENS, ETC.

Bees put in cellar Nov. 18, 1881, 40 good colonies, 7 nuclei in fair condition; took out, on 28th of March, 1882, 47 queens, all in as good shape as last fall; temperature 40° to 48°. I never did better. The man who does not raise his dollar queens as well as the tested ones, ought not to be patronized. I think it is prejudice or foolishness when a man will say that dollar queens are a damage. The tested queens, as ordinarily sent, do not amount to much; they are tested only for the stripe. To know whether she is worth anything, she has to be kept nearly one whole season. The man who will cheat in the dollar queens, will in the tested.

V. W. KEENEY.

Shirland, Ill., April 4, 1882.

FIGWORT ROOTS.

Will Simpson plants grow that come up from the roots, when divided so as to make several hills out of one by transplanting them? Is it best to thin them down to one stalk in a hill? They have come up from the root from 4 to 8 in a hill. My object in getting the seed is to plant in every vacant fence-corner around my little 16-acre farm. What do you think of the idea?

W. DICKERSON.

Ladoga, Mont. Co., Ind., April 8, 1882.

You can divide the roots of a plant one or more years old as much as you please, and every root will grow, almost as surely as a potato when divided. We let every stalk in the hill grow, but very likely you would get a larger growth, and larger blossoms, by thinning out to only one. We find they do much better on sandy soils than on clay; and cultivation makes a vast difference. Cultivate exactly as you would corn, and keep down the weeds until they cover the ground.

FERTILE WORKERS, ETC.

You ask for some one to give his experience in worker bees laying drone eggs. I want to say, that my experience is, that workers can not lay any other kind of eggs than drone eggs, and they are not particular about laying in drone and worker comb. I once was so busy about my other domestic affairs in the spring, that I did not look after my bees very early; so, when I did look, I found one stand whose queen was dead. I also saw eggs and young bees in almost all stages. I supposed that they would raise a queen, and I did not look after them for quite a while. So, behold, when I did look, there was not a worker bee to be found, but I had about ½ gallon of drones, and the comb, both worker and drone, was full of drones, some hatching, and some just capped; and those in worker comb had heads ¼ of an inch above the surface of the comb. This led me to think that a worker could not lay any thing but drones; yet that doesn't correspond with Mr. Lane's experience. This is my first for GLEANINGS. I have kept bees for several years, but without much profit. I have not time to attend to them. I now have 20 stands, and I will give them to any good practical bee-keeper for half of the proceeds and increase.

G. W. SUESBERY.

Steele's Mills, Ill., April 14, 1882.

You misapprehend, friend S. It was in regard to worker eggs laid by the queen, and afterward turned into drones by the bees themselves, that friend Lane and I were speaking of, on page 173. Your case is a common one of fertile workers, but you

tell it so vividly I think it may be a warning to others, for they will be pretty sure to want to put their bees out on shares, if they neglect them that way. I very much doubt, friend S., whether you have any "domestic," or any other "affairs," that will pay you as well as your 20 colonies of bees, if looked after properly.

HAVE BEES A LIKING FOR SULPHUR?

In your notice of Dr. Peckham's article in April No., page 186, you ask, "Will anybody else's bees make use of sulphur?" Yes, sir, my bees will, and appear very fond of it. I had often thought of writing you about it, as I never saw any thing of the kind laid down in "the books," or heard of such a "bee feed" till I accidentally discovered it; but knowing your dislike for drugs and medicines for bees, I hesitated.

The discovery was made in this way: My wife's hobby is chickens, and she keeps dishes of water sitting around, for them to drink. I noticed a part of these dishes alive with bees, while others were almost entirely neglected. For some time I was puzzled to tell why the bees were so thick at some dishes, and not at all alike. I asked my wife what made the bees so anxious to drink out of some dishes, and not out of others, and she said, "Why, I put a handful of sulphur in those dishes." Scarcely believing that to be the cause, I changed the dishes; but the bees would soon find those which contained the sulphur water. The bees appeared to work most during the very hottest days, when the sulphur was melted and partially mixed with the water. What did they want of it? They did not take it as a cure for dysentery, as they were clean and healthy. Perhaps they were laying it up as a "household remedy," to use in case they were attacked by "bacteria." Will Mr. Heddon please look into this matter, as bacteria is his special bantering?

C. J. F. HOWES.

Adrian, Lenawee Co., Mich., April 20, 1882.

Why, this is more and more mysterious. We all know that sulphur is good for the—, but we didn't know it would dissolve in water, nor that it melts in the sun—not in "these parts," at least. Isn't it an unusually hot locality where you live, friend H.? Never mind; the next day the sun shines I will have some sulphur put into that water-jar, and may be I will learn something I didn't know. Who knows?

DRONES FROM WORKER EGGS; ADDITIONAL EVIDENCE.

On page 173 of April GLEANINGS, at the close of an article by S. H. Lane, you ask, "Can any one else give us any new facts on this queer matter?" I rise to give my experience. Last season, on the 17th day of May I started three nuclei as follows: I took one frame of sealed honey kept over winter, also one frame of comb from which the honey was extracted in the fall, and put them into a nucleus hive, and between them I put a card of brood in all stages, including fresh-laid eggs, and about a quart of bees, but no queen. I formed all three of them in the same way, and I knew there was not a drone-cell in either of those three cards of brood, and every one of those nuclei raised not only queens but drones, and they raised them right in the worker comb, where the new eggs were. After that I tried eight or ten more during the season, and every one raised

drones in the same way. At first I was puzzled, for I had no doubt of the truth of the Dzierzon theory; but on mature thought I made up my mind that the worker bees have the sense and skill to move the seminal fluid or matter from the newly laid worker egg, and raise from it a drone. Now, if any have doubts, let them try the experiment; and if their bees can't do it, let them send for some of mine; they can do it every time. I have been watching ever since I made the discovery, to see if some other brother did not have a like experience, and, lo, it is brother Lane. So now I venture to speak for "in the mouth of two or three witnesses," etc.

Mauston, Wis., Apr. 7, 1882.

H. V. TRAIN.

A NATURAL HOME FOR THE HONEY-BEES.

After reading George Grimm's article in April GLEANINGS, and your reply, I concluded to try to describe to you a location that is on my farm, about 30 rods from my house; and I should like to have your opinion of the location for an apiary. I will call it a bluff that lies in a rainbow shape from the southeast to the southwest, facing the south; is about 80 to 100 feet high, and rises at about 45 degrees, and the surface is nearly flat at the base, and covered with small white-oak trees from 10 to twelve feet high. The brush holds its leaves till spring; the ground never froze under the leaves there this winter, and never does to exceed three or four inches the coldest winters. The winds can never reach it from any direction. The birds come in large numbers, and shelter there from the colder storms in winter. Do you think the bees would fly out, or go too far from the hives, and get lost in cold weather? I think they would fly on the coldest days, if the sun shone. The only disadvantage I see is, it is too far from the house. But I think I shall test it this winter.

I think, friend M., I should proceed forthwith to establish an apiary in the spot you mention; for I believe it is just what we are coming to, to look out natural sheltered spots like the one you describe. The bees will have the advantage of a Southern climate, and yet they can, in fair weather, soar above the hills around them, and have all the benefits of Northern pasturage.

GRAPE SUGAR IN IOWA.

I see so much said about grape sugar, I shall have to give you my experience in it. In the fall of 1880, that bad winter, in putting my bees up for winter, the last one was a young queen that had a large amount of sealed brood, no honey—not more than 2 lbs., and I had none to give them. This was about Oct. 15th, so I put them on 4 combs, and inverted a box of grape sugar 4x6x12 inches, and filled the remainder of upper story with rags, and then told them to live or die. About the 1st of March, 1881, I looked in, and the prettiest lot of Italian bees I ever saw was in that box and hive. They had eaten nearly all the sugar, and taken some down into the combs together, and were building comb in the box. Those bees had dwindled some; but I had 6 die and 6 more that came as near as could be and not die, that never tasted grape sugar. I have wintered 2 this winter on grape sugar, with the same results.

So it transpires that grape sugar alone will winter bees, even during such severe winters as 1880-'81, and as far north as Iowa.

DRY EXCREMENT IN THE HIVES.

What is it that I scrape out of the bottom-board of

hives that is in round balls that look like pollen? I saw a bee alight on my pants the other day, and I saw him drop something on my knee that looked just like what I see on the bottom-board.

I believe the dry excrement is now a settled matter.

WHITE BEES.

Did you ever see or hear of a white bee? I saw a young white bee alight on the alighting-board, while I was looking at young bees playing last summer. It was so white that the boards seemed to be a muddy color. I noticed it closely, and there was no mistake.

Bees have wintered well, and are now gathering honey from the willow — what we call prairie willow. It grows on wild land, from 1 to 3 feet high. It beats all the other willow we have in this country for honey and pollen. Fruit is opening now, and buckeye will soon follow; and if I can get my hives full of bees I will have some buckeye honey. Tell friend Hayhurst that the Cyprian bee becomes as gentle as the Italian after handling them for one year. I can't see any difference this spring. The cross between the two races, I like the best.

Oakley, Ia., April 10, 1882.

WM. MALONE.

The white bees you mention are the real Albinos. I believe no one has ever yet seen a hive full of such. The Albinos sent out by some of our friends in the South are simply light-colored Italians, and none have ever been sent us that would even be called anything else than Italians, were not the slight difference pointed out.

Ladies' Department.

I CAN only recapitulate what I know you hear until I wonder you are not vain. How precious GLEANINGS has become, with its fresh bright pages once a month! All are anxious to read it, from grandpa down to little Daisy, who enjoys looking at "Merrybanks." The other day, an old-time bee-keeper called to see my brother's bees, and, in brother Will's absence, I, out of the kindness of my heart, undertook to show him the workings of the movable frame in the Simplicity hive. He looked at me with a sneer, and said, "Why, we will soon all be *bee-men*." My brother is getting his new chaff hives painted, and when we get the bees in them we will have an apiary to be proud of. I have named it "The Branch," as it really is a branch of Rev. Mr. Woodburn's, of Livermore.

MRS. BELL L. DUNCAN.

Black Lick, Pa., April 4, 1882.

Thank you, my good friend; but you know I have growls enough mixed in with the kind words, to keep me from getting vain; and it is quite likely they do me good. Such bright cheery letters as yours always make me happy, though, in spite of the growls; and may God bless you and the Branch apiary, in your mission of shedding sunshine! and tell our old friend Woodburn, "long may his *branches* wave."

VEILS OF WIRE CLOTH, ETC.

If Mrs. Harrison would sew the wire cloth to a comfortably fitting chip hat, such as small boys wear in the country, I think she would find it better

than her flat crown. If the wire cloth is cut 6 inches deep it will not touch the shoulder or head in any place, and will keep its proper place on the head, no matter how much we move. No other shade is needed to protect from sun. We also cut out a part of the wire before the eyes, and cover with brussels net. I think it is better for the eyes. I would like to ask Mrs. H. if perspiration hardens buckskin gloves.

ELIZABETH H. MCCLYMONDS.

Templeton, Armstrong Co., Pa., March 30, 1882.

We have not offered wire-cloth veils for sale, because of their injurious effect on the eyes; but by putting on a brussels net face, as suggested, we might get a much more durable veil than any we have now. A cloth veil is easily doubled up and put away, but a wire-cloth one must occupy just about so much room any way. For all this, a wire-cloth veil may be a thing needed. I think we can rig one up, hat and all, for about 75 cts.; but how are we to ship such a bulky thing, either by mail, express, or freight? Perhaps we could roll the wire cloth up and put inside the hat, and put in printed directions for "setting up the structure." If there are enough of you who want one of that kind, we will get up a lot. The wire cloth and hat would not be easily torn or injured, unless it was the brussels net getting torn out, and this could be easily and cheaply replaced.

I hope next time friend Jones has a communication to make like that in April No. of GLEANINGS, page 176, he will include women also; for I think they can "steal a living and do it honestly," as well as men. I have charge of 43 colonies, all wintered on the summer stands, with no losses, and all now in good condition. If we have a good season I will tell you in the fall how a Sunday-school girl can steal a nectarious living. I have not much to brag about, but I was the first lady member of the New Jersey and Eastern Bee-keepers' Association. I can handle our Cyprian bees almost entirely without smoke; just a puff or two at the entrance. That is not very cross, is it?

M. J. T.

Stelton, N. J., April 18, 1882.

I am sure, my friend, Mr. Jones meant to include women in what he said; and if he did not, I do; for I have satisfied myself that an earnest "Sunday-school girl" can do anything that requires brains, that a man can do, *if she wants to*. We shall be very glad to hear from you again, "M. J. T."

APRIL DAYS, AND APRIL GLEANINGS.

April, five of 'em; and such days! cut from the best piece; sunshiny, warm, balmy, just the right conditions for the secretion of honey. Peach-trees in bloom, and box-elders opening. Heavily laden bees rushing into the hives — all is lovely. We've spent a delightful evening reading GLEANINGS. It reminded us of the little girl writing to the *Advocate*, "We are all getting gooder and gooder all the time at our house." An evening among the "stalwarts" ought to be enjoyed by all lovers of the bee: — Muth, Heddon, Doolittle (or, rather, *do a great deal*), Jones, the Christian lady Mrs. Axtell, and Mr. Duster, on the *qui vive*, were present, with A. I. Root as presiding officer. It was a grand repast, and no April fooling either. Lay the cloth and we'll gather around the table May 1st.

Mrs. L. HARRISON.

Peoria, Ill., April, 1882.

Notes and Queries.

I MADE a complete failure in the bee business last year, but now I am going to try all over again. I will be more careful. My hopes are not blasted yet. I am a boy, but I think that so much the better, as I begin soon in life.

JOSEPH ROSS.

Germantown, Pa., April 15, 1882.

[That's the spirit, friend R. If our boys should have their hopes blasted, I don't know where our nation would go to.]

"The Lebanon Apiary" is now receiving my attention. From time to time, however, I shall go over to the Cyprus apiary, which is still kept up.

Beirut, Syria, Feb. 14, 1882. FRANK BENTON.

I set out 29 colonies of bees this morning. Wintered in bee-house, with plenty of top ventilation. No chaff, no cushions. No loss of bees. All in good condition.

W. H. CUMMINGS.

Boonsboro, Iowa, March 29, 1882.

THE WAY TO DO IT — IF YOU CAN.

The queen arrived on the 7th all right. I got her home in the evening; introduced her at 8 o'clock at night; the next morning she was laying.

C. W. KING.

Emlintown, Venango Co., Pa., April 12, 1882.

MR. LANGSTROTH.

[We have received from our old friend the following brief note:]

My health does not improve, and I can take no interest in bee-matters. Your friend,—

Oxford, O., April 16, 1882. L. L. LANGSTROTH.

The L'Hommedieu brothers have had their usual good luck in wintering their bees. Cellared 91 colonies Nov. 12. April 1st, set out 91 live swarms—none queenless, that we can discover. Commenced bringing in pollen April 2d.

D. E. L'HOMMEDIU & BRO.

Colo, Story Co., Iowa, April 3, 1882.

HONEY FROM FRUIT-BLOSSOMS.

Bees are in splendid condition this spring. Friday and Saturday, April 7 and 8, were the best honey days that I ever saw for fruit-bloom. Bees came home from daylight to dark, and fell in front of hives like pebbles. I never saw them loaded down so.

E. B. RIFE.

Circleville, Pickaway Co., O., April 10, 1882.

What will you give me (in trade) for 18 or 20 hybrid queens, also a few blacks? Bees wintered without loss. I have kept bees for 5 years, and have never lost a swarm — an argument in favor of cellar wintering.

H. O. MORRIS.

Tiskilwa, Bureau Co., Ill., April 10, 1882.

[We have no use for the hybrids. Can any of the friends take them?]

BEEES ON A RAMPAGE.

Just talk about bee fights. I killed a chicken for dinner, and it fluttered on to one of the alighting-boards of a hive, when the bees covered it; they just covered it all over, then tackled every thing that dared to cross the yard. I got a pole, got the chicken, and then got my smoker, and "went into them." In about fifteen minutes they surrendered.

Burnsville, Ind., March 20, '82. A. J. GALBRAITH.

Bees are doing very well here. I wintered 25 hives without the loss of any. They are now full of bees, and trying to swarm; but I am holding them back for the honey crop.

J. A. CLEMENTS.

Villanow, Ga., April 13, 1882.

June weather. Every colony (23) brought through, and in fine condition, bringing in honey with a rush. Had to extract from one colony to-day, to give room to the queen. Apple not fairly open. With a continuation of this weather for 2 weeks, I expect to take hundreds of pounds of honey from the apple. White-clover prospects first-class.

Mortonsville, Ky., Apr. 8, 1882.

C. H. DEANE.

A ONE-CENT BINDER FOR GLEANINGS.

Having adopted a cheap plan of binding GLEANINGS, I will give its readers the benefit of it. I take it for granted that every reader is keeping all the numbers on file. I use two strips of leather, 6 inches long by ½ inch wide, and cut two holes in each. Near the fold at the edge of the paper I cut holes in the paper, and insert in each a shoe-lace. As soon as a number is received, it is filed, and at the end of the year they are all bound at a cost of one cent.

Stamford, Ct., March 29, '82. FRED OFFINGER.

SEVEN-TOP TURNIP.

Why does my seven-top turnip winter-kill? I have tried two winters. Will it do any good to sow it in the spring? I planted some in March; it is up now. Chelsea, Iowa, March 14, 1882. W. C. HOWARD.

[So far as I can tell, friend H., the trouble is not getting a sufficient root in the fall. The most common reason is in not sowing early enough; but poor ground may be the trouble. Sandy soils are much less likely to let plants winter-kill; perhaps your ground is too much clay. In the low sandy land down by the pond, we have much the best success with all plants that are to winter over. I have never tried sowing the seven-top turnip.]

MERRYBANKS AND HIS NEIGHBOR.

Seest thou a man diligent in his business? he shall stand before kings; he shall not stand before mean men.—PROV. 22: 29.

IT WAS six o'clock in the morning, and the Jones family were gathering around the breakfast table. A year ago they did not have breakfast at six o'clock, unless, indeed, it was for Mrs. Jones to get some sort of a cold hasty bite before she went at her washing, and then the children and her husband came stringing along for their breakfast whenever they felt inclined. The breakfast, take it altogether, was an uncomfortable affair, and seemed to all parties a sort of necessary evil. The children were seldom half dressed, and I fear many times would not have had their faces washed had not the poor mother insisted on it. Mr. Jones used to wash his face, I believe; but as he seldom got up early, he did not feel very well pleased with himself nor anybody else, and the feeling that he had probably hindered his wife by his being so late in getting up did not help matters very much. As his pipe seemed the best thing to rouse him up and make him forget these uncomfortable feelings, he usually hurried through with his meal so he could get hold of that. Thank God, it is not so this bright spring morning; for although it is only six, as I told you, all are up

and dressed, and looking pleasant, tidy, and happy. Mrs. Jones isn't tired, because they have all helped her bear the burdens of the breakfast. You might think Mary is rather young to be up so early; but as she goes to bed about as soon as it is fairly dark, she has about as much sleep as she used to have the old way. The goods they keep for sale are already out on their stands each side of the door, and it would be nothing strange if they should have a customer before they get quite through with breakfast. In that case, neither the father nor mother would have to get up, for Mary or John would be on a strife to see which should wait on the customer first.

They take their seats at the table, and yet no one makes any movement to help himself to the food, nor even so much as move a dish, for that matter, for God's blessing must be asked over the morning meal first. In this little feature alone there was a wonderful difference over the old way. It is true, that oftentimes some one of them was unavoidably hindered; but if the hindrance was not to exceed a few minutes, all hands sat and waited. If breakfast was not quite ready, Mr. Jones had a way of reading in the *Sunday-School Times* about the lesson for the next Sabbath, and who shall say his time was wasted? Very often he struck some bright thought (did it ever occur to you how easily one catches bright thoughts after his face is washed, just before breakfast?) that made the theme of discussion for all at the morning meal. The words he usually used in asking a blessing were often homely ones; and many who have a better command of language than he had, might have smiled at such common-place words; but they were his own, and the best he had. As nearly as I can tell, it was usually something like this:

"Our Father who art in heaven, we thank thee for this happy little home thou hast given us, and for this our morning meal. May thy blessing rest upon the food before us, and may thy loving care be with us all, through all the duties and tasks of the day. Amen."

It was so short and simple that no one ever wearied of its length, and yet the words, so few and plain, were such that all could mentally assent, even if they did not outwardly say amen. The Jones family did not always feel pleasant about every thing early in the morning, any more than the folks do who live at our house or your house; but the thought of this simple little blessing was a check, even before it had been pronounced, and the memory of it was a check after it had been pronounced.

During the meal, the subject came up as to what should be planted on their little patch of ground this season. Perhaps nothing had brought them so much money as the crop of white beans, for the 5-cent dishes of baked beans had got to be an established article of trade with the men working on the new mill. It was decided that every foot of ground must be made to produce something; and then Mr. Jones remarked, that they must make the ground rich, and to that end a compost heap was to be started, and every scrap of every thing that could be converted

into manure was to be put on it, even to the soapsuds and dish-water.

"O mother!" said Mary, "Mr. Merrybanks has got a peach-tree right near the house, and they always pour soapsuds around it, and it bears a bushel of peaches every year, and it's only a little tree too."

"Oh, yes!" said John, "and he carries all the ashes and puts around the rest of his peach-trees, for he says it keeps the worms away. Right close to the ground, he showed me where they ate into the bark, and made the gum run out; and he said if we kept ashes around the roots, there would never be any gum there; and, O father! don't you believe? he has some nice peach-tree honey."

"Yes," said the father, "and we must have some peach-trees around our place, and some raspberries and strawberries; and, if mother is willing, we will go right about it this morning."

Inasmuch as they all declared they liked to raise berries, pick berries, and eat berries, it was decided their little plantation was to be devoted to fruits, bees, vegetables,—

"And tinware!" suggested Mary.

By this time, as all had finished their meal the father took the little worn Bible and read a chapter, concluding with the little text at the head of our talk to-day; and as they all knelt, he asked God to bless their work, and help them to be diligent, not only with their bees, fruits, and vegetables, but also in following his law as laid down in the book they had just read. After this, all were ready for work, and it wasn't quite 7 o'clock either. Who shall say it was time wasted? They had simply been starting the day "decently and in order," as directed in our little text of last month.

TOBACCO COLUMN.

I HAVEN'T forgotten my promise; my smoker is all right. I am going to hold my promise as long as I live. I hope you will not forget me.

W. H. T. COLLINS.

Ayersville, Habersham Co., Ga., April 1, 1882.

I do not forget you, my friend, and I pray that God may remember and strengthen all those who have given us the promise in the Tobacco Column.

Charley, our Swedehand, is trying for your smoker by leaving off chewing and smoking, but says he must "snuff a little while yet," which I think is even worse than chewing. He is a very excellent and humble Christian, I believe. Has a wife and three children in Sweden, and we will help him to send for them next month. He has been earning money to get them here.

S. AXTELL.

Roseville, Warren Co., Ill.

Why, bless your heart, my good friend Charley, tobacco is tobacco, whether it goes into the mouth, lungs, or nose. The only advantage I can see with the snuff would be that you might take less of it; but if I am correct, it is a more disagreeable habit to those about you than smoking or chewing. Ask the Savior to help you, my friend, and then make a clean sweep of tobacco in every form, and save the money for the good wife and children.

Our Homes.

The woman whom thou gavest to be with me, she gave me of the tree, and I did eat.—GEN. 3: 12.

WHEN Adam was placed in the beautiful garden of Eden, and told that it was all his own to care for and look after, he was probably very happy. If he was not a child in stature, he was at least a child of the childhood of humanity, and we can imagine him going about in the garden in almost childish glee, as he named the animals, and wandered here and there, eating of the fruits of the trees, and seeing new sights day by day. Without sin, with a clear conscience, and the innocence of childhood, his life was one long holiday; and with the great God, who made all, for his best friend, what more could he ask for? Perhaps he did not ask for any thing; but his kind Father above, who, out of his great love for this child of his was still working so as to best conduce to his needs and happiness, saw that he needed companionship. He lacked a playmate. As Adam had never had a playmate, he probably knew nothing of the new happiness that was in store for him until his eyes first rested on a beautiful little girl, or, if you choose, a beautiful little woman. In spite of what happened afterward, I am inclined to think Adam loved her at first sight. He was surely as capable as any of us of appreciating all that is good and pure and lovely; and I can imagine that Eve, on the day when she was first introduced to Adam as his companion in the garden, was as pleasing in his eyes as was ever woman in the eye of man since her time. No lovers' quarrels, no memory of unkind words, marred the feeling they had toward each other; and no doubt her smile was as pretty, that morning, as were those of the woman whom God gave *you*, my friend, when you first learned to know and love her. Oh how I should like to know that Adam, on bended knee that first day, thanked God for the great and priceless boon he had given him! If it would be strictly orthodox, I should like to suggest, that, had he done so, there would never have been any trouble.

Have you, dear reader, ever thanked God for the woman he has given you? If you haven't, and have any faith in my ability to guide, do so now. You can do so as you kneel by her side at night, before retiring to rest, if you choose; but besides putting it in words, let your actions say every day and every hour, that you thank God for the woman he has given you. If she has faults and failings, thank God all the more, not for her faults and failings, but because to you he has given the task to bear with them, and to win her to better things. You love her as no one else does; therefore you can bear it better than anybody else. If you don't love her as you once did, by God's help get back that love. You have no more business letting that love wane, or grow cold, than you have to lose your love for your right hand. You have no more business to neglect her than you have to neglect your right hand, and let it get burned or frozen. In fact, you

have not as much right; for it is your business to endure fire and frost, rather than to let her suffer pain or needless trial. God gave her to you, and he will hold you responsible. Neglect her, at your peril. Love and cherish her, and God will send you great happiness; neglect her, and you will be unhappy, dissatisfied with yourself and all the world, and possibly without knowing why either.

Never trust a man who speaks ill of his wife. Several years ago our pastor asked me to conduct the weekly prayer-meeting during his absence. I was young in the Lord's service, and felt it quite a privilege. Of course, I exhorted to repentance, just as I do now; but I was then a little more sure that everybody who gets up and speaks in meeting will hold out, than I now am. Toward the close of the meeting a man arose, and tried to say he wanted to be a Christian, but broke down, and, amid sobs, declared it was his purpose to serve the Lord. Of course, I at once concluded it was the effect of the earnest way I had been putting the matter, and inwardly thanked God that he had paid me the great honor of permitting me to lead a soul to the kingdom. It is true, the man did, in his confession, say that he had a very hard time of it at home (poor fellow!) because his wife was a hard, bitter skeptic, and he asked prayers for her. I talked with him about her after the meeting was over, and proposed to go and see her, for I had never yet met a woman who was not at least open to conviction on the subject. He objected, saying it would do no good, for she would not talk reasonably on the subject, nor even tolerate prayer in the house. He did not come to meeting any more; and as I met him occasionally, I exhorted him to come along and unite publicly with Christian people. One of the excuses he gave was that our pastor had never called on him, nor given him any encouragement, and, in fact, I was the only one who had paid any attention to him at all. You see, like Adam of old he first complained of the woman God gave him, next of the pastor of the church, indirectly of those who were present the day he spoke in meeting, and it bordered so closely on complaining of the Church and Christian people in general, that I was beginning to wonder if I were not the only real live Christian there was anywhere around. The Murphy meetings started up, and he went out with us as a speaker; but I noticed, and felt a little troubled about it, that he was more given to exhorting other people to repent of their sins, than to allude to the fact that he, too, was a sinner. I inquired a little about him, and asked why none of our Christian ladies had called on him or his wife. Something like this was repeated to me. I do not give it as gossip, but that you may know what to think of a man who gets up in meeting and complains that he isn't a Christian, because of "the woman thou gavest me." It seems he had gone to a picnic, or something of that sort, down to the lake; and instead of taking his wife, as any man would be expected to love to do, he took some other woman. His wife heard of it, got a horse and buggy at the livery stable at

his expense, went down to the lake too, and took the baby along. When she found them sitting down enjoying the breeze and the scenery, thinking no harm to anybody I presume, she just went up and planted his baby in his lap, and drove off home. It was an awful wicked thing for her to do; but you know she was a skeptic, and didn't believe in the Bible *as he did*.

Time passed. I heard reports that he had been arrested somewhere out West, and that, when arrested, he was a member of a prominent church, in good standing, and engaged to be married to one of the nicest girls in the community! I had hardly got over the surprise at such a statement, before in he came one day with his father. They asked to see me alone; and as there wasn't a quiet spot in our then cramped-up quarters, I took him down by the engine in the basement. He took a chair, and covered his face with his hands, while he shook as if with the ague. His father said he had chills and ague, but I thought, and think still, it was the ague of a guilty conscience. I pointed him to the Lamb of God, who taketh away the sin of the world; but it seemed to be hollow mockery, for he said he believed in that, and told me he had been trying hard to get away from his old associations, and live the life of a good Christian man. My friend, you will never succeed in living a Christian, in any such way. If there be any spot on earth that knows all there is bad about you, that spot, above all others, is just where you are to stay and live it down. It is one of Satan's games, to persuade you that you can be better among folks who don't know you, and with some other than "the woman thou gavest me." I didn't talk much to my friend then, for I felt that I wanted to see him and his wife together. She was living near his father, several miles out in the country, and the next Sunday, after Sabbath-school, I turned the horse's head that way and arrived at the place a little after dark. He was on the lounge, and seemed quite uncommunicative. I was much surprised, however, to find that his wife was a very pleasant, ladylike woman, and I could hardly understand how it was possible *she* was the one who had threatened any one who should attempt to read the Bible or offer up prayer in their home. I had prayed on the way, that God might help me to be faithful in the mission he sent me on, and I determined to speak plainly, if permission were granted me. To my great surprise, she was ignorant of the charge against her husband, and he had even contrived to keep the newspapers out of her sight. I shall never forget the look of surprise and pain on her face when it came out. The only words sounding like reproach were "Why, oh why, Fred, did you not tell me of all this before?" and she bowed her head in anguish. He, too, covered his face with his hands, but said nothing. The little home was neat and tidy, and the children were well behaved and neatly attired, although all around showed evidences of the need of a father's care. Here she had been hard at work, doing all she could to make both ends meet, while he, the father of her children,

was courting another girl, and talking in meeting, may be, and exhorting "sinners" to repentance. Strange indeed, was it not, that his wife once threatened him, if he attempted to ask a blessing at the table?

I read a few verses from the Bible, and she, with the children, knelt with me in prayer.

"Mr. Root," said she, "I have been wicked, and said things I ought not; may God forgive me! I tried not to do so, and I wanted to be better, but I was goaded to it. I do believe in the Bible, and I believe in God; and may he have mercy on a poor soul in misery and trouble!"

She was the woman whom her husband spoke of in meeting as a skeptic. Who was the sinner and unbeliever, in the sight of God? Do you think her husband could ever have made her a Christian by *arguing* the matter? Whenever I hear two individuals arguing on the Bible or Christianity, I have a sort of feeling that Satan will get them both if they don't stop it and set right to work *living* the gospel.

After Adam had sinned, he not only found fault with his little companion whom God, in his loving kindness, had given him, but he, in a most selfish and unmanly way, tried to lay the whole of the blame on her poor frail shoulders. Not only this, but he in the same breath reproaches God for not having given him a better woman. The woman whom thou gavest me, *she* it is who is to blame for it all. We are Adam's children, and I suspect we are little Adams now, and shall be to the end of the chapter, unless we accept of the blood of Christ, and are born again. My friend, did you ever know a person who, when he had done wrong, did not straightway try to tuck it off on somebody else's shoulders? Very likely, too, they will put it on some woman, or somebody who can not very well defend himself. Sin always makes people unfair, and it makes them cowardly. It makes them suspicious of and abusive to their fellow-men, unreasonable in their demands, and bitter and blasphemous toward God. It all goes along together. If your heart is not full of thanks toward God, it is because you are selfish and wicked.

Did you ever know of a person who was always ready to bear his full share of the consequences of all his wrong-doings, and a little more? They are very scarce, I assure you, though some are a great deal more ready than others. You all know how refreshing it is to have one own a fault, when it is pointed out to him, and even to make an acknowledgement, and express regrets for the harm done. Courteous words, in themselves, often atone for sins of omission. I fear we are every one of us remiss in the little act of making a courteous apology, when it would so often lighten the burdens our friends have to bear. Neither is it enough that we should bear our own burdens; for in doing all this, we should have a sadly selfish world. We should strive to do it, and then besides,—

Bear ye one another's burdens, and so fulfill the law of Christ.—GAL. 6:2.

Sometimes, perhaps, you feel the world has taken up and appropriated every thing

new, and that you long to start out something original — to do something that somebody else has not already done. My friend, you can find a place unoccupied in every community, and, I fear, in every household, by taking the blame of what goes wrong, instead of shifting it on to somebody else's shoulders. Don't censure; don't find fault, and don't criticise. Things go wrong, no doubt, and there is much that needs mending. Breathe in your heart a "God help us," and then quietly, but smilingly, start out. The world will brighten and broaden before you; you will have more love for your fellow-men, and more love and thankfulness toward God.

A NEW HONEY-KNIFE.

FRIEND JONES has been so kind as to mail us a new honey-knife made under his supervision, with the following enthusiastic description of it:—

I send you a honey-knife by mail to-day. My first lot is nearly all gone. Everybody wants one. They will beat the world, sure. They get thinner toward the point; they are beveled from one-third of the handle to the point. You should just see them working, to appreciate. The cappings do not fall, but stick, and you have to scrape them off. If well made, they are better worth five dollars than some as a gift free.

D. A. JONES.

Beeton, Can., March 23, 1882.



D. A. JONES'S HONEY-KNIFE.

We present a cut of the knife, and have sent it to our honey-knife makers to see what they can be made for. We presume the price will be the same as Bingham's, about a dollar each. You will observe by the cut, that it differs from Bingham's, in having the bevel extend clear up to the middle of the blade, giving a thin, keen, razor-like edge.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, MAY 1, 1882.

And now I say unto you, Refrain from these men, and let them alone: for if this counsel or this work be of men, it will come to naught; but if it be of God, ye can not overthrow it.—Acts 5:38.

Busy work should be the order of the day with all.

No sensible bee-keeper has now any time to quarrel or find fault.

Do all you advertise to do, and then do a little more, just for the fun of it.

UNTIL further notice, we will pay 10c. each for Jan. or Feb. Nos. of this year.

NEARLY a hundred hands are now here working to please you.

We are rejoicing to-day because we have 4513 subscribers, and lots of bees.

THE tin points advertised by W. C. Gillette will be furnished from here at his prices.

If any of the manufacturers of one-piece 1-lb. sections can furnish more than they have orders for, will they please give us a sample of their work, and best prices on 100,000 lots.

J. H. MARTIN has sent us samples of his fdn. lined with very light strips of wood, all ready to put right into frames. Those who have trouble in getting the fdn. to stay, may find this quite a convenience.

At present, sweet clover (or melilot) seed is not to be had; but we can furnish Bokhara clover, bought of D. A. Jones, at 50c per lb. Many pronounce it the same thing as sweet clover, but friend Jones thinks it is not *exactly* the same.

SUPPLY dealers should commence work now at 5 o'clock in the morning, and work until 10 at night, if they can stand it. It is no time now for picnics and pleasure parties. Stick to "biz," and do the visiting after the honey season is over.

Those wanting help, or those wanting a situation, in the care of bees, can have their wants made known in the department for that purpose, for 20c. each insertion of their names, in accordance with the suggestion of friend Jones last month. Send in your names, and we will have the department started.

A GREAT many kind words have come for Mr. Merrybanks, and he tenders his kindest thanks for the same; but as by far the greater part of his friends seem to belong to the younger portion of our readers, we have decided to give him and his neighbor, together with the Temperance-hotel-tin-shop, a place in the *Boys' and Girls' Journal* hereafter. The all-absorbing topic at Onionville, just as we go to press, is the fact that John's mother has just been appointed *Postmistress* of the burgh.

It seems from the following, that friend Doolittle has also wintered all his bees this time:—

Cold here most of the time all through this month; and as I write, the mercury stands at 13°, with the ground frozen so it fairly rings as I walk over it. Bees are clustered as closely as in winter, and some of my weaker swarms are beginning to suffer therefrom, although I still have my number (80) reported last fall all alive yet. No pollen so far, and, with the exception of winter wheat, vegetation has scarcely started to grow in the least. Hope it may warm up soon. A part of my bees are still in the cellar.

G. M. DOOLITTLE.

Borodino, N. Y., April 25, 1882.

GREAT troubles still come from imperfect addresses, and often, too, when goods are ordered in great haste by express. Well, a few of the friends are bright enough to have shipping-tags with their own address printed on them in large plain letters, and when they make an order they just inclose one of these tags, saying, "Put up the following goods for me, and tie to them the inclosed tag." This ends the matter, and saves them the trouble of giving any directions at all. Now, to help you, we will print you 100 such tags for 30c., or 1000 for \$2.50. By mail, 3c. per 100 additional. We will include, on the above, a brief business card for 15c. per 100, or \$1.00 per 1000 extra. Samples on application.

WE are now importing our tin direct from England, and hope to be able to give prices second to none.

WILL our friends observe that we sell all goods by tens and hundreds, instead of the old hard-to-reckon style, of dozens?

WE have a fine lot of nice healthy one-year-old Simpson roots now, that we can sell for 3c. each; 25c. for 10, or \$1.00 per hundred. If wanted by mail, send 2c. each extra.

PARENTS, if you want a magazine that your children will surely read, and one that will not teach skepticism, either directly or by pointedly ignoring God, subscribe for *Arthur's Home Magazine*. Its teachings are helpfu', and based on the solid Rock.

WE do not wish to purchase any queens, except dollar queens, and we will, until further notice, pay a dollar apiece for them, and sell them for a dollar and a half. You can doubtless buy them cheaper elsewhere; but at the above price we are going to try to send them by return mail.

SEVERAL of the friends have remonstrated because we have not replied to the unkind things that have been said in regard to dollar queens, and those who make a business raising them. It is because I have a sort of feeling that the best reply we can make is to keep on raising and sending out extra nice queens, and they will do the talking, just as they have done all along.

OUR friend "M.," assisted by George and myself, has just gotten up a little book to enable everybody to tell what all kinds of printing will cost, from a 25c label up to the finest catalogue or price list. So far as I know, it is the first time prices on job printing have been reduced to a fixed rule, so every customer will be charged a uniform price every time, and any one can tell what that price should be. The little circular will be mailed on application.

OUR prices for bees by the pound in April were high, and I think all will agree they should be, after they have taken a pound or two from a colony and seen how it works. In just a few days there will be a decline; and with our 300 colonies we expect to be able to fill every order as soon as received. We may run short of dollar queens, but I think we shall be able to supply any demand for any thing else. A large lot of imported queens are expected this month.

WE would be glad of facts in regard to the Dzierzon Theory, but for the present I can not think it worth while to argue the case over again. Those interested would do well to go over the first few volumes of the *American Bee Journal*. After you see how much has been said and written already, perhaps you will agree that it is not best to take the whole matter up again, unless we can have something that has not been gone over several times before.

OUR enterprising friend Bingham sends us a new smoker which he calls the "Conqueror." It is not only nicely made, and beautifully finished, but it is a "great big smoker." In fact, the capacity of both bellows and fire-pot is almost as great as that of our 50c. smoker. In this respect it is the first smoker I have seen, of any kind, at any price, as large as our 50c. one. I filled them both with beans, so I know exactly how much they hold. The price is \$2.00, including postage.

SEVERAL of our advertisers are scolding because their advertisements were taken out, when they wanted them continued; and one or two have talked unkindly about it. Dear friends, it pains me greatly to find I have not conformed to your wishes; but still more to have you intimate that I have been uncourteous purposely, for I do not know of a single one who advertises with us whom I am afraid to trust. The whole trouble is, that you do not tell us you wish it continued, and you certainly would not wish us to do so without orders. When you send it in, say "until forbid," and I will assure you the clerk will never take it out until you so direct.

BEAR in mind, friends, it is everybody's privilege to go into the Square List or not, as they choose, and in either case nothing unkind should be said because you differ in opinion. Let us look at it this way: During the past year quite a number of you have said in your communications, in substance, "If anybody has been displeased with any business transactions with me, will he please give me notice?" You know people sometimes feel hard, but keep it to themselves. Well, to give space to let a great many say this same thing over again, would take too much room, and yet it would be almost uncourteous to refuse. The department brings all such friends together, and a single line tells it all. I would gladly put it all in free of charge, were it not that it would fill the paper with matter of not very great general interest. If it be thought advisable, we may soon have it in a little book that will be sent free to any one who wants it. It will then be virtually a reporter of the standing of the bee-men of the world. We know the standing and habits already of almost every one who advertises 'bee-fixins'." Shall bee-men be graded, as merchants and grocers are?

DECLINE IN PRICE OF FDN. MILLS.

By far the greater part of the fdn. now used for brood-apartment is for L. frames, and the most of this, of lite, of the size for wiring. Now, to fill frames in the way I have directed, and do a nice job, we want the sheets at least 8 $\frac{3}{4}$ x 17 $\frac{1}{2}$, as given in the price list, or, if any thing, 1-16 larger each way. Well, a 9-inch mill is hardly wide enough to work easily with so little margin, and we have therefore had a lot of mills made with the new cell described on another page, with 10-inch rolls, that we can sell for an even \$25.00. They roll thin strips for starters, as well as fdn. for the brood-chamber, and give such a good wall, with so thin a base, for a sum of money so little in advance of the cost of the rubber plates, that we shall, for the present, drop the latter. If you want my advice, it is to use the L. frame, and have one of these \$25.00 mills — nothing larger, nothing smaller. One of them is worth more in our wax-room to-day, than the old back-g geared mills that have cost toward a hundred dollars. It is the improvement in the cell that has made it possible for so small and light a mill to do the work.

SPECTACLES.

A BIG trade has grown up in the 10 cent spectacles; and to help you in ordering, I would say that the number of the glasses has no direct relation to the age of the wearer, but they only indicate the focal distance of the lens. Thus, take a pair numbered 24, and you will find, by using it as a burning-glass, that it collects the sun's rays into that bright

burning spot at just 24 inches. Spectacles are numbered, for ordinary use, from 7 to 30 inches. No. 7 is used by the very oldest people, and No. 30 by those whose eyes have just begun to fail. Very few people ever care for No. 30. The greater part of them commence with 20 or 24. As your eyes fail, you have to hold your paper too far off, and you must get a lower number, to bring them nearer. Thus, after using 20 you will next need 18 or 16. When 16 is too far off, get 13 or 14; next 10 or 11, and so on. As you get down to the more powerful numbers, you will find a single inch (or number) makes a great deal of difference, and we often, therefore, need to have, say, 8½, to get a comfortable fit for the wearer. Use spectacles whenever they are a relief and rest to the eyes, and change whenever you find a change is a rest or relief. One great advantage in the 10-cent spectacles is, that they are so cheap you can have several pairs, one for a distance, say; another to read easily. Also, if you lose one you can bring out the extra pair. If in ordering you do not get what you want the first time, give it to some friend whom it fits, and try another. Always have them sent by mail, in cases. A stout paper case is 5c., and a tin one 10. Postage on both specs and case 5c. more.

FRIEND WOODBURN, Livermore, Pa., sends us a postal-card circular, so unique that we give it entire:

Bee culture is my recreative and pleasurable pastime. My apiary is truly my pleasure resort; and while it continues to be so, I expect to find in it my best and cheapest "health-lift." Others of my brethren may take their annual runs to the sea-shore or the shore and during these happy vacations may see much for which I may well envy them the sight; but none of them can, I think, outvie me in the highly invigorated condition of the physical man—a condition which agriculture helped me to attain years ago, but for the retention of which I feel, under God, largely indebted to agriculture. My apiary is worked chiefly for the production of choice extracted honey. For my own supply, however, as well as for the supply of old customers and others who may be pleased to look to me for what they want, a portion of my bees will be devoted to the raising of queens, and which I shall continue to rear under every conceivable condition favorable to their fullest development and their greatest longevity and vigor. My prices for bees and queens for the season will range as follows: For tested queens (Italians or Cyprians) in May, \$3.00, or with ½ lb. of bees, \$4.00; in June, \$2.50, or with ½ lb. of bees, \$3.50; after July 1, \$2.00, or with full pound of bees, \$3.00. Untested queens, after July 1, \$1.00; with ½ lb. bees, \$2.00. The same in 8-frame Simplicity hives, with foundation in wired frames, \$2.00 additional in each case. I can not, as others do, put forth the immodest claim to have "the best strain of bees there is in the world; but that they are not particularly devoid of very commendable industry may be inferred from the fact, that during the past season—which my neighbors generally voted a poor one—they yielded an average of 96 lbs. honey, and 233 per cent increase per colony, spring count. My price for choice extracted honey this season will be 15 cts. per lb., subject to advancement after Sept. 1, should the price of other commodities demand it. This is for honey in any quantity desired, in your own vessel. When 25 or 50 lbs. are taken at one time, I will furnish it in a serviceable tin can, without extra charge. I also expect to pack a considerable quantity in 2-lb. tin cans, securely soldered, and which I will furnish to the trade, neatly labeled, and packed two dozen in a box, at \$7.50 per package.

OBITUARY.

HAZEN—March 30th, 1882, REV. JASPER HAZEN, the founder, and for many years pastor of the Woodstock Baptist Church, died in that village, aged over 90 years. Mr. H. was widely known throughout the State, both as a minister and bee culturist. To the subject of bee culture he had given much attention, and had written largely about bee matters for periodicals.—*St. Albans (Vt.) Messenger.*

Many will remember Jasper Hazen as the one who so strongly advocated covering the brood-nest on top and sides with honey-boxes (after the plan of Quinby, Mrs. Cotton, and others), and keeping but few stocks in one locality, with a view of having as much of the honey as possible, from each field, go to market, instead of using it to winter a great quantity of bees. Although he took up bee culture late in life, he by his zeal directed much attention to these two points.

KIND WORDS FROM OUR CUSTOMERS.

I find GLEANINGS an excellent advertising medium. WM. L. STILES.
Austin, Texas, April 13, 1882.

I am well satisfied with the circular I received of you. I have sent out lots of them, and have received several orders. GEO. W. BAKER.
Lewisville, Ind., March 4, 1882.

The 50-cent smoker came all right, and is fully up to expectation. There is one point you fail to notice in the smoker. When you want the fire to start, or to raise a little more smoke, just open the door a little, put your finger on the nozzle, blow a little, then shut it up for business. This saves having any extra pipe for hot-blast claimed for some other smokers here, that cost twice the amount, and are no better. J. N. GILCHRIST.
Santa Barbara, Cal., April 7, 1882.

I received the mainspring of the watch. I put it in myself. The watch is doing finely now. I am very much obliged for your kindness. I shall remember and do for you all in my power. JOHAN JACKEL.
Janesville, Wis., Mar. 15, 1882.
[It has been reported to us several times that jewelers wanted a couple of dollars, or even more, for putting a mainspring into a Waterbury watch. Well, friend J. thought he could put the spring in himself, and so we asked the factory to send him one, which they did without charge. You see he did it, and without much trouble, evidently, for the mainspring can be got at easily without interfering with the rest of the machinery of the watch at all.]

THE 75C. TELEPHONE.

The telephone is a grand success. The wire is over 100 rods long, and yet we talk with the greatest ease. I wish I had one running to the ears of some of the bee-keepers. I would quote David to them: "How good a thing it is for brethren to dwell together in unity." Send another. The only fault is the ringing sound which sometimes is very loud and unpleasant. Is there any way to quiet the thing? A. J. COOK.

Lansing, Mich., April 14, 1882.
[Thanks, friend Cook. The ringing sound is usually because the wire needs drawing tighter; but sometimes because an end or joint is loose somewhere, and vibrates.]

[Kind words from one of our customers, accompanying an order.]

CHARGE TO THE BEE.

Go west, you little busy bee;
Nor for one moment wait,
Until you reach Medina town,
In fair Ohio State.

To Amos I, "the bee-man," fly,
Nor linger round his flowery border;
But safely place into his hand
This little postal money-order.

Then do not try his hive to rob,
Nor flirt around his clerks so fair;
But strict attention give to "biz,"
And well behave while you are there.

Then quick return your load to bear;
Buzz not with idlers by the way,
Until you reach Lynn City fair
On Massachusetts' lovely bay.

Poetry runs in our family, as you will see. I have a brother who can write poetry even better than I, if any thing. My poetry (like sample) I can supply in any quantity at 10 cents a line. Write for special rates on all orders of over fifty verses. The above was made on the "Given machine;" therefore I don't charge any thing for it. If more sentiment is wanted in the "line," with thinner "base," and all made of "bright whax," add 3 cents a line for all regular sizes. We keep bees, write poetry, and take in washing. Small orders thankfully received, and larger ones in proportion. Don't place any thing to my credit; besides, you owe me 5 cents already, and I will take it up in Sunday-school books or tin rattles. Won't we sling honey this summer?

PHIL.

The pound of bees and queen I got of you last spring is now a very strong colony, and is working well.
A. H. ROUSE.

Ickesburg, Pa., April 5, 1882.

I have bought four Waterbury watches, and must say I never had a better time-keeper. I have carried this one now nine months. E. G. PETERSON.
New Orleans, La., March 4, 1882.

I get four different newspapers, mostly milling journals, but I want GLEANINGS to hang on the upper nail.
D. E. BAUGHNEY.
St. Thomas, Pa., March 30, 1882.

A PLEASED CUSTOMER.

Accept thanks for promptness. And such beauties for the money! why, it's simply tremendous!
Carlstadt, N. J., April 6, '82. FREDK. HOLTKE.

Goods received in good condition. Thanks. Where did you get that dictionary? I is a third larger than my dictionary that I gave 60 cents for, and better bound.
C. W. LEAH.
Spanish Fork, Utah, April 3, 1882.

The A B C arrived safely. I can not tell how surprised I was when I saw the large book you sent. It makes every thing so plain that a wayfaring man, though a fool, *ought* not to err therein.
Elber, N. Y., April 18, 1882. A. S. DOUGLASS.

A B C book is received. Thanks for your promptness. I am much pleased with the book, for I believe it is a useful and good one for such as myself. If there were no more to be had, I don't believe you could buy this one for less than about an X.
St. Thomas, Pa., April 14, '82. D. E. BAUGHNEY.

When John wound the watch it wound so easily that he thought the spring was broken or unhooked, and he sent to me to see about it, saying that it was out of fix. Now he would not take \$10.00 for the watch if he could not get another.
Ed. S. HARVEY.
Cavelt, VanWert Co., O., April 10, 1882.

I wish to say that I am so much pleased to see that you bring Christianity into your daily life and business. We need to meet its teachings at every turn. I trust that your life shows that you believe as well as talk for *that* will convince unbelievers that Christ is divine. I want to thank you, too, for warring against tobacco. From observation, I believe it injures the health, blunts the perception of right and wrong, and destroys ambition.
Delavan, Wis., April, 1882. LIBBIE WILLIAMS.

About this time last year I sent you pay for three months. You made a mistake and sent me GLEANINGS for a whole year. Now, Mr. Root, I do not intend to beat you out of the rest of your pay, which is 75 cents. I will send it in May, and one dollar for next year. I have taken GLEANINGS for some years, and also the other bee journals. I like GLEANINGS best of all, and mean to always take it. My bees have all wintered well, every one of them. Swing your hat once more for chaff, and call for reports from cellars. I don't think cellars will show up as well this spring as chaff.
Wm. MCEVOY.
Woodburn, Ont., Can., April 3, 1882.

[That's the way to do business, friend M.; and we not only thank you, but we will note on our "big ledgers" that you are a square man; and the *world* is always noting such little things too.]

The Waterbury watch has been in use for one month. I find it O. K. It runs right along with my \$200 watch, and seems to be as correct a time-keeper. I have one of the finest and *best* movements that can be bought for money; and so far as a *time-keeper*, the Waterbury is equally as good. It is neat, too, in appearance, and no gentleman would be ashamed of it. It came through the mail all right. The W. W. Co. are to be congratulated.
Wilmington, N. C., April 10, '82. R. C. TAYLOR.

I stopped my subscription to GLEANINGS last September, never intending to renew; nevertheless I feel myself compelled to, and do hereby enclose \$1.00 for that purpose for the year commencing September last. The reason I change my mind is that, on reflection, I saw I was punishing the

wrong man; that whereas it did not matter to you whether I was a subscriber or not, it was injuring me very considerably to be deprived of a valuable medium of apianian instruction and amusement; and I feel at the present moment somewhat in the humor of my old schoolfellow who, on being offered a piece of cake by a boy with whom he was on unfriendly terms, exclaimed, "Well, James, I don't like you, but I won't mind a piece of your cake."

J. HAMMOND.

Montreal, Ont., Can., March, 1882.

[But it does matter to me a great deal, friend H. I do not mean because I lose the dollar, but because I do not want to give the slightest cause to any one of you, if I can help it, for feeling hard toward me. Please think, dear friend, it is not from choice I have been unceiling or unkind, but because of this great sea of business that seems just now covering me all up, and making it next to impossible for me to do a tenth part of the duties I know I ought to do.]

I would like very much to see you and have a good talk; some about bees, but more about the Homes, and the work you are doing for the Master. You will see by your list that I am a subscriber to GLEANINGS, and how it came about was by talking to a friend about bees. He offered to lend me some numbers of GLEANINGS, and the Homes met my views so exactly that I sent for the 1880 numbers, and hope to get the blessed "Homes" while my good Master leaves me here to work for him. Why, brother, your advice to take all our cares to the Lord in prayer, and ask him for what we want, and, if for the best, we will get it, is a fact that I have proved for more than 38 years. I have been permitted to work as superintendent in Sabbath-school for more than 20 years, and have seen about fifty who have been taught and prayed for: become hopeful members of Christ's Church, and many of them are working as teachers in the Sabbath-school.

In one of the Homes you gave an instance of taking trouble to the Lord in prayer. I will recite one instance out of many. During the pressure of 1877 I was troubled to get money to pay a bill, and asked the parties for more time; but the answer was, as they went from the office into the store, "We will wait no longer." I was enabled to lift my prayers to God, as he was the disposer of the hearts of men, to soften theirs; and in a few moments one of the firm came in with the word,—

"When I went out I did not mean to wait another day; but something has come over my feelings, so that I can not refuse your request, and now what is it?"

"Why," said I, "I have been asking God to soften your hearts, for he knows my intentions are honest, and he has answered my prayer by changing your minds;" and before the time expired, the good Master helped me to pay it all, glory to his name!

Do not stop the Homes. They are worth more than the bees; the bees gather the sweets from the flowers for man, but the Homes lead and encourage man to gather better and more lasting sweets from God's word, and by prayer.
Wm. SEEDLAM.
Oyster Bay, L. I., Jan. 18, 1881.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. It wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey*.—In reply to yours of the 20th inst., permit us to say, we have no fancy white comb honey in this market. We quote fair grades of white at 14@16c; mixed grades and dark, 11@12c; best white clover, extracted, firkins, 9@11c; dark clover and buckwheat, 7@8c.

Bee-wax.—Very scarce, and finds ready sale at 26 @27c.

H. K. & F. B. THURBER & CO.

New York, April 24, 1882.

CHICAGO.—*Honey*.—No change since last quotation. White comb, scarce.

Beeswax.—In heavy demand, and I am paying 24c for good yellow, and 25c for prime lots. Cash on arrival. Dark and off yellow, 15@22c.

Chicago, April 24, 1882. A. H. NEWMAN.

CLEVELAND.—*Honey*.—Our honey market for white honey in sections is good at 22c per lb., with but little coming forward. Extracted is also well advertised; prices still 11@12c.

Beeswax.—25 to 30c.
Cleveland, April 21, 1882. A. C. KENDEL.

DETROIT.—*Honey*.—The honey market is very dull. There is but little in the market, and the demand is very slight. Good comb honey is quoted at 16@17c.
Detroit, April 27, 1882. A. B. WEED.

CONVENTIONS.—The Maine Bee-keepers' Association will meet at Foxcroft, May 11, 1882.

The Eastern N. Y. Bee-keepers' Union will hold their 10th semi-annual convention at Cobleskill, Schoharie Co., N. Y., May 2d and 3d, 1882.

BEES AND HONEY FOR SALE!

Would exchange 100 colonies for land in Michigan.

J. P. HOLLOWAY,
5d Monclova, Lucas Co., Ohio.

SECTIONS & HIVES



We make a specialty of our "Boss" One-Piece Sections. Patented June 28th, 1881. We have not sold any right to manufacture, therefore we caution the public against buying any One-Piece Sections not bearing our stamp. Send for new price list.

JAMES FORNCROOK & CO., 5ftd
Watertown, Jeff. Co., Wis., May 1, 1882.

Bees By the Pound.

Also Dollar Queens at GLEANINGS prices. Orders will be filled about June 1. Money returned when customer is tired of waiting.

A. M. SAWDEY,
Poolville, Madison Co., N. Y.

Long Island.

I will sell full colonies of Italian Bees, with tested queen, 10 L. frames, \$10.00. Bees by the pound, after June 1, \$1.00.

DR. D. R. PORTER,
5 Manhasset, Queens Co., L. I., New York.

TEXAS LILIES.

The bulbs of 6 beautiful Texas Lilies, very hardy, by mail, 25c; 50c per doz. Stamps taken.

WM. L. STILES, Austin, Texas.

FOR SALE!

Six swarms of bees, and some extra chaff hives, at a bargain. Address

H. L. CHAPMAN,
5d Marcellus, Cass Co., Mich.

Silver Hull Buckwheat!

Clean Seed, pure, per bushel, \$1.75; 2 bushels, \$3.00.

C. A. GRAVES,
Birmingham, Erie Co., O.

ITALIAN QUEENS and Bees and Nucleus, full colonies, cheap. Send for prices.

SIMON P. RODDY,
5d Mechanicstown, Fred'k Co., Md.

Dovetailed Sections!

Before June 1st, 4 1/4 x 4 1/4, at \$4.50 per 1000; 5 1/2 x 5 1/2, \$5.00 per 1000. Sample of either, by mail, for a 3-ct. stamp. Italian queens, and bees by the pound at A. I. Roof's prices, with packages included. Two-comb nucleus, with Gallup size frames, after June 1st, \$2.00; with 4 combs, in full-sized hive, complete, \$4.50. Add price of queen you want. Full colonies, with tested queens, May and June, \$9.00 each. It will pay you to try our bees!

Send money at my risk by P. O. money order, registered letter, or draft on New York or Chicago, to
No circulars. O. H. TOWNSEND,
4ftd Kalamazoo, Kalamazoo Co., Mich.

See testimonials in March GLEANINGS.

Albino and Italian Queens and Bees, and Supplies for 1882.

HEADQUARTERS FOR THE ALBINO BEES.

If you have any taste for beauty, desire pleasure in working, and want large yields of honey, buy the Albinos, for they are the "coming bee." In order to meet the demand for queens, I have increased my stock, and will be able to furnish several hundred per month after May 1. Also furnish hives, Novice's extractor, and apiarian supplies in general. Send for price list.

S. VALENTINE,
3-5d Double Pipe Creek, Carroll Co., Md.

Italian Bees & Queens

AT REDUCED RATES.

Send for price list and be convinced. Address

3-5 T. C. CRILLY,
GRAFTON, - - LORAIN CO., - - OHIO.

1882 Consult your own interest, and send for my new Circular and Price List of Colonies, Nuclei, and Queens.

2-7d Address S. D. McLEAN, Columbia, Tenn.

HEADQUARTERS for the GOLDEN ITALIANS and the ORIGINAL ALBINO BEES and QUEENS. Send for circular.

J. M. C. TAYLOR,
3ftd Lewistown, Frederick Co., Md.

MY FRIENDS, if you need Hives, any

pattern, Frames, Sections, Italian or Cyprian queens, or queens from my apiary, where I am crossing the Brown German and Italian Bee, which produces the best all-purpose bee extant, you can have my circular and prices, by describing what you need, and addressing
J. A. BUCHANAN,
4-6d Holliday's Cove, Hancock Co., W. Va.

FOR Dunham and Root foundation, equal to any made in the U. S., and other apiarian supplies, address VON DORN, 830 South Ave., Omaha, Neb. Wax wanted. 3-6

BEE-KEEPERS' SUPPLIES. Every thing used. LEWIS & DETWILER, Manufacturers,
5ftd Toledo, Ohio.

Mill Side Apiary.

Italian and Holy-Land Queens, Apiarian Supplies, Bees by the pound, Nuclei, or Full Colonies. For circulars, address

W. B. COGGESHALL, Supt.,
5 Hill Side Apiary, Summit, Union Co., N. J.



Vol. X.

JUNE 1, 1882.

No. 6.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 31.

EXTRA-PURE QUEENS, ONCE MORE.

FRIEND DOOLITTLE, on page 118, March number, you say, "It seems to me that friend Hutchinson has made quite a concession on friend Root's part by making him say that he (Root) has had queens mating black drones that never produced a black bee." Now, then, how do you understand the following from friend Root's remarks on page 482, October number, 1881: "I am well aware that we often have queens whose daughters produce *no black bees*, but I do not know that I have ever owned one whose daughters produced no two-banded or hybrid bees?"

Time and again, friend D., have I asked you to say whether you have a queen whose daughters produce all three-banded bees, even though they have mated with black drones; also how you could tell what kind of drones they had mated with. You have always evaded answering this question, by referring me to some queens that you had several years ago. Begging your pardon, my friend, do you really know, to a certainty, whether you *now* have such a wonderful queen?

I don't wonder, friend D., that it required some courage to say, "There is no such thing as a one or two banded bee." I presume that you thought the majority of the bee-keepers would think, as a prominent apiarist wrote me, that, "if almost anyone but Doolittle had made such an assertion, he would be considered a fit subject for the insane asylum." But

never mind, my friend, what others think; I think you are deserving of great credit for saying what you believe to be the truth in this matter, even though you stand almost alone.

ARE DARK ITALIANS HYBRIDS?

Friend D., although I do not agree with you, that there are no one or two banded bees, I will venture to suggest, that *perhaps* the dark Italians are *hybrids*. I know that these dark Italians show the three bands; and if they are hybrids, it certainly helps to strengthen the position that you, in this, have taken. We now have pretty good evidence that there are black bees in Italy; and isn't it possible that these dark bees are a mixture of the yellow and black varieties, and it is this mixture that makes them so smart? By careful breeding, in this country, the black blood has often been "bred out," and the result is the light-colored Italians and "Albinos." By crossing these light-colored bees with the black bees, we again have dark bees, or hybrids. But in my experience, hybrids produced by crossing bees in this manner, are bees with one or two yellow bands. If the dark imported bees are hybrids, and yet show the three yellow bands, I will confess that I do not know why it is, unless it is because they have been so long bred as hybrids that almost a distinct variety has been developed; that is, an Italian bee with just enough black blood to give it a dark complexion. We all know that hybrids (whether the hybridization is done in Italy or in this country) are good workers. Who ever knew of a lazy swarm of hybrids? In my experience, some hybrids are cross as well as smart, while others are as amiable as pure Italians. I consider the dark Italians a trifle more difficult to handle than the light.

QUEENS REARED UNDER THE SWARMING IMPULSE
NOT ALWAYS UP TO THE STANDARD.

I am very sorry, friend Doolittle, if I have offended you by my extreme inquisitiveness. But shouldn't you bear with me, even if answering so many questions does put you somewhat "out of breath," especially when such questioning brings out such valuable facts? For instance, it brought out the fact, that queens raised under the swarming impulse, and with Doolittle's management at that, do not always come up to the standard, nearly 25 per cent being culls.

LEARNING OUR BUSINESS.

Friend Heddon, it is a fact, that "the great basic principles, not only of apiculture, but agriculture, are facts the world over;" but it is equally true, that there are hundreds of details in the management of either business; that these details differ with the locality, and that success is largely dependent upon these details, no one is more fully aware than is Mr. Heddon. Friend H., were you going to engage in bee-keeping or farming in Michigan, would you not prefer to learn *how* at our State Agricultural College, rather than at an agricultural college in Mississippi? Yes, in a certain sense a journal devoted to articles from North and South, Germany and England, is only half a journal to each faction. No, friend H., I do not consider it as "simply a question of a great many pounds from a few producers," or "a few pounds from a great many producers." I am in favor of both a great many pounds from a few, and a few pounds from a great many. I do not think, friend H., that you and I will live to see the time when *too much* honey is produced, any more than we will to see too much biscuit and butter.

MY NEW HOBBY—MANAGING BEES WITH AS LITTLE
LABOR AS POSSIBLE.

On page 225, friend Cummings wishes to know if that uneasy colony of mine was breeding. Friend C., I don't know. During the first two or three years that I kept bees, I opened the hives and examined the bees at every warm spell during the winter and spring; but *now* I have a new hobby, and it is that of managing my bees with as little labor as possible. I don't intend to neglect them, but to so manage that they will require as little attention as possible. In the fall I see that they have plenty of honey; are strong enough in numbers, and have vigorous young queens. I then protect them upon their summer stands, bury them, or place them in the cellar, and I don't open a hive again until the latter part of April. I prefer to raise extracted honey, and am rather inclined to favor the tiering-up plan of friend Dadant, which gives me time to extract the honey at my leisure. With this method of management, one does not need to open hives very often, and larger numbers of colonies can be cared for. With each succeeding year, I find myself more and more inclined to building up a large apiary, *perhaps* more than one, and making a speciality of raising extracted honey.

W. Z. HUTCHINSON.

Rogersville, Mich.

I fear, friends, we are taking up too much space over this "yellow-band" business, and I fear, too, we shall some of us get into an unfriendly mood, if we don't look out. I very much dislike to refuse the publication of articles that have been prepared for print, and I should therefore feel very much obliged to all concerned if they would drop the

matter just where it is. The swarming season is now upon us, and we haven't time to argue. Shall we not roll up our sleeves, shake hands, and then pitch into the work that is to be done? Tell us about your *work*, and I shall be glad to print it.

HOW THEY DO DOWN IN GEORGIA.

SWARMING EXTRAORDINARY.

ON the first day of April I had 19 colonies, all in good condition except one, which I sold to a friend at his own price, as he seemed to have more faith in them than I had. He says that, with a young queen which I gave him, they are doing well. April 3d my first swarm issued, and on the 29th my 25th swarm issued, all from 11 colonies except one, which came from one of the new swarms eleven days after it was hived, so they were all from the 11, after all. Up to the present writing, May 2d, I have had 27 swarms, all from 12 of the original 18. These 12 have cast, some one, some two, some three, and one, four swarms. This I call swarming extraordinary. I have now 40 colonies, and a one-card nucleus, with queen fertilized to-day. I have lost three or four swarms with young queens; have divided two, captured one that was running away from some other place, united some, so that, with the 27 swarms, I have increased only 22. Five of the 40 are double-size hives, so I consider them equal to two ordinary hives.

If our bees here have plenty of food to winter on, they require little or no attention during winter. I find it a good idea to feed a little during March, so as to get the bees stirred up to business during peach-bloom, which is any time in March when the weather is warm enough. Bees at this time, and, in fact, through April, have very little honey; but as they build new comb, the queen fills it with eggs. We never lose any swarms with old queens. As soon as I find a young queen is laying, I clip off one wing.

GIRLS AND BEES.

My daughters, I find, are very handy in the apiary. Some one of the four is on the lookout, and as soon as she sees them start out, she hastens to the place; and the queen must be quick on the fly, or she is sure to be captured before she leaves the alighting-board. We have had several swarms leave the hive after being hived; but I find, when we succeed in capturing the queen, and let them return to the hive themselves, they never attempt to leave. I hear of a great many bees running away this spring, some losing nearly every swarm that issues. One man asked me what he must do to his bees. Of course, I asked,—

"What is the matter with them?"

"Exactly what I want to know," said he.

"Well, what do they *do*?" I asked.

"Why, run away as fast as they swarm."

"Tie them, man, tie them."

Of course, this was Dutch to him, as he did not know how to "tie" them. After I explained to him how to tie them by cutting the queen's wing, he acknowledged that he could not do that, as he was afraid of them.

"Then sell them, or give them to some one who is not afraid of them; for if you can not take care of them you have no business with them."

And this is the advice I give to all who try to keep

bees by proxy, or by letting them take care of themselves. If a man can not stand and let a bee make a close examination of his nose, eyes, and ears, he will never succeed as an apiarian.

It is said, that bees in large hives seldom cast a swarm. I had bees winter in two of my large hives, and each of them cast three swarms in the month of April, while some of the small ones have cast none.

J. M. HARRIS.

Cedartown, Polk Co., Ga., May 2, 1882.

P. S.—Another swarm to-day, May 3.

I entirely agree with you, friend H., in regard to keeping bees by proxy. Neither do I believe in keeping bees on shares, or letting them out on shares. It is well to hire help, if you need it, but you must be on the ground, with your sleeves rolled up, yourself. If you want help, get your own boys and girls interested, and, nine times out of ten, the girls will see a queen twice as quickly as you can, after they get a little interested. I wonder how many of our young friends have dreamed of seeing queens, after a busy day hunting them.

GEORGE GRIMM'S REPORT OF WINTERING.

CELLAR WINTERING AND CHAFF-HIVE WINTERING.

YOU no doubt expected to hear my report last month or before; but as I wanted to make it complete, I could not give it sooner. The fact is, I have been losing bees constantly up to the middle of May. This has been by far the worst spring I can remember. Lately I saw a letter of Mr. Doolittle in the *A. B. J.*, and it made me feel more contented; not but that I am sorry for Mr. D., but, you know, "misery loves company." May be he will feel easier after reading my report. Far sooner would I have winters like that of 1880-'81, with such a spring as that which followed, than winters like the last, with a tail reaching into summer. Such springs try my courage severely. The loss during winter was light enough—even less than I had hoped. The total loss in cellar was but nine colonies; but since, with freezing, robbing, and doubling up, there are about five nines added to it. Breeding is very slow, and bees are weak, fully one month behind time. It appears to me that this may affect the honey crop somewhat!

But as this is to be a report of wintering, I will endeavor to confine myself to that, and let the summer take care of itself. Some of you will remember that I had a large tank built in one of my cellars, to fill with ice in case the temperature should become too high; and I have had a number of inquiries as to its success. For the sake of the experiment, I am sorry to say that I did not need it, consequently did not use it. The temperature in that cellar changed but little and slowly, even during the warmest days of the winter. I made a mistake, and that, too, when I should have known better. It has been my invariable rule to leave my bees in cellar as late as possible, and to give them no winter flight. But the middle of February brought us such beautiful weather that the temptation became too strong. I took out all but those in one cellar, 123 colonies. Every one said warm weather would continue, and it did look like it; but every one, as usual, was mistaken. After a few days, cold weather came in plenty, and left

its mark in the shape of freezing small colonies, and dwindling generally. They were returned to the cellars as soon as possible, and left there till the latter part of March.

I had felt some little anxiety in regard to the 123 colonies that were not removed all winter, since they passed through quite a siege of warm weather. This cellar is five miles from my home, and I had been in the cellar but twice during the winter, and then only to see that the entrances were not clogged up with dead bees. I took them out March 20. A surprise awaited me. I had expected the usual loss, as that cellar was always the poorest I had to winter in; but one after another was brought out and examined; and when all were out, I pronounced them the best lot of bees I had. One was dead, two were weak and were united, and five have been robbed since, when I was away. The rest rate fair to good. Not a trace of dysentery could be found. Does this not indicate that winter flights are not always beneficial? That I did not get through this winter with less loss, was certainly partly owing to the fact that the rest had a flight in February. Why can we not let our bees alone when they are all right?

Since speaking in favor of chaff hives, I have been besieged by parties willing to help me to get what I want exactly. Judging from their letters, the very hive we have been long searching for has long been in use. Wonder I did not know this before. Perhaps they were afraid to tell me of it, fearing that I would not believe them, since I was (and, what they may not know, am yet) a strong advocate of cellar wintering. I thank them kindly, and will at least test some of their claims. But let me assert one thing: Chaff is not victor yet, and this winter, by its mildness, and the eminent usefulness of chaff hives this spring, will lay a grand foundation for another less like that of 1881-'81 at no distant date. I shall give a piece of gratuitous advice now—advice that I shall follow to some extent in the future: Severe winters will not average more than one in three or four years. In mild winters, the advantages of outdoor wintering are of great importance. A warm double-walled hive will pay, even if used only in early spring and late fall. Now, then, this is what I think is advisable: Keep one-half of your bees in protected hives on their summer stands, and put the rest into the cellar. Loss will rarely strike both at the same time. In spring, double up all weak colonies into warm hives, and save the empty hives and comb for the summer's increase. This is "mixed farming." I fail to be convinced that there is a hive in existence that will give us perfect success in outdoor wintering in this climate; but with one hundred colonies on the summer stands, and their increase in the cellar to double up with in the spring, we can always keep the *original number* intact and strong at the right time.

Is this not one solution of the problem how to "keep your colonies strong"? GEO. GRIMM.

Jefferson, Wis., May 22, 1882.

I think it is, friend Grimm, and I believe it was Doolittle who first said, try half indoors and the other half out. Will you please repeat, friend Grimm, just how many you started in to winter with, and how many you had lost (by doubling up, etc.), by the first of May? And one more thing: Did you try keeping any in until the first of May, and have you ever tried so doing? During the severe frosts in May, there was a time when

the bees came out and spotted their hives with a tarry matter that is not washed off the tin roofs yet; and had not fine weather come at just the right moment, I do not know but that we might have lost a hundred colonies, even after the first of May. As it was, we lost but two or three. Why does cool weather make so much more trouble in April and May, than it does in winter? Is it because they have a good store of new pollen that they have filled themselves with? Will friend Heddon please answer?

SUGAR VERSUS HONEY FOR WINTERING, ETC.

AS everybody has something to say in regard to cellar or outdoor wintering, I will tell my experience with chaff hives. I have wintered successfully, packed in chaff. The winter of 1880 and '81, my bees were packed in tenement hives, 20 swarms in number, and I lost only 3 out of the 20, and they died with dysentery. I had some swarms that I fed on white-sugar syrup in the fall, and they came through without any sign of dysentery, clean and bright in the spring. When I prepared my bees last fall for winter, I fed white-sugar syrup to those that were lacking in stores, and to the rest I gave good early honey, and I have wintered without any loss on the summer stand in the Roop winter-protector hive, which I think is the best hive out for both summer and winter use. Double-walled or chaff hives are the thing for spring and fall, especially during such a spring as this has been; with the sudden changes, bees would suffer in single-walled hives. I think, if we would feed white sugar more for winter use, it would pay.

TELEPHONES AS A WEATHER INDICATOR.

I see a question in GLEANINGS in regard to the ringing of the telephone wire, and your answer was, the wire was too loose. We have one, and the wire is drawn as tightly as it can be, and it rings louder than it did when it was loose. I think it is the atmospheric changes that cause the ringing. We have noticed that it always rings before a storm or a change in the weather. It has proven to be more correct than the barometer that hangs on the stoop. The other morning I was going to town, and the telephone was ringing, and I said it would rain before night, and it did. If you have one, please take notice, and let us hear more about it. E. W. LOWE.

Sebewa, Ionia Co., Mich., May 9, 1882.

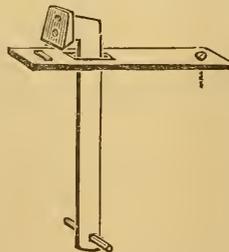
The testimony in favor of white sugar in place of natural stores, places the matter beyond controversy, it would seem. It was one of the points I urged emphatically, when the first number of GLEANINGS was issued. The testimony of the years that have passed has steadily confirmed it, and the only change I would make since then is to advise the purer *granulated* sugar, instead of coffee A; and for this idea we are indebted to friend D. A. Jones. The few colonies we have lost during the past winter are in each case among those that had enough natural stores. The one of neighbor H.'s five, that died in May, was the old original stock started from the pound of bees; and as they were so much ahead of the four made from them, they gathered sufficient natural stores, while the young ones had to be built up on sugar.—The ringing of the telephone you allude to,

friend L., is not quite what we have been discussing. The ringing sound while talking, was the objectionable feature. You speak of the musical note, like that of the aolian harp, and you are, of course, right about it, being greatest when tightly strung. Its queer sound, often breaking out in the night time, was once quite a serious objection to ours, but I never before heard of associating it with weather changes. It is occasioned by the rising of a light but steady breeze, if I am correct; and as a rain is almost invariably preceded, several hours before, by such a rising of the wind, no doubt a ringing of the telephone would indicate the coming of rain, on the same principle as the barometer and hygrometer.

CLARK'S FOUNDATION FASTENER.

AN IMPROVEMENT ON THE PARKER MACHINE.

WITH this I send you a modification of the Parker machine for fastening fdn. in sections. You described it a year ago in GLEANINGS, but I think perhaps you never used it. Myself and neighbors have used it the two seasons past. Will you please try it? I wish no acknowledgment of any kind for it.



CLARK'S STARTER MACHINE.

It is to be screwed on a table or bench, with working end over the edge, so the lever will swing; use a little honey on the edge of the presser occasionally, and as the lever is brought forward to relieve the pressure on the foundation, the section should swing around as though hinged at the corner; this will cause the fdn. to adhere firmly to the section, while if the presser is raised and the section relieved without bringing it forward, the foundation is quite liable to remain on the presser.

The particular object of the machine is to give one two hands to handle sections and foundation, while the foot does the pressing. NORMAN CLARK.

Sterling, Ill., May 13, 1882.

You are right, friend C.; we never got around to make a machine, and therefore it was never tried. It happened this time, however, that your machine reached us when the girls were crowded to get starters put in fast enough, and all hands were so busy I just told one of the girls to fix it up themselves. In a short time I passed by, and found them putting in starters faster and better than they ever did before on any Parker machine. The greater lever power obtained makes it easy to rub the wax into the wood so it can never get off without tearing; and with both hands to work with, one can bend the fdn. up so it will hang right, and do it vastly faster than with the Parker machine. With three flat-irons kept hot over a coal-oil stove, as friend Miller taught us to do on page 167, April No., I tell you work goes on nicely and rapidly. Friend C., the little machine is worth \$5.00 to us, and I hope it will be worth the same to at least a

thousand of our readers. That would make \$5000; but instead of offering you that, I think we will credit you with \$5.00, and for the rest you can have the satisfaction of having done good. We again give the cut, and full measurements. It is all made of $\frac{3}{4}$ pine. The piece with the mortise in it is 20 inches long by 4 in. wide at one end, and only 2 in. wide back where the screw goes in. The mortise is made by boring $\frac{3}{4}$ holes $3\frac{1}{2}$ in. apart, and cutting out the wood between them. The upright piece is 30 in. long, $2\frac{1}{2}$ wide where it goes into the mortise, and $1\frac{1}{2}$ wide where the walnut pin for the foot is put through. About $3\frac{1}{2}$ in. below the top, and $\frac{1}{2}$ in. from the back edge, is put an iron pin, $\frac{1}{2}$ in. diameter. The hard-wood block that rubs in the edge of the fdn. is $3\frac{1}{2} \times 2\frac{1}{2} \times \frac{3}{4}$. The lower edge is brought to a rounded sort of an edge. Friend Clark has told how the machine is to be used. A couple of wire nails will stop the sections so as to have the fdn. come just in the right spot. If you prefer us to make them, we can at the following prices:

For Simplicity sections, 40c; other sizes, 50c. If sent by mail, 35c extra.

REQUEENING IN THE FALL.

YOUNG QUEENS VERSUS STIMULATIVE FEEDING.

SOME time since, I wrote you in regard to requeening in the fall, and you claimed that you could accomplish the same results by feeding, and that it would be a loss to kill the queens, etc. I have tried this on a small scale for a number of years, and am satisfied that it will pay largely. As soon as the honey season was over last season, I deprived my bees of a laying queen, and kept them from rearing brood for two or three weeks (I can see no advantage in having a great horde of bees hatch at a time when no honey is to be gathered). I then gave them laying queens, young queens just hatched, and queen-cells, being governed by their strength as to kind of queen needed. These young queens commenced laying, and kept it up till late in the fall, without any stimulating. They went into winter quarters with plenty of young bees and an average of 40 lbs. of honey. Now for the result: This has been quite an unfavorable spring for bees, yet these young queens have kept laying right along, and have converted nearly all their honey into brood without stimulating, or protection with chaff or quilts. This mode does away with feeding, and you need not kill many queens. As customers generally prefer a tested queen, one year old, mine are generally all sold every season at remunerative prices, and I thus save the price of a queen, and a large amount of honey that would have been converted into brood at a time when it was not wanted, besides doing away with feeding and tinkering. File your objections, friend R., and, if I am not right, set me right.

L. W. VANKIRK.

Washington, Pa., May 22, 1882.

I do not know that I have any objections to make, friend V., for in the main I agree with you. It seems to me you have unwillingly made a pretty strong point in favor of dollar queens, and I have, for some time past, thought I would rather have an average

dollar queen than a tested queen, when the latter was raised the season before, as almost all our tested queens are, until, say, about the first of July. But, why keep a colony queenless, just because you do not want so many bees? Would it not be better to divide, or, if you do not want more stocks, sell the bees by the pound at some price?

THE "TINKERLESS" SWARM-CATCHER.

STILL ANOTHER PLAN.

I WANT to say a few words in regard to that new invention, Brooks' swarm-catcher. You say, "If it is not complete," etc. Well, you know it is not; but still, it cost \$5.00. Now I will tell you of a swarm-catcher that does not need any tinkering, if you will keep still about it, and not get it patented. Two years ago I had 45 stocks at home, and Mr. Johnson had 73, worked for honey; those at home, my wife attended, I placing the hives for her in the morning before breakfast, where she wanted them to stand. You see I always make it a point to have breakfast at home. Are you listening hard for that "tinkerless"? Well, breakfast-bells always make a break in my business. If you are here yet, now take a box, any size that will hold a swarm, say 16 inches high, 8 inches by 12 or 10, according to the size of your swarms; leave one side 3 inches short for the bees to enter. No bottom. Now for the corn-popper idea; you remember I gave you a hint before, but you did not seem to "catch on." Take screen wire enough to make a cage for your queen, and half a pound of bees; make a plug for one end, and fasten and tie a string to it. Make a plug for the other end to slide in, and fasten with a pin. Have a sheet to throw over the front of the hive.

HOW TO PROCEED.

"Mamma, the bees are swarming!"

"Are they? I declare, and my dishes are not washed yet!"

Take the cage, go to the hive — bees tumbling out like smoke — hold it to the entrance till you have bees enough; put in the plug; catch the queen; put her in with the bees; throw the sheet over the hive, leaving it so the bees can come out at the sides; set the box on the sheet in front of the hive; put the cage under the box. Now go and finish the dishes. Ten minutes, dishes all done. Draw the cage out from under the box; take hold of the ball to the box, and carry the bees where you want them. Shake the box, and they fall in front of the hive, and go in. Draw the plug and lay the cage so the queen and bees go in with the swarm. The bees in the cage have a great deal to do with making a success. If the bees do not go up into the box, loose the queen and bees, and they will go up. Do not shake the bees and queen from the cage, as you are liable to injure her. Don't put this in GLEANINGS with my name to it. Don't credit me with \$5.00. It cost some study, but I have my pay. We don't saw off any more limbs; we don't climb any more trees; we don't race any more bees to the woods in the hot sun, nor have any more music of the kettle-drum sort.

J. J. SWARTWOUT.

Union City, Mich., May 24, 1882.

Friend S., I have obeyed you in every particular, except putting your name to your

valuable contribution. I like to be contrary sometimes, and this is one of my "times." You need not make sport of my five-dollar investment, for I think it has turned out pretty well. Do not the friends agree with me? I might have had an engraving made of that box with a bail to it, but I presume we all understand it as it is.

WINTERING ON SUGAR SYRUP WITH NO POLLEN.

CAN BEES REAR BROOD WITH NO POLLEN?

THE bees that I put into the cellar the 21st day of last November, solely on sugar-syrup stores, *no pollen*, were removed on the 19th day of April, having had only one fly, March 23, since last November. Now for the result of the experiment: They were all in splendid condition, except 2 that were overlooked, and starved, and 2 that were queenless, but strong in bees; this, however, I consider no fault in the manner of wintering, but my own carelessness in keeping such old queens. I never before had bees winter without some of the colonies showing signs of dysentery. There was not a cell of brood nor hardly an egg in the 17 colonies left. Their comb and bees were as clean and bright as they were last November. Now, if they wintered last winter for 100 days without a fly, and came out in good condition in spring, why will they not such a winter as one year ago last winter?

But before I swing my hat too high, I will wait till I pass through such a trying ordeal, for fear that it may take some of the conceit out of me. I have delayed reporting till the young brood began to hatch nicely, for bees with me are not wintered until then.

A. A. E. WILBER.

Moravia, Cayuga Co., N. Y., May 23, 1882.

Yours seems to have been a valuable experiment, friend W. If you had seventeen colonies that wintered over without a particle of brood until new pollen came in, it is impossible, almost, that the result was accidental, and that your depriving them of pollen had nothing to do with it. I have, for some years, been under the impression they would winter just as well without pollen, and I should not be at all surprised if your treatment would do away with a possibility of dysentery, unless, indeed, they took it and died after new pollen came. If you can keep them in the cellar until the first of May, it almost seems as if you had a sure thing on that special trouble.

A STING THROUGH THE EYELID,

AND HOW TO EXTRACT IT.

SOME years ago I was stung on the eyelid. It did not swell at the time; but two days afterward I felt a scratching on the eyeball, which became very painful, and inflamed. I went to a physician, who said it could not be possible that the barbed point had broken off and worked through the lid so as to scratch the ball, and yet I was satisfied that it had. After some trouble I procured a microscope, and found a man who could use it. He found the point of the sting through the inside of

the lid, but he could not catch it with tweezers. I then got a piece of soft pine, and he rolled back the eyelid on a lead pencil, and pressed the pine stick on the point of the sting till it pierced the wood sufficiently to draw it out. You could then see that it was really a part of the sting broken off. Had I, when I felt the first scratch, got some one to roll back my eyelid on a pencil, and press on it with a soft piece of wood or leather, the sting would have been extracted without trouble, before it inflamed my eye, and have saved me much pain and annoyance. Since then I always use a bee-hat or veil. Don't you think the sting often breaks off, and that the barbed point still works into the flesh and muscles, causing some of those pains that we attribute to rheumatism?

JOHN F. LAFFERTY.

Martinsville, Ill., May, 1882.

I hardly think these broken-off splinters produce rheumatic pains, friend L., but they may produce a species of irritation in the muscles that those who handle bees much sometimes experience. Thanks for your suggestions in regard to getting stings out of the eyelid.

THE CORN INDUSTRY.

A CHEAP EVAPORATOR WANTED.

PERHAPS you will remember that one year ago last fall I sent you a small sample of evaporated sweet corn, and asked you what you thought of it. You published my note in GLEANINGS, and said it looked and tasted as good as fresh corn. I saw the notice, and thought no more about it; but in two or three days I received my first letter or postal of inquiry, and they are coming yet, as I have received a fresh installment this spring. The prevailing inquiry appears to be for a small evaporator, or drier, to use on the cook stove. You sell and manufacture household conveniences. If this is not one, I do not know what is. I would suggest to you that you add one to your list of household conveniences. Let it be one that will do good service; can be used on any cook stove, and is cheap. If it will fill these requirements, there will be a great demand for it.

N. F. CASE.

Glendale, N. Y., May 22, 1882.

We have just sent to New York for 100 lbs. of dried sweet corn, and Mrs. S., who has charge of the lunch-room, says the hands are inquiring for it every day. It costs there, at present, 13c per lb. Do you want any better paying business than this? I heartily second the call for a cheap evaporator, to be used on a common stove, and would like to hear from the man who can make one. While he is studying it up, I may remark that the nicest and sweetest corn we have ever had from anybody was some we dried in our own oven. We have tried it several years, so we know we can do it every time, and have it always alike. I say "we," for mamma dries the corn, and we children help eat it. Who will simplify and expedite the labor of drying with inexpensive apparatus? Do you want to know what this has to do with bee culture? Why, sweet corn yields honey and pollen, and after that — green corn. Don't you see?

FRIEND WILTSE ON YELLOW BEES, ETC.

MOTIVE FOR WRITING FOR BEE JOURNALS. — THOSE YELLOW BEES. — BEE-HUNTERS; THEIR KNOWLEDGE OF THE HABITS OF THE HONEY-BEE. — TRUTH VERSUS THEORY.

WITH me, the main motive in writing for the bee journals is to assist in eliminating certain false theories that have crept into the science of apiculture, and to aid in reaching the truth. We ought to bequeath to the rising generation a fixed standard of management by which they can be guided, and upon which they can rely. This standard should be based upon facts reached by actual experiments; and when these facts are proved, they should be accepted as such by the fraternity.

THOSE YELLOW BEES.

Many are aware that there were yellow honey-bees, native to this country, before the introduction of the Italian bee. To obtain written statements of this fact, however, becomes more difficult as the blood of the Italian becomes more extensively disseminated, and as the old settlers die off and move away. Had I entertained a thought that Mr. Capps could have mistaken wasps or hornets for honey-bees, I should not have sent his statement.

BEE-HUNTERS; THEIR KNOWLEDGE OF THE HABITS OF BEES; SENDING OUT SPIES IN SWARMING TIME.

The tact of the frontier bee-hunters, and the knowledge of the habits of the honey-bee that they had acquired before the introduction of the frame hive, would astonish the bee-keeping fraternity of the older parts of the world. In 1863, a Missourian who could not read, who had acquired all his knowledge of bees by hearsay and close observation, spent the Sabbath with us visiting. We then had near the house several hives of those yellow bees mentioned above. A swarm issued from one and alighted on a small tree near by. Mr. Bay inquired if I had been accustomed to handling bees. I replied that I had been familiar with them all my life, and had handled them a great deal.

"Then," said Mr. Bay, "you are aware that a swarm, soon after clustering, sends out spies to hunt a tree, and will go to it if not hived?" I replied that I knew they would leave, and had heard that they sent bees to hunt a tree before they left, but never had seen the bees go.

"I have," said he. "I have seen them go and return, and the swarm leave soon after their return. If you will watch you will see the spies when they go. It will not be long. Whether the bees cluster a great while or leave soon, depends upon the trouble the bees sent out have in finding a suitable tree."

We sat down and watched the swarm. In a short time a dozen bees or more left the cluster suddenly, as if driven by some impulse, and scattered in every direction.

"Do you see them going?" said Mr. Bay, as they left the cluster. I assented, and he continued: "The swarm will not leave until these bees return. Let us watch and see them return, and then, if you do not wish to risk them longer, we will hive them."

We watched the swarm several hours, and at length saw some of the bees return singly, and alight on the cluster.

"Their spies have nearly all come back," said Mr.

Bay, and we must hive them or you may lose them. We may be able to stop them after they start, if you wish to watch them longer."

I concluded to see them through to the end, and then hive them if we could. Soon, as if acting under orders, a dozen or more workers left the cluster all at a time, and all flew in the same direction, slackening their speed as they advanced, for the bees in the cluster to have time to catch up with them.

"Those are their spies," said Mr. Bay, "leading for the tree, and we shall now have work to save the bees."

These bees had not flown thirty feet before those in the cluster began to leave it and follow them. We lost the bees; but I learned a lesson more satisfactory to know than to have a swarm of bees. Would Mr. Bay have mistaken wasps or hornets for honey-bees? The visible manifestations of the Omnipotent, dwelling within the honey-bee, are too strongly marked in its instinctive habits for such a mistake to occur. Would such men say, "I claim there is no such thing as a one or two banded honey-bee?" They are too accurate in their observations to be caught making such statements.

TRUTH VERSUS THEORY, AND PARTHENO-GENESIS.

In the winter of 1848 and '49, Louis Agassiz delivered a course of lectures in Boston. In his tenth lecture he said: "One unexpected result has already been ascertained; namely, that cells are properly the organs of living beings; that all functions are influenced by life, by the independent life of isolated cells." Mr. Lionel Beale says: "A cell consists of a mass of protoplasm, with a portion of formed matter around it. There is no tissue through which these soft living particles, or small portion of living matter detached from them, may not make their way. This formless living matter (protoplasm) moves forward and burrows, as it were, into the nutritious pabulum, some of which it takes up as it moves on. It is not pushed from behind, but it moves forward of its own accord." (See Matter and Life, pp. 225 and 242.) Cook says the spermatheca receives the male fluid in copulation; that sperm-cells, mingled with viscid secretions, form the seminal fluid, and that the queen mates with the drone but once.

These three authors teach the following facts: That the male seminal fluid is maintained in serviceable condition, while retained in the spermatheca. This could not be done except through contact with the circulating fluids of the queen's body. This circulation could not exist unless the male seminal fluid became, to all intents and purposes, a part of the queen. The seminal fluid, then, after copulation, becomes, by catalytic action, or inoculation, or both, a part of the queen. This seminal fluid, or the cells of which it is partly composed, are possessed of independent action, being able to penetrate any tissue with which they come in contact, and exert their individual influence on what they come in contact with. If these authors tell the truth, it is impossible for a queen-bee to mate with a drone without its producing a constitutional change upon herself, and all her offspring partaking of that change. A foreign element is incorporated into her body, that, of its own accord, can penetrate any part of it, or the male or female egg.

Dzierzon discovered that partheno-genesis existed as one of the laws of reproduction among bees. Berlepsch drew the inference, that because the produc-

tion of the drone was sometimes agamic, it must not necessarily be so in all cases. This *Berlepsch conjecture* is, as I understand it, the "Dzierzon Theory" of the books, that has lead many aparians to suppose that the same laws do not hold true in breeding bees that hold with other animals.

Chambers' Encyclopedia speaks of Agassiz as one of the most distinguished of modern naturalists, and he is mentioned in Webster's Biographical Dictionary. Beale is mentioned as a physiologist and microscopist in the American Addition to Chambers' Encyclopedia; but one looks in vain in these works for the names of Berlepsch and Dzierzon. Which would be most likely to lead their followers astray?

Falls City, Neb., May, 1882. JEROME WOLFE.

Why, friend W., you stick to it worse than a woman, and I presume I had better beg pardon and stop suggesting that the bees were not genuine three-banded Italians. I should like to ask about that queer feature, of their being honey-bees and still eating blood; but as it is, I think I will thank you instead for your very vivid description of the way in which the bees send out scouts after swarming; and if I ever have the pleasure of meeting Mr. Capps, I will take off my hat and give him a good "shake" while I thank him for the very valuable facts he has furnished us. I presume you have remarked, friend W., how very accurately this corroborates what friend Peters says in his letter in the A B C.—I am very well aware, that the cyclopedias and dictionaries quote Agassiz and men of like ilk, and ignore Dzierzon and Berlepsch; but when I remember the foolishness Agassiz uttered in regard to the way bees build their cells, etc., I feel inclined to say as the inventor of the locomotive said when the objection was raised, that it would never be tolerated running across the country, because it would "kill the cattle." Said he, "Then, my lord, it will be bad for the cattle." Now, it was certainly bad for Agassiz when he came before our A B C class and tried to teach bees; and I fear it will be bad for the dictionaries and cyclopedias, if they persist in quoting scientists rather than men like Berlepsch and Dzierzon, when they treat on *bee culture*.

UNTESTED QUEENS.

IS THE TRAFFIC IN THEM RETARDING BEE CULTURE?

IF you feel free to give both sides of the matter, I should be pleased to see a copy of this article in June GLEANINGS. G. M. DOOLITTLE.

Rorodino, N. Y., May, 1882.

In accordance with the above request, we publish the following which friend D. has sent us:—

I have been much interested in the discussions in the bee journals as to the policy of rearing and selling "Dollar Queens;" and no less so in the very candid article from my friend W. Z. Hutchinson, which appeared in a late *Rural*. Mr. H. need have no fear of giving offense. His very evident candor, truthfulness, and honesty, must ever win admiration and esteem, and would leave no shadow of an excuse for any hard feeling on the part of an opponent. It is not argument and eudor that hurt; it is invective and ermination. I am glad to know that Mr. H. is a gentleman, and so has no use for those latter weapons.

As to the effects of the "dollar-queen business," I think that Mr. H. does not understand my position.

I believe he has only to understand me to agree with me. I have no doubt, nay, I am sure that he makes the business pay. I am further certain that he does just as he says he will do—that he rears his dollar queens with as much care as he does any; that he breeds only from his best queens, and that in all respects his dollar queens are just as good as the tested ones, battling their chance for impure mating—which, with the care given to the matter by Mr. H., is slight. Nor am I at all certain that his tested are superior at all to the untested ones. In fact, I think, if I understand Mr. Hutchinson, I agree with him in nearly every point he makes. Yet, I believe that the "dollar-queen traffic" has done more than any one thing to retard the progress of American apiculture. I believe it stands directly in the way of the best achievements, and accordingly any thing that tends to throttle its existence is a blessing.

The breeding of bees, like the rearing of any other stock, is a matter that must not be hurried if we would secure the best results. Long watching, the most careful study, and the most rigorous weeding-out are just as requisite here as in breeding the best short-horns. Does Mr. H. think that our short-horn cattle would possess their present excellence, had there been no greater inducement to hard and persistent effort than that held out to the bee-breeder of to-day? It seems patent, that the "dollar-queen traffic" has so cheapened queens that no person can possibly afford to take the pains that we ought to have taken, unless, forsooth, his bread and butter is secured by some other means. I wish we had breeders that could study their bees as did Hammond his sheep, and as hundreds of Hammonds are studying their sheep, cattle, and horses, all over the country to-day, and could select, mate, and breed, not with rings solely in view, but with a far higher ideal, in which mere coloration should form but a slight element; then we might look for real progress. I can not find time, with my numerous duties, to do this as I think it ought to be done. Neither Mr. H. nor any other breeder can afford to do it. They would starve, far short of success; as, however well they might do, they could hope for no adequate remuneration, so powerfully has the late queen business tended to weaken the spirit of improvement. Our present system calls for economy of time, money, and thought. But the maximum, not the minimum, of care is what will give us superior bees.

The point I make is just this: The energy and push put into the queen business of late—which energy was absolutely requisite to success, and then only the shrewdest business men could, if honest, make a living by rearing these cheap queens—have so cheapened the price of queens that there is no general demand for any other. But decided improvement can come only by the utmost pains in selecting breeding stock, both drones and queens, which in case of drones is very difficult, and requires the greatest tact, patience, and persistence. Now, this very difficulty makes it necessary to have every inducement thrown in the way to incite any bee-keeper to undertake it. The prospect of a dollar or a little more for queens thus bred, would not only offer no such inducement, but would be the best possible extinguisher of all enthusiasm. More than this, to breed the ideal queen will require such a rigorous weeding-out that only a small proportion of the queens reared will be suffered to live. To support a family, the breeder of cheap queens must sell every one, and will then have great reason to rejoice if his ledger account shows a credit balance. In testing, Mr. H. only waits to see if the requisite number of bands is present. I would have him wait to see if the requisite number of eggs, bees, and pounds of honey were forthcoming, and then, when such assurance was gained, I would pay him \$10.00 for the queen, and make money, while I would lose, in the majority of cases, to pay \$1.00 for the present queens. In buying several to test the matter, not, however, of Mr. H., I have won a blank at each venture.

Why did Avery & Murphy produce such a magnificent herd of cattle? Only because they took the greatest pains to secure the best material to breed from, and then used the best judgment and most consummate skill in crossing. Why did 25 cattle bring \$50,000 at the recent sale at Chicago? For the same reason. Why the exercise of the skill and caution? Only because of the prospective thousands at future sales.

Unless there is some money influence to induce to more time, caution, and painstaking in breeding

bees, then truly the bee of the future, which should and will be as great an advance on the best bees of to-day as are our improved cattle, hogs, etc., upon those of the last generation, will not find its advent in this generation. The only chance to escape this conclusion is for some bee-keeper to set to work—as I would do could I give time to it, and had I capital to warrant the undertaking—and work to advance his bees, with no thought of present profit, to spare no time, no pains, no study, no money, to secure the ideal bee, and then create his own market by distributing his bees to the enterprising bee-keepers of the country, asking them to test them, and then pay according to the worth of the bees. In this way he could hope in time to get pay for his time and labor, and would have the satisfaction of being classed with Bates and the Booths. Have we any D. A. Jones who can afford to undertake this work?—*Prof. A. J. Cook in Rural New Yorker, May, 1882.*

While I can heartily agree with all that friend Cook says in regard to improvement in our strains of bees, I can not but feel deeply pained whenever I hear him utter such words as "I believe that the dollar-queen traffic has done more than any one thing to retard the progress of American apiculture." Such expressions have seemed to me so unreasonable and unkind, begging friend Cook's pardon, that I have refrained, as friend Doolittle puts it, from giving "both sides" of the question. If the rapid dissemination of the Italian blood, freshly imported right from Italy, has been a boon to our land, then selling daughters of imported mothers at a dollar has surely been a great national blessing. The "blind point" of all these objectors is, it seems to me, in insisting that every queen we don't want to breed from shall be killed. In rearing these thoroughbred horses, do they kill all they don't want for breeders? The great bulk of the dollar queens are sold for the production of honey, just as the horses are sold for working horses, that are not found desirable as breeders. Are not horses and cattle, not desirable as breeders, sold at reasonable prices for other purposes? Now, inasmuch as the greatest yields of honey ever reported from single hives have been almost invariably from dollar queens, it does not seem to me they have been so great a detriment. What is to hinder doing all that friend Cook advises, and why does not some one do it? I confess I don't see why we should stop furnishing the markets with tons of honey meanwhile, nor do I see how the rapid dissemination of the Italian blood by queens at a low price, in any way stands in the way of it. I need hardly mention the evils of gambling in fancy stock, for there are few of us who have not friends who have been wrecked by the fictitious values placed on horses, cattle, sheep, or, in a less degree, on poultry.

A CARD FROM PROF. COOK.

THE NATIONAL BEE-KEEPERS' ASSOCIATION.

I BEG leave to call the attention of the vice-presidents of the National Bee-keepers' Association, and the bee-keepers of America, through the several bee papers of the country, to the next meeting of our association, to be held in the city of Cincinnati, some time in October next.

All disinterested friends of apicultural progress will recognize the valuable work of the association,

and the greater good that may come, yes, and will come, when all our associations are harmoniously working together to build up our art. Those present at the last meeting at Lexington will recall the perfect harmony and the perfect spirit of accord that prevailed at the entire meeting, and the feeling of real satisfaction that was manifested by those present from every section. Let us commence early to secure even greater fruits at the next convention.

With this end in view, I wish to offer some suggestions:—

1. Let any one who wishes the character of the meetings changed in any particular, write to me at once, and his wishes shall receive earnest attention.
2. Let the delegates from each State come prepared to give accurate data as to the honey crop for the season of 1882, that we may be able to give the best advice as to marketing the crop.
3. Let it be remembered, that committees were appointed to experiment in several lines, particularly in controlling fertilization, and let us hope that full and able reports will be rendered. Let others come prepared to add to the reports, and to discuss them.

In accordance with the general opinion, few and short essays will be read, that the discussions may be more full. With this in view, let every person come prepared to give quick and accurate accounts of what he has learned, that will be helpful to the bee-keepers of the country.

Let us hope for a large attendance of the enthusiastic bee-keepers of the country, and that all may come full of the spirit of progress, good feeling, and harmony, that the meeting may be great in the good that shall be accomplished, and entirely free from all harsh, uncharitable words, which in no convention tend to edification.

A. J. COOK,
Pres. Nat. Bee-keepers' Ass'n.

Lansing, Mich., May 11, 1882.

QUEEN SURGERY.

A SUCCESSFUL OPERATION.

TO the wide-awake bee-keeper who delights in the business in which he is engaged, new lessons are being continually taught. Those lessons may have been learned by others long ago. What I learn may have been discovered by others before me. In fact, this is generally the case. Men like Huber, Quinby, Langstroth, and others, who have devoted their lives to the study of this, the most wonderful of all insects, have given us a deep insight into the character and nature of the honey-bee.

I can not claim the discovery of any thing that will throw a great deal of light on any particular branch of this industry; yet I, and so may others, in relating our experiences in successes and reverses, contribute something, if we will but make it known, to the general stock of information which will be of value to others.

I had a little experience that was new to me, last year. The books speak nothing about it, as far as I have been able to read them. In the latter part of May, and first of June, I raised a fine lot of young queens for my customers. I was very successful in getting them fertilized. All began to lay about the same time, except one of the nicest. She flew out

and met the drone. I witnessed her arrival home, and the investigation that she passed, by the bees in the hive. The drone organ was very large. I kept watching for her to begin to lay. The drone organ seemed to stick to the vulva, and hardened there. I waited; two weeks passed, and she began to shrivel as though she were going to dry up. Finally she grew stupid. She was in a strong nucleus. I gave them brood suitable for rearing queens. In two hours she was thrown out at the entrance dead. I examined her closely, and found that the drone organ had become fastened, by agglutination, to the vulva, completely closing the passage. The poor thing could not give birth to her eggs.

A short time after this, I had another one in the same condition. She would make every effort to lay. The workers would follow her around over the comb, and stick their heads into the cells, and examine and seemingly wonder why their queen was not doing her part of the work in their home. I concluded to make an effort to relieve her. I caught her and gently held her between my thumb and forefinger; moistened the obstruction with saliva, and with a cambric needle picked it away, and turned her loose in the hive. She began to lay the next day, and is to-day one of my most valuable queens. I relieved another a short time after this one. Dr. Coulter witnessed the first operation, and pronounced it a successful surgical treatment. I think this is more liable to occur in hot dry weather. The glutinous substance of which the drone organ is largely composed dries rapidly, and becomes fastened so firmly that the bees can not remove it, and it remains there, completely closing the ovipositor of the queen. Of one thing I can be certain—they can be relieved. WILLIAM LITTLE.

Marissa, Ill., May 13, 1882.

I have had queens that never laid, but I do not remember that any thing of the kind was noticeable, as suggested by friend Little. The experiment, besides showing how queens in such a condition may be saved, also settles the point that has been considerably argued, as to whether the organ of the drone should be entirely removed—or at least it seems to do so. While the deductions would at first seem to conflict a little with those brought out by our foreign friend as given on p. 20, Jan. No., closer investigation may show that they do not, after all. Thanks for your contribution to the cause, friend L.

COMB FOUNDATION.

JAMES HEDDON.

YOUR sample came, and also mine back with it; and, after looking them over carefully, we think the Given is the thinner. But however that may be, both have a very thin base, and are excellent foundations. I would have said your sample was made on a Dunham mill, which, of all mills to stick, carries off the palm.

I find that some days my die-book works much better than on others, and Mr. Given says that he hears from all over the country like this: "My book sticks so badly I can't get off the wire frames in good shape and with any speed. Later.—Now the book works admirably, and we can take off the frames rapidly and in good order." That is just my experi-

ence; for the next day after I wrote you so discouragingly for the May No., I took off 100 frames per hour in splendid condition and with great ease. We ran off 20 wired frames without relubricating the book. We ran off 400 sheets of fdn. (not in frames), without touching the lower leaf, and by rubbing an almost dry brush over some spots on the upper leaf every 20 or 30 sheets. We have never had any trouble with the press in making heavy or light fdn. out of wired frames. Now our press works as nicely as at any time last season.

The lye process is a perfect success, but we have had to discover several new facts in nature to get along with it nicely. Of all that slips and slides, lye stands at the head of the list.

1. A piece of wax (fdn.) soaked in very strong lye 48 hours, shows no change in its texture; rinsed in water a moment, it tastes and feels in the mouth like the same old beeswax. A sheet that is sharp with lye, drawn through the water once, comes out clean. Water has a powerful affinity for lye, as well as all forms of potassium, and wax seems to have literally none. I have rinsed all my sheets this year, except some 10 lbs. for my own use to make further experiments with.

Experiments with some 30 sections full of strongly lyed fdn., made last season, proved that there was no use of rinsing, the bees taking to the lye sheets as soon as any. The liquid lye upon unrinsed sheets precipitates at once, and after a short time seems to lose its strength, becoming simply an innocent powder, of which the bees take no notice.

I really think this lye process the best discovery made in connection with the manufacture of comb fdn.

I have just had reported the first case of serious damage in the transportation of the wired and filled frames, and one which must have occurred by the carelessness of the railroad employes. Nothing is positively safe from being damaged through handling by railroad men, except a solid block of iron. If they can better afford to pay for their recklessness than to go a little more carefully, that is their business and not ours.

Why does the Dunham mill with its "round cells" stick to the wax so much worse than the Vandervort mill with its square cells, with equally high side lines?

Friend Novice, if I can see correctly, the Given die-books are made on the plan you advise in your foot-notes to my May article, are they not, and much more so than any other sample I have ever seen? more so than the one you kindly sent me, which was, as stated above, just like Dunham. The Given lines are not hard pressed as is your sample. They are bulky and soft, and, if you will put them to the bees beside of other sorts, they will decide in their favor at once. Try it. Bees prefer heavy fdn. of any sort; and where the base is thin, the heaviest is the most profitable, in either department. I will use no lighter than 8 feet to the pound of Given, in my surplus sections.

HONEY-BOARDS.

Yes, I will unload my immense stock of knowledge in regard to how to keep the upper and lower sets of frames from sticking to each other, for the benefit of all "Novices." I use a slat honey-board, made with a sink in the upper side, so that the super fits the lower hive, both when the honey-board is on the hive and off. This board rests bee space above the lower frames and below the upper frames, which ab-

solutely prevents all sticking of frames to frames. I have experimented till I have demonstrated to a certainty, that there is no objection to this board except its slight cost, and almost no trouble of manipulation. These are thrice offset by its aid. One correspondent writes me to know if I call that "rack" a honey-board. He calls the "cover" to a hive a "honey-board." Let us understand alike, that a honey-board is a board that our surplus honey rests on, on the hive, and of course is a perforated board. Mine is a network of slats.

Dowagiac, Mich., May 11, 1882.

Our new cell is nearer like the Dunham than any other cell; but although we have one of the highest-priced nickel-roll Dunham machines all the time in our wax-room, it does not begin to let go of the fdn. as well as our \$25.00 mills. As I have said before, these let go of the fdn. far better than any mill we have ever before sold at any price. No one can be more pleased than I am to see the day of high-priced fdn. mills at an end. With your explanation of the way the Given press often works, friend H., it does not seem so strange we could not make it work, after all. With our rolls we now use no lubricant but starch, and I rather dislike lye or soap about fdn., even if the bees don't object. There are two reports in regard to the shipping of fdn. made on the Given machine, on another page.

If I am correct, our new round cell gives a thinner base than any that has ever been sent out from the Vandervort mills. Our friends can easily test the matter, with the free samples we furnish. Friend V. will certainly copy the new cell sooner or later, I think, as all other makers of fdn. mills must do, including the Given dies. The cell can be made as small as you please, thus giving a wide wall of soft wax. The great point is to discard sharp corners.

I confess that I have never seen a honey-board used between the upper and lower frames of a two-story hive; and my impression would be that some colonies would build right up solid on honey-board and all. But perhaps you have something ahead of us on that line. We will try to have an engraving of it for the next number; for of a truth the building of the upper and lower frames together has been quite a nuisance many times. I should be a little afraid this separating of the two stories, even the thickness of a thin board, would have a tendency to discourage the bees from going above. Where honey is stored in boxes or sections placed above a honey-board, it has been quite universally the case, so far as I know, that there was a loss over placing the boxes right on the frames, or separated from them by the thinnest piece of wood we could interpose to keep the under side of the sections clean. By all means, let us look into the matter thoroughly.

Most two-story hives are made so that the upper frames come within $\frac{1}{2}$ inch of the tops of the lower frames; and as this space is too small to admit of a honey-board, saying nothing of a bee-passage, we shall, so far as I can see, be under the necessity of a reconstruction in hives, to use the slatted honey-board. How is it, friend H.?

A FEW ITEMS.

POLLEN, AND WHERE IT COMES FROM.

ON page 192, GLEANINGS for April, I see that friend Root says, in reply to Mrs. Chancellor, that he does not know from what her bees gathered black pollen, and also that he can not tell where the variously colored pollens come from which are gathered in early spring. I can not tell from what friend Root's bees get pollen, or on what Mrs. Chancellor's bees were working when they brought in the black pollen; but I believe I know from what my bees get pollen of the various colors. Always being very much interested in all substances collected by the bees, I have traveled miles to see on what they were working; for only as we know the resources of our locality, can we intelligently manipulate our bees so as to have them produce the most to the best advantage. This knowing just where all the different kinds of pollen and honey-producing flowers blossom, and working according to that knowledge, is one secret of successful bee-culture. In this locality, the first pollen comes from skunk cabbage, and is of a bright yellow. The next, and immediately after, is from "pope," as it is called here; and from the locks of the timber, I should say it is quite similar to the poplar from which Mr. Manum and others manufacture those nice white sections. The color of this pollen is black; and if there are any such trees in West Virginia, probably Mrs. C.'s bees gathered their black pollen therefrom. The blossom is quite similar to that of the pussy willow, except that, while the willow blossom stands upright, the blossom of the pope is drooping, and sways back and forth in the wind. The pollen-spikes are also black, while those of the willow are yellow. Next comes pollen from the pussy willow, which is an orange-yellow color. These are the three earliest kinds; but before the pope and willow fall, soft-maple and elm take the attention of the bees.

Right here I shall have to disagree with friend Root, for he says, "I should say the yellow pollen came from the soft-maples." I have watched bees many times at work on soft-maple, and they invariably gathered a light-pink pollen therefrom, or at least they had such in their pollen-baskets while they were at work thereon. Elm, both the swamp, the white, and the slippery kind, all furnish abundance of pollen, all of which are of different shades of green—that from the swamp elm being so light that it might be termed yellow by the casual observer. Next comes the hard-maple, which gives the bees an abundance of pollen of a lemon-yellow color. Following this comes dandelion, wild grape, etc., till our interest is lost in pollen by seeing the combs growing white with newly secreted wax used in lengthening out the cells to store the honey which is now coming in. One thing I have observed, which is, that, so far as I know, the color of the pollen is the same as the color of that part of the blossom from which the bees gather it. So, if you see the bees at work getting pollen from a yellow flower, the pollen will be yellow, etc. As regards pollen from clover, if I am correct it is gotten from near the base of the corolla, when the color is green, and not from the flower proper.

BEEES GETTING WATER AFTER A RAIN.

Friend Root says, on same page, in reply to Mr Boardman, "If so, why do we not see them during

a rain, out at the entrances drinking up the rain? Did anybody ever see them doing this?" Well, not during the rain, but immediately after, I have often seen a row of bees out at the entrances taking up water, and carrying it into the hive. I have also many times seen them taking the dew off the grass that was near the entrance of the hives. At all times, when bees are rearing brood extensively, they desire water, and apparently suffer if they can not get it; but when little or no brood is being reared, I never could get them to touch it.

TO GET A SWARM TO CLUSTER WHERE YOU WISH.

On page 193, M. Simons wants to know how far from the old colony she can take her corn-popper, containing the clipped queen, and have the returning swarm find her. As I have many of my swarms on a new stand, and as I clip all queens' wings, of course I must have some way to prevent the bees going back to the old hive. I have four plans which I use, either of which works well. The first is the same that friend Root tells of in reply to the question. The second is, when the bees begin to cluster on a branch of a tree, which I care nothing for, I attach a small wire to the cage, and hang it with the clustering bees; then when I get ready to care for them I cut the branch from the tree, and carry them to the hive. No danger of their going to the woods, if you let them hang there all day. I was amused one day by seeing a swarm uncluster and start for the woods as I was about to take them to the hive. Away they went, clear out of sight, so I sat down to watch operations. In about ten minutes, back they came, and I was anxious to see whether they would go to the tree where the queen was, or to the old stand. I was soon satisfied, however, for they soon clustered back on the queen. If any of the readers wish a swarm to go to work in the open air, this gives you a clew to how it can be done. My third plan is to place the new hive immediately in front of the old one, and throw a sheet over it (the old hive), till the bees return and enter the new hive, the queen being let go with them, of course. As soon as all are in, carry the hive to the stand you wish it to occupy; uncover the old hive, and the work is done. The fourth plan is to hang the "popper," or cage, on a post or tree, or any thing of the kind near the old stand, and throw a sheet over the hive from whence the swarm issued. As soon as a few bees miss the queen they will commence to search for her along the route the swarm took in leaving the old hive. These bees soon find the queen, and commence fanning their wings, and the whole swarm will cluster where they find their queen, when they can be hived where you wish. With the last two plans, care must be taken if more hives are close by, or some of the bees will try to enter them and be killed. By having a sheet or two handy to throw over these hives, if they should bother, this difficulty is overcome.

Borodino, N. Y., May, 1882. G. M. DOOLITTLE.

Since friend D. has called my attention to it, I think he is right in regard to the sources of pollen; but I never before thought of the point he makes, that pollen is usually the color of the flower from which it comes. Of course, this is not the case with clover, but he gives a reason for this apparent exception to the rule.—The suggestions in regard to hiving swarms are both seasonable and reasonable. Sheets placed handy, during

the swarming time, will be often needed, especially where a large number of hives are worked for box honey.



HOW MRS. HARRISON MAKES BEES.

OUR bees are fully up to the times — booming. We have had some very fine days for honey, but they were like angels' visits, few and far between. We had not as many bees as we wanted, but concluded not to buy, but raise them, as we had the "seed." The sugar-barrel will do to tie to every time, when bees are to be made. It has yielded nectar in our apiary all the season, whenever the flowers failed to "give it down." These "sugar-made" bees are now ready for business (May 16th), but as we had a sharp frost last night, we may expect little nectar for them to work upon.

We have used all sorts of contrivances to feed in little pans with muslin tied over the top, old fruit-cans, Mason jars with perforated covers, and about a dozen Langstroth feeders. In bad weather our partner fed the bees, and invariably remarked, as he came in, "Langstroth's head is level every time; his feeder is the boss." We could use the pint Mason jar without leakage, by putting them on almost any way, but failed with the larger size, as the perforated covers must be exactly level, and our hives have an inclination to the front, as they should, to accelerate moisture running out, the carrying-out of debris, etc. The perforated covers for pints are a gem, ready for an emergency at any time. I have never noticed that "perspiration hardens buckskin gloves." Propolis does; but when it gets too thick I pick and scrape it off; and when they are warm, they are sufficiently soft.

WIRE-CLOTH VEILS; EFFECT ON THE EYES.

I think you made a "mistaken," as our little girl says, when you speak of the "injurious effects on the eyes," by using green wire cloth as protectors. The Maker of the eye dresses all nature in green.

Peoria, Ill., May 16, 1882. MRS. L. HARRISON.

I presume the feeder referred to is the wooden box with float, for that is the principal one I remember to have seen recommended by friend Langstroth. I entirely agree with you, my friend, in regard to the propriety of making bees by means of the sugar-barrel, in place of buying them.—I know green is a good color for the eyes, but I should prefer it in the shape of green fields, rather than on wire cloth an inch or two from one's face; but as I never use a veil, I presume I am not a competent judge.

KILLING OFF THEIR DRONES, AND THEN SWARMING THE SAME DAY.

It is the first time my husband or myself ever hived any bees. We had splendid luck; not one sting have I received yet. I always expect to keep bees

for the pleasure of working with them, if nothing else. I imagine they would be very profitable in this country if properly cared for. Our prairies are covered with flowers. I inclose order for your A B C. I don't know that the instructions would apply to our bees here, as they act so differently from the bees North. Nothing I have ever read will apply to them. One hive was killing the drones, and bringing them out. I remarked to my husband, "That hive won't swarm, for the books say you needn't look for any when that is the case." In less than an hour a very large swarm came out of that very hive.

We have a nice place here for bees, and I'll let you know in the fall how we have succeeded the first year.

V. L. HUBERT.

Winnton, Gonzales Co., Tex., April 1, 1882.

I believe, my friend, I have quite a talent for studying up some reasonable explanation for every phenomenon in bee culture, but the case you mention is almost too much for me. When a queen has been superseded, they often kill off their drones as soon as she begins to lay, for they then have no further need of them; but why they should kill them off just before they were going to swarm, I can not imagine.

To-day I have fastened fdn. on some frames, and was surprised to see how easily I could do it the first time trying. I think the fdn. is very nice. My bees are working nicely to-day.

MRS. A. KNOWLTON.

Saunemin, Ill., April 27, 1882.

SPRING FEEDING, BUCKEYE HONEY, POLLEN, ETC.

FEEDING BEES IN THE SPRING; DOES IT PAY?

I COMMENCED feeding, early in March, in the open air, grape sugar dissolved. The bees took it 20 days in March; the rest of the month was too cool for them to fly. Then I fed up to the 9th of April; then a cold wave from the north struck us, and the bees could not fly till the 23d. About the 18th of April I examined my bees, and the strongest had brood in 7 or 8 combs, and were starving to death. They were uncapping the brood, and eating the food from the young bees. I didn't think they would consume so much food as they do. I learned something, and think it pays to feed in the spring. Now, my bees were starving, and what to do was the question. I had sugar in the house, but no feeders; so I made syrup from brown sugar, and turned back the cover and poured the syrup over the bees twice a day till they could fly; so by the first of May the strongest was full, and starting queen-cells.

BUCKEYE HONEY.

I told you I was going to get some buckeye honey, and I did. It is good too. We had some for supper and breakfast. I should like to have had you here to get a taste. It is as white as linn, and has the best taste of any honey I ever ate. But I think the crab apple has something to do with the flavor. The buckeye has a pod about 6 inches long and 3 in in diameter at the base, and has from 100 to 150 flowers on a pod; commenced blooming May 2, and is at its height now, May 17th, and I think, from the appearance this morning, that it will last 10 days yet.

RED POLLEN.

Will some one please tell me what kind of a flower it is from which bees get a deep-red pollen in May? I think honey, too, for the most of them get small loads. It is not from buckeye, crab apple, nor dandelion. I can't find the flower.

Tell neighbor H. we want to know how many of those 5 colonies he wintered that he made last May. Oakley, Iowa, May 17, 1882.

WM. MALONE.

It seems to me, friend M., that the moral of your feeding experience is, that, when one commences, he had better keep on.—I saw, a few days ago, a buckeye-tree humming with bees; and where there are great numbers of them, it may doubtless prove quite an item.—I can not remember of having seen a *dark-red* pollen.—The first of May, neighbor H. had all his five colonies in what I should call pretty fair condition; but, sad to say, one of them died of dysentery during the month of May. Of course, they might have been saved had any one kept an eye on them.

"Forgettery."

Or Department for those who don't Sign Their Names.

I SENT a letter to you the first week in April, with one dollar inclosed for the A B C, and have never heard any thing from you nor the money. This is the second time that I have been duped this way. It is very discouraging for a man to send money and receive no value. I had intended to send for 2 or 3 queens, but I am afraid to risk it, as I am a poor man, and have to work very hard, and have a large family to provide for, and am not well able to work at this time. It goes hard for me to lose the money.

HENRY SIMON.

Hopewell, Bedford Co., Pa., May 15, 1882.

My good friend, I have no doubt but that you are a poor man, and have to work very hard for a living; and I agree with you, that you ought to have all you have paid for; but, please let me suggest it would be well to be careful about calling your friends "dupes," until you know the fault is not your own. Such words hurt and sting, and when they are applied to some one who is working hard to be honest and fair with all men, they discourage more than you think for. Children are sometimes hardened by being scolded when they are not in the least at fault, and I have wondered if men and women are not sometimes hurt in the same way. Friend S., just imagine our girls, during the care and hurry and worry of business, running here and there, hunting subscription lists and postal guides, and writing to postmasters, just because you have been so careless, and then to receive, as reward for doing the best they could, a letter like the above. Here is the letter you wrote, ordering your book, with every scrap of writing there was on the sheet:—

A. I. Root, dear Str,—

Inclosed you find one dollar for the A B C of Bee Culture. As I want to become acquainted with the management and working of the honey-bee, please

forward as soon as possible. My postoffice is Hopewell, Bedford Co., Pa.

Hopewell, Pa., March 3, 1882.

We are very much obliged indeed for telling so plainly where your postoffice is, but you see, friend S., a postoffice without a man to it doesn't do us very much good.

H. A. BURCH & CO.

GOOD NEWS THIS TIME.

THE following in substance was received a few days ago:—

I wrote H. A. Burch & Co. that I would take 16 lbs. of fdn. for the \$7.00 they owed me, and they sent me 16½ lbs. EDW. WILLIAMS.

Fish Hook, Pike Co., Ill., May 12, 1882.

On receipt of it we at once wrote to Burch & Co., telling them how we rejoiced to hear such reports, and asking if we could be of any assistance in any way. The following is their reply:—

Yours of the 17th came duly. In reply we will say, that we are doing now, as we did last season, all in our power to satisfy all just claims against us. The same day we shipped Mr. Williams his fdn., we sent to three others, to all of whom we put in extra weight. We claim nothing more than common honesty in doing this, and only regret that we are unable to meet all claims in the same way. While this subject has been so kindly brought to our notice by yourself, we can not refrain from saying a word about the events of 1881. While the loss of our bees, and other untoward circumstances, had materially delayed us in filling orders, a year ago we were straining every nerve to catch up with orders, and had given every assurance in our power, both to our customers and to yourself, that every order should be faithfully filled, and as speedily as possible. All we needed was the patience and confidence of our patrons in order to work out of the dilemma. But, as you well know, GLEANINGS contained statements which aroused suspicion and inflamed prejudice, and we were at once placed in a position from which we could not extricate ourselves. While this worked great injustice to ourselves, we did not then, nor do we now, regret it so much on that account as we did for the loss and hardships which it entailed upon our customers. But the past has fled, and can never be recalled; and we have no further complaints to make, no reproaches to offer. We have set resolutely to work to do whatever lies in our power to satisfy those who sent us money in good faith for the goods we offered for sale.

So far as assistance is concerned, there is nothing that would so effectively aid us as to be set right before the bee fraternity, whose good opinion we shall ever strive to merit, and for whom we cherish a fraternal regard.

H. A. BURCH & Co.

South Haven, Mich., May 20, 1882.

Now, friends, inasmuch as nothing will contribute so much to this confidence mentioned, as a knowledge of the fact that orders are being filled, we request you will all send us a brief note, as fast as your orders are filled. I, too, think no good can come from any more reproaches and fault-finding; and as our friends are again filling orders, why not, at least for the present, let the past drop?

FRAMES OF FDN. MADE ON THE GIVEN PRESS.

WILL THEY STAND SHIPMENT?

I RECEIVED 100 L. frames from D. S. Given, made on his press. There were about 25 perfect frames; 25 somewhat cracked, 25 badly cracked, and torn from wires, and the rest of them were useless. I cut them into starters for sections. Those that were good, I liked better than the fdn. made on rollers, as the bees worked them out sooner. I did not make much complaint to Mr. Given, as I did not think he was so much to blame as the railroad company was in handling them in transportation. The frames mentioned above were used last year. I for one do not think it very profitable to buy them very far from home.

C. H. PARKER.

Coldbrook Springs, Mass., May 4, 1882.

REPORT FROM ANOTHER FRIEND.

In reply to your repeated inquiry for reports from such as have bought frames of fdn. manufactured by the Given process, I will say that I bought, last year, 100, and have the greater part on hand now, our last fall's crop being a total failure. Although I like the fundamental idea of the Given process very much, and find the fdn. very nice, the general workmanship and condition of the goods is not such as to induce me to buy more. The woodwork is rough, now and then a wire broken, and nearly always I find the wires too loose to be of good service. I take hold of the wire under the bottom-bar, and twist a loop into it to tighten it. I think I could do a better job, if I had a press myself. The great drawback in the present way of manufacturing wired frames on the Given press is, in my humble opinion, the necessity of pressing the fdn. on slack wires in half-finished frames, and then finishing the frame. I wire my frames by hand, so taut as to make them sing, and then lay them on the fdn. and imbed the wires by hand, and such a frame is a pleasure to look at. The Given press is good enough to make one wish for a press, even if the fdn. has to be fastened by hand. But a hand wired and filled frame, such as I make, is a hundred per cent superior to those I bought ready made of Given. The frames shipped tolerably well, but many sheets were partially loose, and needed straightening and pressing in of wires around the edges. If the Given press were ever perfected so as to press sheets of wax on tightly strung wires in finished frames, it would be the best fdn. machine in the world, and I would buy no other, if I ever bought any. But I am afraid it can never be so perfected. The wires would be cut, and frames could not be got loose from the press.

Terre Haute, Ind., May 9, 1882. T. H. KLOER.

I fear your faith is small, friend Kloer, in what the rising generation are going to do, especially in the line of bee culture. If our farming friends have got machinery to cut and bind grain successfully, surely we can turn out finished frames of wired fdn., sufficiently perfect to please anybody, and we are going to do it at a moderate price too. We are working at it "like bees," all over our land, and who will say what the next few years will not do? Some other reports have been received; but as their general tenor is about the same, we do not give them.

The "Browlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

I RECEIVED the book by express, with or after paying charges of 80 cts. I must confess that you have curious ways of doing business. I ordered my goods by mail, and sent money to pay for them at your advertised rates. I sent for A B C in paper, and you say that you take the liberty of sending cloth instead of what I ordered, as though I did not know what I wanted myself. If I had ordered A B C in cloth, I would say nothing about it; but I did not, and I want my money. And then you say I have balance left due me. That surely is a nice way to use my money in goods that I did not order, and leave balance in your own hands, and make me pay a big bill of expressage. I am not at all satisfied, and I want you to make it right at once, or quit your loud claims of fair dealing. I at first said I would send the goods back, but I was reminded by a friend that you would then have both goods and my money, and that you would charge for expressage both ways, and for that reason, in part, I took them. I have noticed in the journal time and again your loud professions of fair dealings; now I will see what you will do. I want nothing but what is right. I claim that there is due me from you as follows: overcharges on A B C, 22 cts.; balance due me, 14 cts.; total, 36 cts. You will please forward this amount in three-cent postage-stamps at once. I hope we will have no quibbling about this, but that you will respond at once and redeem your honor.

J. L. RUTHERFORD.

Campbellsburg, Ind., April 24, 1882.

I confess, friend R., I was a good deal "riled" when I read the above; but I think we may get some good lessons from it after all, because it strikes on several of the vital points that enter into almost all troubles in business transactions. We are all forgetful; and when stirred up, as you doubtless were when you wrote, we forget to take into consideration the fact that we may be mistaken. You say,—

"I ordered my goods by mail, and sent money enough to pay for them at your advertised rates."

Friend R., you did not send one cent of postage for the foundation, and not nearly enough for the section boxes. The postage on these two alone would almost pay the express. The closing words of your *order* are these:—

"If you can put the goods all in one package, and send them cheaper, and get them to me just as quick as by mail, I give you liberty to do so. My postoffice or express office is," etc.

Do you not see how sadly you had forgotten? You did send enough for the cloth A B C book by mail; but as the weight of the other goods would bring the postage up to \$1.25 or over, we of course sent by express as you said (and you will notice we saved you 48 cents by so doing); and as the cloth-bound are very much more durable, I directed the clerk to put one in instead of paper, meaning to give it you at the same price, as a sort of pleasant surprise, as I often do when a customer buys a number of articles. By

mistake, you were charged the price of a cloth A B C when the bill was made out, and this little omission provoked you, and called forth the above unkind letter. "How great a matter a little fire kindleth!" The next time I take the liberty of sending people more than they pay for, I will try to have it plainly stated.

There are three points in your letter I want to speak of. First, you command me, peremptorily, to return your money. No one likes to be so commanded, and the disposition rises up strongly within me to say, "Let's see you get it!" Secondly, you say you don't want any "quibbling." I am rather sorry this word quibbling has been recently used as commonly as it is. Once in a great while the word is needed; but I am sure it is never needed between gentlemen, or even respectable business men. Third and last, you meditated returning the goods, because of these imagined wrongs. Sending goods back, under such circumstances, or under any circumstances, without first having informed the sender, and getting his consent, is upon a par with taking an ax and smashing a neighbor's property because you have a grudge against him. I do not know how the custom started, but it is, to my mind, one of the most unreasonable and unkind things I ever heard of being done. Write the shipper, if you choose, that the goods do not please, and are subject to his orders; but never send them back until told to do so, unless you are ugly enough to set his house on fire, poison his dog, or something equally bad. A boy once pushed another into the mud. The muddy one got up quietly, and went along by his side as if nothing had happened. "Why didn't you push *him* into the mud, to pay him back?" said a looker-on. "Because there would have been two suits of clothes to wash, instead of one." was the philosophic rejoinder. Dear friends, are there not troubles and mistakes enough, even if we all keep pleasant, and avoid doing *any thing* for spite?

SOME KIND WORDS FROM A MINISTER.

BEES AMONG THE CLERGY.

I HAVE some one and two banded fellows that stung a Methodist minister who also keeps bees, and who is my dear friend, very severely the other day. I think he intended to show off a little, and his great boldness caused him the annoyance of an enormous upper lip, and cheeks that made him look like an orang-outang. It is a good joke on him. I can say, I have not been stung in 15 years; and why? Because I protect myself properly. You could not get me into the pulpit with a nose like a fist, or closed eyes, and I simply do not give the bees a chance when I perform with them.

FEEDING PAYS.

I have been feeding to breed up, and I can tell you it pays. I have some hives that could now occupy 25 frames. Box hives, and, in fact, all hives that are not properly cared for, will be lost this and next week if they are not already gone. There is no honey coming in now, and the bees were without much for some time. I saw two swarms out of their hives at my neighbor's, and he thought that

my bees were driving them out and robbing them, while the fact was, they had no more honey. He gave them a little, and they returned. He had 28, and now has 7. I had stocks that did not have two pounds of honey in October, and very few bees; and when I fed them, my ingenuity was taxed to the utmost to keep out robbers, yet now they are strong.

All seem to have a good word for your strain of bees. I get my supplies from friend Chas. H. Rue, of Manalapan, N. J., and the hives he has made for me were never surpassed in workmanship; and his bees are just beauties.

You'll hear from me anon. All the boys and girls seem to be interested in Blue Eyes, and it affects me too. I have also a Blue Eyes, 4 years to-day, her birthday, and we had chocolate. My parents live in Wisconsin; and when I go West to see them, I'll call and see Blue Eyes and all the rest, and also those who serenade the newly married couple with the constellations of the heavens; and if GLEANINGS is a good index, I expect to meet merry Christians, merry hearts, merry bees, and merry sunshine all around.

TOBACCO.

I find no reaction yet on my system from giving up the use of tobacco, though I formerly smoked almost automatically, and all the time.

STEPHEN J. HARMELING.

Spotswood, N. J., April 7, 1882.

THE HALF-STORY SIMPLICITY, AGAIN.

SOMETHING FROM THE MAN WHO INVENTED IT AND USES IT, AS DESCRIBED ON PAGE 226.

I HAVE used the half-story since 1876, and that, too, with veneer stuff for sections. In the first place, I used as a honey-rack, the slotted bottom [see cut on p. 227, May No.]; there is, when set on the hive, just $\frac{3}{8}$ in. space from top of brood-frames to the bottom of bottom-bar of rack, leaving space for bees to pass over between the ranges of brood-combs to the openings between ranges of sections above. Now, 4 sections just fill the space between the two little strips nailed across at each end of the slotted bottom, which also answer for separator rest; and 7 rows of boxes fill the rack. If your boxes are just 2 inches wide, it will leave about $\frac{1}{4}$ inch play, which is exactly as we want them; because, when filled with honey they will be very apt to be more or less propolized down to the bottom-bars. Now, being a little loose, a slight crowding sidewise easily starts them loose, and one box, or all of them, may be removed, and new ones replaced, without paying any attention to the separators, they being held in place by being dropped in between the sections. The rack, when filled with sections and covered down with your enamel cloth, incloses the bees inside the boxes, leaving no space for them to get outside and soil the sections, they being, when filled, as bright and clean as when they left the shop. For tiering up, it is unsurpassed. After the bees get well started in the sections, and are crowded for room, have another rack prepared with sections and separators in place. Now lift off the rack in which your bees are working, and put on the prepared rack in its place. Now, to make your racks tier up nicely, and prevent those bits of comb containing honey on the bottom-bars of the removed rack, with partly filled sections, from soil-

ing the top-bars of the lower tier of sections, rest one end of removed rack on your scrap-receiver, and with your knife, or the box-scrap-er described on your 25-cent counter (which is such an article as I use), scrape off the bits of wax and comb on bottom-bar, not being particular about getting it all off down clean, as I have made provisions for that in not letting the top of the section come up to the top of rack within $\frac{3}{32}$ of an inch. Now place the rack on top of the new rack already on the hive, and you have double surplus capacity; and in like manner you can tier up to any amount, all of which can be done in much less time than it takes me to write it. Used as a hive in swarming-time, if the bee-keeper should run short of hives, and has a surplus of racks, he can lift out the loose bottoms, pile two together, hang his frames in the rabbets at the ends of racks prepared for them; set it on a loose board, put on enamel cloth and a hive-cover, and he has a hive as compact in every particular as one made especially for that purpose. To use as a half-story for feeding, or for winter packing, lift out the loose bottom, put in your chaff cushions or absorbents, and, as far as the top packing is concerned, your bees are ready for winter.

This is not mere theory, but my actual practice, having wintered my bees on their summer stands in plain Langstroth hives, with those racks for top packing for the last 4 years, not losing over 2 per cent in winter of 1879 and '80, as my neighbors can testify. Thus you see the rack is in continual use throughout the year, requiring no storage room. This is a plain statement of facts (hurriedly jotted down), which any one visiting my apiary can see in use in all the different styles I have described.

In looking over my back volumes of GLEANINGS, the following parties send you their ideas, for which you reward them as follows: March, 1878, Carlin's foundation-cutter, a ten-cent article, \$10.00; April, 1878, Hains' feeder, a five and ten cent article (as per your price list), \$10.00; June, 1878, \$25.00 for Dunham feeder; July, 1878, \$25.00 to Scoville for queen-cage, and others. After seeing those awards, I must say I concluded you must have overlooked some of its merits, or else you thought my invention of little importance, by the price you set on it.

Warrens ville, O., April 27, 1882.

WM. H. FRY.

Friend F., I thank you for the additional facts from practical experience you have given us in regard to your invention; but still, I would go back and repeat what I said last month, and, if I am correct, when tiered up you still have a $\frac{3}{32}$ for the bees to get over the lower sections and propolize them. The two inventions you have mentioned, for which I paid \$25.00 each, were never used at all, and, in fact, so many I thought at first glance were meritorious, have been soon superseded or discarded. I have become a little careful of late. The Parker fdn. fastener, I first paid \$5.00 for; and as it came into general use, I have since paid him \$10.00 more. If your half-story comes into general use, I will gladly pay you \$25.00 more. Some of you may think this a rather poor way of doing, but it is the best I know how. I am always ready to pay cash for articles, or devices and inventions, that I think valuable, that I may give them to you through the journal. Of course, I can not do this on patented articles, for these are not given to the public.

WATER FOR BEES IN WINTER.

DURING the past winter, which has been mild and pleasant, our bees went for water the first thing when they could fly at all; and they often went on days so cold that many were lost on the water when they had filled themselves with cold water. To remedy the loss, we hung burlap sacks on the bank of the ditch, part of the sack in the water, which gave the bees a dry foothold to fly from. The nearest water to the bees is an irrigating ditch 3 or 4 rods from my apiary. There has not been a week since Feb. 1st, but that the bees have carried water, more or less, and are at it now. Many lost on water this morning. The winter of 1880-'81 was a long cold one, when the bees did not fly much, and we often saw them come to the door of their hives and sip snow water, and drips from the roofs of the hives, and we often furnished it to them by pouring or sprinkling it at the door of their hives. Our experience is, that bees need water as well as any kind of stock, and that in this dry climate they must have water for brood-rearing also.

R. H. RHODES.

Arvada, Jeff. Co., Col., April 12, 1882.

My attention was first called to my hives by sounds from the bees in them, indicating uneasiness. On examination, I found satisfactory indications of brood-rearing, as near as I could do so without opening the hives, it being too cold to warrant a disturbance of the bees with safety. I immediately gave them water by filling some flasks, and putting pieces of clean cotton cloth into the mouths of each, *a la* lamp-wicks, and pushing the wicks into the entrances of the hives, capillary attraction conveying the water through the cloth, within reach of the bees. They soon found the bottles, and in a few minutes stopped their "seolding." I have supplied my bees with water in this way once before, my attention having been directed to their wants, by observing them search for water at the time of their having a flight, early in March of last year. I then found one colony breeding, and uneasy, while the others showed no indications of brood, and were perfectly quiet. I gave water to the colony that was raising brood, and they were quiet until they commenced flying regularly, in April following. As this question of watering bees in winter is being discussed at the present time in GLEANINGS, I should like to be informed if I am correct in the conclusion, that only those bees that are rearing brood, absolutely require water in winter or spring, otherwise than what is contained in their honey; or, in other instances, at such times as they can not obtain it outside of their hives, except when confined to their hives in hot weather.

JAS. F. LATHAM.

Cumberland, Me., April, 1882.

I think you and Mr. Comings hit it exactly. I believe the time will soon come when water will be considered necessary, and will be provided for bees at all times, when they can not fly to the brooks. I believe that bees should and can be made so comfortable and quiet, by having all their wants supplied in their hives in winter and spring, that very few will venture out at the risk of losing their lives; and if long confinement makes them uneasy in such winters as 1881 and '82, and a supply of water will not remedy that, then I think a room (or rooms), say anywhere from 10 to 15 feet square, warmed and lighted, with no outside windows to let in the light,

could be so arranged as to put in one hive at a time, and give them a good fly, and have them all get back into the hive again. Who will try it, if the next winter is a long one? I think I will for one.

My bees acted just as yours did after the first frost, and once since. They came out as soon as the sun shone; and though the creek is not 20 rods away, yet the cold wind would not allow them to go there, and they went into the grass, and ground close around the hives, and seemed in such a hurry I thought at first some disease had got hold of them; and indeed, quite a number got chilled and lost their lives in their eagerness to hunt water — poor fellows!

N. N. SHEPARD.

Cochranon, Pa., May 3, 1882.

In regard to water, I believe it would pay to have it where the bees can get to it without going out into the wind, almost every day in the year. When so cold they could not fly, of course it must be given them in the hives, if they have it at all. — You can put several swarms in a room, friend S., as I have proved.

CLERGYMEN AS BEE-KEEPERS.

WITH A FEW CONCLUDING WORDS TO OUR OLD FRIEND MR. LANGSTROTH.

THE need of variety in study and exercise is recognized in all departments, in order to the highest success. No one knows his business or profession thoroughly unless he knows something outside of it as well. Those who pursue a regular routine of study especially, need some little employment aside from their professional course, which will furnish exercise and development for the physical constitution; otherwise they will likely become both mentally and physically warped or dwarfed. If, at the time of securing manual exercise, such an employment can be selected which will yield a pleasing diversion, and lead one into a cognate field of study, and also furnish something very agreeable to the palate, and remunerative to the pocket, what shall we say of the gain? Much every way. Pleasure and profit, exercise and diversion, study and practice, food and refreshment, are all most happily combined. If any one can suggest any one thing that will combine all these features more nicely than bee-keeping, according to the latest improvements, I will set my colonies to one side and take it up.

I am glad to see, among the number of those interested in apiculture, so many physicians, who must see some points of special interest in the work, viewed from the standpoint of their profession. There is no one, however, who, it seems to me, could take more real pleasure in some little digression of this kind, than clergymen. When I was entering upon my duties as a pastor, I found my brethren each having his little care, some keeping a nice garden, and making a speciality of some berry, others keeping chickens, and reading the poultry magazines with avidity; but it occurred to me that there was nothing that I would like so well as bee-keeping. There were so many points in their favor, not like chickens scratching my garden all up, and needing to be fed three times a day, and requiring as much attention one day as another, the whole year, winter as well as summer; and if you are away, your wife must do this work, increasing her burdens; yes, and then often, when she would like to go along,

you look bland, and say, "Oh, yes! but some one must stay to feed the chickens," I can go out and take her with me. Then how interesting the work is! one finds that, unconsciously, he is becoming so intensely interested that some one will say, "Why, he's enthusiastic." Then there's danger that he will forget that he is a minister, and imagine he is a bee-keeper. What a satisfaction it is when one's friends come to "see a body," to take them out into the apiary, and show them the wonders of modern bee-keeping, and see them stare and wonder where you learned so much, and how different now and then, and tell them that you read Langstroth and Quinby and Cook and GLEANINGS, and then practice what you read. I must not forget, however, that it was Rev. Dr. Van Eaton (deceased), of York, N. Y., a very able and successful apiarist, who gave me my first lesson in the work. I found at first that I would have to guard against seeming too much interested and too enthusiastic in the work, lest I should incur criticism and censure; but who does not want to be warm-hearted, whole-souled in every thing? and I think there is no industry in which there are really more whole-souled men and unselfish women engaged than in bee-keeping.

One thus situated may not feel at liberty to use all the anecdotes and illustrations from the apiary that might present themselves, for setting out a discourse, lest his people might think that his mind was running too much in the "bee line," and that, whilst they liked honey from the apiary very well, would prefer sermons from some other source. These need not, however, be lost. Last summer, in coming up the St. Lawrence by boat, I fell in with a young brother from Utica. In speaking of the matter of illustrations, I told him there was one which I did not feel free to use; but as there was neither patent nor copyright on it, he might have free use of it. The search for a stingless honey-bee has been rewarded only in finding a poor worthless creature, and so the search for stingless preachers has resulted about as favorably. Preachers who do not wound whilst sending home the arrows of truth, and dealing out words quick and powerful, sharper than a two-edged sword, are certainly about as valuable as a hive of stingless bees. But as a little honey is a ready remedy, so the wound itself carries its healing balm in itself. "He wounds to heal." "Good!" says he, and, out with note-book and pencil, added, "I'll use that some time on the defensive." If he is inclined to pursue the study of entomology, there is perhaps no field more inviting or fruitful; and when a friend comes and sees a nice plate of honey on your table, he is delighted. "Your own production?" "Oh, yes! certainly." And why should he not have something of his own with which to bless others? The blessings of the sick, whose hearts are gladdened by a little taste of the balm of a thousand flowers from the minister's apiary, is treasure laid up in heaven. What we have used on our own table, with what I have had the pleasure of giving away, has paid me well for all my labor.

The points in favor of bee-keeping as a little industry for ministers, may be summed up then as follows:—

1. It is in the best possible keeping with his great work in life as a minister. I know of nothing that could harmonize more completely with the dignity and nobility of his high calling. If properly conducted, it will prove a great help, a valuable adjunct to his profession.

2. The least capital is needed for beginning. The smaller the beginning, generally, the better. One hive is sufficient.

3. The most rapid increase of capital stock, under careful management; if stock is desired, they will increase very rapidly, especially by artificial swarming.

4. The greatest returns for the least outlay of capital and labor; 100 per cent is good, but more may, by skillful labor, be realized. They are the only thing that I can find that will work for me, board themselves, and, as a little rogue remarked at the dinner-table, "cell" their own honey and give me all the profits. One can keep 25 stocks of bees with less labor than 25 chickens, and ten times the profits.

5. The production of an article the most beautiful in appearance and most exquisitely delightful in taste.

6. A staple, useful, healthful, salable commodity.

7. He is learning from one of the least, but, at the same time, one of the most beautiful and interesting little beings in the universe. If we may learn from the ant, much more from the honey-bee. They lead to direct lines of study and fields of thought peculiarly their own, yet cognate to all his other studies, and most valuable incentives to seek the highest attainments in all departments. What a field here for the entomologist!

8. It gives him physical exercise, as a recreation from sedentary habits and their evil tendencies. Unless he is a bungler, he will acquire a skill in the use of tools which is not to be despised. Next to my "book shop," in the front part of the house, I value most highly my little work and "tool shop" in the woodhouse.

9. The care of his apiary will fall most heavily at just such a time as he will feel least like being in his study, and most like being out, building up for another year—June, July, and August. Few country pastors have regular summer vacations, and a couple of months with the bees is just about as good as a vacation during these hot days; he would go asleep over his books, but not among the busy bees. This allows him to be absent from home at almost any other season of the year for a week or a month, as may be necessary, and then his wife doesn't have to stay to attend to them, but can go too.

10. The little revenue of a hundred dollars or more each year will enable him to get some valuable books, which will increase his own self-respect very much, and may add greatly to the efficiency of his ministry. A few weeks' labor in the summer may furnish him all the books he can read during the winter. A small steady revenue of this kind is better than an interest in a gold mine (?), and sometimes, like the honey itself, it isn't hard to take. Most men who preach have either to practice self-denial in many things, such as the useless luxury of books, or supplement their own salaries in some such way, and thus help to support themselves in order to enjoy the privilege of preaching the gospel.

I can not insure him that, just about the time when he is becoming vehement, and the trumpet waxing louder and louder, a swarm of these golden birds may not get to capering, and elope for parts unknown; but he must take his losses with his gains. If he extracts, he need have but little difficulty. Besides, there are many other precautions he can take. If he is at 17thly and finally, they may hang on the bush until he responds to the Macedonian cry. Of mine, I can testify that they are like a great

many professors. If they do not keep the Sabbath very well, they observe church hours any way, and, so far as I know, either come out before I go to church, or wait until after I come home. They may some time, however, forget.

When I think of what clergymen have done for other departments of thought, invention, science, and art, aside from their own vocation, I need not wonder that in Germany and elsewhere they are among the most successful bee-keepers, contributors to magazines, inventors, etc.; and especially I am happy to say, that the father of American bee-keeping in America, like the father of all modern republics who derive their model from Switzerland, was a clergyman. When I was a boy, some 20 years ago, in reading his book I was not more delighted with the ideas it contained, than charmed with the beautiful diction in which these ideas were expressed. It is one of the most readable books in the English language. But, like most great men who have lived in thought a generation or more in advance of their own, Mr. Langstroth was not allowed to see realized in invention and successful practice some of the most useful operations which to him seemed among the possibilities of the future, but are stationed among the attainments of to-day. May we not hope that they may be enabled to do much more for this department of honest gain than any thing they have yet accomplished?

Sterling, N. Y., April, 1882. REV. T. J. ALLEN.

DRONES FROM A FERTILE WORKER, CAN FERTILIZE A QUEEN.

THE QUESTION APPARENTLY DECIDED.

I HAVE a queen which I have no doubt (but not positive proof) was fertilized by a "fertile worker's drone." Last fall one of my Holy-Land queens from D. A. Jones, died, and the young queen being lost in mating in August, I did not discover the fact, being busy, until I had "that pest, a fertile worker," and about 2000 drone larvæ in combs. I gave them a queen in September, but preserved the drone larvæ. In Sept., 25th or 29th, I lost a queen in trying to introduce her to a hybrid stock of four frames; and as all the drones in my apiary had been killed, except the fertile worker's drones, also in the neighboring apiaries, as I learned by inquiry, I concluded to raise a queen. So, taking a frame of brood from the 4-frame stock, I gave it an unsealed one from an Italian stock. They raised a fine queen which hatched out about Oct. 24th or 25th; but the weather being too cool for her to fly, she did not come out until Nov. 5th. I saw her come to the entrance, and retreat; but in about five minutes more she dashed out and eluded my sight. I examined her next day about 10 A. M., and saw no sign of fertility; but on the 12th I found eggs in about 50 cells. The weather turning cold, I packed them for winter. I have no doubt she mated with a drone from a fertile worker, and I am further strengthened in this view by the characteristics of her progeny. They present the three yellow bands of the Italians, with whitish hairs and smaller size, and slender abdomen of the Holy-Land bees, and they stick to the combs a little better than the latter, but not so well as the Italians, and are the most vindictive bees I ever met with. When their hive is opened they sally out in a perfect fury, and woe to the man who fears a mad bee then. They do not buzz around,

but thrust their javelins with the fury of a mad bull. Will report their comparative working qualities in the fall, if life and health are spared.

ENOCH S. ARWIN,
Bedford, Tarrant Co., Texas, April 17, 1882.

Many thanks, friend A. It would seem that this additional evidence ought to settle the question, that drones from a fertile worker are, after all, capable of fertilizing queens. I believe this is the same conclusion arrived at by Berlepsche, years ago, and we have finally, after years of discussing and experimenting, come back to his decision once more.—By all means, give us further reports in regard to these bees.

HONEY-PLANTS OF CONNECTICUT, ETC.

A DISCUSSION IN REGARD TO THEIR RESPECTIVE MERITS.

I WANT to say a word first about catnip. I see a great deal said about catnip as a honey plant. Now, here in Connecticut I have watched it closely for three years, and I have but very few times seen honey-bees on it; but it is always loaded with the white-headed bumble-bees, about as large as a drone-bee. But

MOTHERWORT

is, in the time of bloom, always loaded down with honey-bees. I can safely say, that I have seen 200 honey-bees on motherwort to one bee on catnip. Catnip and motherwort much resemble each other, and this may have led to mistakes. I do not say catnip may not be valuable, but here I do not see such wonderful evidence of it.

SUMAC.

I consider this one of our best honey-plants, coming just after basswood, and continuing in bloom for weeks, according to location, and always completely swarming with bees in the time of bloom. Our bee-men say that a great deal of white clover and basswood honey, sold as such, is in reality sumac. A patch of the bushes yields, I think, much more bloom than the same ground in buckwheat, and is much more eagerly sought after by the bees, they working on it from morning till night. I think that in this town there is 500 lbs. of sumac honey gathered to one of catnip. Now, I have no sumac seeds for sale, although I could load a cart in one day with them. It is a rather troublesome bush in pastures, although it can readily be destroyed by plowing. It will grow in any rocky, bushy soil, and I think it would be as worthy of trial as many other things. You speak of honey on oaks. Two years ago the white-oak trees were covered with bees. It seemed as if there was a swarm there.

TWO SWARMS IN TWO DAYS.

Did you ever know two large swarms to come out of a hive in two days? Last summer, as I was away at work, the children came and told me that the bees had swarmed and gone into an old empty hive, about four rods from their hive, and the next day a large swarm came out of the same hive. Now, were they mistaken?

I have taken GLEANINGS since Jan. 1st. I like the Home column; and now, friend Root, a word of advice. Do not work too hard. You know that the Devil wants those people who are opposed to saloons, etc., and who are doing the Lord's work, to wear themselves out and kill themselves off as soon as

possible; but it is as much a duty to take care of the body as any other duty. The Lord wants workers, for he says, "Pray the Lord of the harvest that he may send laborers into his harvest." I think the advice in Our Homes good and helpful to those who are in the good way. I like the Tobacco Column. There will be no tobacco smoke in heaven — the smoke will be in the other place.

And there shall in no wise enter into it any thing that defileth or maketh a lie.—REV. 21 : 27.

How do you think John Bunyan's Pilgrim would have looked if he had presented himself at the little wicket gate, or the house of the Interpreter, or the Palace Beautiful, or even at the gate of the celestial city, with a crooked pipe in his mouth about a foot long?

Now if, after this mass of chaff has been run through the editorial fanning-mill, you find some heads that are worth saving, well; if not, consign it to the waste-basket.

H. PERRY.

Southbury, N. H. Co., Conn., April 29, 1882.

Friend P., you see we have found some heads of value; and, first and foremost, we want to know what time of year it was when you saw those bees at work on the white oaks. Was it from *bona-fide* blossoms, or from nut-galls, or oak-apples? I think the trouble with your catnip is because your soil is not favorable. To illustrate, I will mention that we have sumac here, the kind that bears red berries, red and sour, but I have never yet been able to find a bee on it.—The children were surely mistaken in thinking that two large swarms came from the same hive so close together, unless it was a stray swarm that went in and came out again. If the first one stayed in its hive, as I suppose it did, you have given us a case of the "automatic swarming" we were so eager to find out about a few years ago.—I guess our friend would have to put his pipe into his pocket before he went in at the wicket gate, and I am sure I don't know what he would do with it afterward, if he got in.—Thanks for your thoughtfulness in regard to my poor self. I will try to remember it.

A REPORT OF ONE OF CANADA'S BIG BEE-MEN.

RAISING THE HIVE FROM THE BOTTOM-BOARD FOR CELLAR WINTERING.

THESE are not many of us bee-keepers who like to tell of our failures in bee culture. Well, I have failed very often in bringing my bees through the winter when left on their summer stands with little or no protection. Since I have adopted cellar wintering I have succeeded very well. Perhaps it would not be amiss to give a report on the last season, 1880, as I neglected sending one in. I have kept bees for 23 years, and I find it a very interesting and profitable business. In 1880 there were great failures throughout the country in the honey crop, and I shared the fate of others in that respect. I had very little honey that season. I had quite an increase in swarms by natural and artificial swarming, as I began the season with 160 swarms, and in the fall had increased to 330. When I came to examine them in the fall I found quite a number too weak to go into winter quarters, so I united 30 with others, which then left 300 colonies. I sold to

Rutherford, of Strathroy, 43 of the best colonies I had. On the 15th of November I put my remaining 257 in the cellar, and left them there till the 3d of March, when I took out 127, and the remainder on the first of April, some in good condition; but, a few died for want of stores, and some spring-dwindled, and left their hives, brood and all, and went into other hives, which added to their strength, and left a lot of white comb for summer use.

Now we have our bees through to April 20, 1881, and doing well, and along comes Dr. Nugent and his bee-man, from Strathroy, very anxious to buy bees, as they were scarce then in this part of the country. I sold him 150 colonies, and 50 to others, which left me 20 culls. My sale of bees amounted to over \$1500. How is that, Mr. Editor, for a Canadian bee-keeper? I increased by artificial swarming to 71 colonies last summer. The past season was an extra one for honey.

The hive I use is the Ontario, a two-story hive of my own invention. I extract principally from the top story, except in case the brood-hive has too much honey, then extract to make room for breeding.

My bees are now in good condition. I set them in the cellar about the 15th of November last fall. I put them up half an inch from bottom-board, leaving plenty of space for foul air to pass off without having any upward ventilation. I have wintered eight years this way successfully. I never wintered with better success in my life than the past winter. I lost one hive; all the rest are in splendid condition. I can not see what the long cold winter has to do with success, so long as the bees are in a proper condition, and have a good laying queen, and are kept in a dark dry warm cellar, well ventilated. I have not yet lost one strong colony thus prepared, having plenty of good sealed honey directly above the brood-nest. I have tried various plans of wintering, but am in favor of the cellar so far.

Lobo, Can., Mar. 30, 1882.

JOSEPH ACHES.

I think it is tiptop, friend A., for a Canadian, or any other bee-keeper; and I have no doubt but that many colonies have been lost, both in the cellar and out of it, that might have been saved had more ventilation been given; and your plan of giving abundance at the bottom of the hive may be just what is needed.

MARKETING HONEY.

HOW TO GET RID OF A CROP OF 5300 POUNDS.

AS the honey harvest is near at hand, I should like to offer a few thoughts on the above subject, believing that, if more attention were paid by all the bee-keepers to building up a home market for their honey, that but a small portion of our crop would have to be sent to the large cities, and, as a consequence, our wholesale markets would advance in price, and buyers seek our surplus, instead of producers seeking a buyer. In order to give facts and not mere theory, I will tell you how I created a home market. Last July, being busy with my bees, and not having time to go myself, I sent my father to a village of 2500 inhabitants, nine miles distant, with a load of honey put up in one-quart Mason fruit-jars. Right here I wish to say, that I believe Mason fruit-jars the very best thing

to sell extracted honey in, while in a liquid state; it looks so clear it will often tempt a person to buy when almost any other package would fail to attract attention; but when honey candies, then tin pails are the best. To resume, I told him to sell it at private houses for 60c per jar, and allow 10c for all jars they wished to return or exchange. I also told him to warrant it pure; and if any one still doubted, to tell them he would give \$100 if the jar contained any thing but pure honey. As the people knew nothing of extracted honey, most of them doubted its being pure; some said they had a recipe for making honey; others, that they had been humbugged enough, and many like expressions. Well, he managed to sell all he took with him, scattering it through the village. I waited about two weeks, to let the honey advertise itself, when, having a day I could spare, I went down with my father, taking about fifty jars. We found a much more ready sale than before—those who had purchased, speaking in the highest praise of the honey, and advising their neighbors to buy. Shortly after, we took down another load, and told people this was our last trip; and after this they could get my honey at the grocery stores. As many expressed a wish to get some in the fall for winter, I told them I would supply them in \$5.00 lots for 12½c per lb., they to furnish something to put it in. Before I commenced to sell any, I got some nice labels of A. I. Root, and put one on each jar, so people would know my honey. I then took my honey to the stores, telling them to sell it at 60c, and I would allow them 10c per jar for selling. I sold at home for 50c per jar, or filled their own jars for 40c.

There is a country store near me where I do most of my trading. I made a bargain with the merchant to sell my honey and allow me the same as he got for it, I taking it out in trade at his store. He sold it for the same as I did at home. He sold about \$135.00 worth, which I consider just as good as cash. I had about 5300 lbs. extracted, and 450 lbs. comb honey. It was all sold at home, except two barrels, which were shipped in November, and that could readily have been sold at home if I had kept it.

I wish to impress upon bee-keepers the fact, that it is a great mistake to wait till fall before putting honey on the market. July and August were my best months. Many working people will buy in the summer who will not buy at all as soon as cold frosty winds remind them that warm clothing must be bought, the coal-bin needs filling, and many expenses they do not have in warm weather. It is also a mistake to ask fancy prices. My honey netted me a little over 12½c, which was better than selling a barrel or two for 16c or 20c per lb., and having to ship the rest to some wholesale dealer. Now let us all make an effort to keep our neighbors and near villages supplied with honey. If we do not, the increased consumption will not keep pace with the increased production, and honey will go begging a market in the larger cities.

JAMES NIPE.

Spring Prairie, Wis., May, 1882.

I believe friend N. is about right in the matter, and very likely the Mason jar is the package for selling in that kind of way; for the package being something that every family wants, it costs virtually nothing. For shipping honey long distances, however, the Mason jar would be too heavy and too liable to break, and we shall therefore, I think, have to depend on tin, and putting it up as

ordinary canned goods. If the honey is candied hard, it would seem that it ought to ship in the Jones tin boxes; but this, so far as I know, seems to await testing. We now have candied honey in tin boxes that is so hard it can be turned upside down without a particle of danger of stickiness; but whether it will remain the same during the extreme heat of summer or not, I have not yet proven. If it will, these little boxes must soon be a favorite for honey for a lunch, unless I am very much mistaken.

SHEPARD'S SWARMING-BOX IN THE HANDS OF THE A B C CLASS.

ALSO SOMETHING ABOUT PUTTING UP SECTIONS.

AS you have asked for the experience of those who use the Shepard hive-box, and I have seen no replies, I will give you my experience. My box is made according to the engraving on page 181, June number, 1878. It is 6x10, by 10 deep, inside measure, made of rough boards, with half a dozen holes in each side. The handle is secured to the bottom, and is about 7 feet long, and so made as to take another in at a joint beveled on the lower end. When I make another I will nail the handle on the side.

My use of it has been different from Mr. Shepard's. I have the bees alight on it, instead of getting them on it after they have alighted. As soon as the bees have begun to cluster, I jar them into the box until they begin to alight on it, then set in a good position for the bees to cluster and to be taken away; then set my hive, or look out for other swarms. This has been enough saving to pay for GLEANINGS ten years yet. You cut no limbs and climb no ladders. When the queen can not fly, I cage her with a few bees, and place her on the box, when the bees will follow, if placed among them.

PUTTING UP 4¼x4¼ SECTIONS.

I think I have a better way of putting up sections than given in your directions. I lay a bunch of sections on the bench with the narrow strip at the left.



Call this No. 1, and the others 2, 3, and 4, successively, for convenience in description. Take hold of No. 2 with both hands, thumbs above, fingers below; raise it carefully to an angle of 60 degrees, bringing it outside of No. 1; then, still retaining the hold, tip it in the other way; slide the left hand on to No. 1, and take No. 4 in the right hand, and bring it up and No. 1 forward until they join, when they may be driven together with a five-cent mallet.

I put up over 500 in 2 hours and 45 minutes, and could do better than that with practice. I do not know whether this would compare with your experts or not. The principle to be remembered is, bring the wide pieces outside of the narrow ones.

Edinburg, O., May 13, 1882. CHAS. R. BINGHAM.

I am very glad to hear of so good a report of the swarming-box, friend B., for we are selling a great many of them.—I hardly think we should like your way of putting up sections as well as ours, for our boys will put up a box of 500 in an hour and a half, or a little less; still, we give the plan, for some will prefer one way and some another.

A NEW BEE DISEASE.

OR, RATHER, AN OLD ONE REVIVED.

I SEND by to-day's mail a small paper box containing some diseased bees. I would have sent in cage with food, but I am sure they would not reach you alive any way. I send, and desire you, if possible, to have them examined with a microscope, in hope that some information may be arrived at relative to the *cause* of their death.

I will now proceed to tell you how they are affected.

Many of them are black and slick and shiny, like old bees, or like bees that have been dipped in honey and cleaned off. The bees become dissatisfied with these, and drag them out of the hive. They are often found to be unable to fly, and crawl off in front of the hive and die. The disease is not confined to this class of bees, however. Many, apparently young bees, are dragged, and crawl out and tumble off the alighting-board, and often fall on their backs, and, being unable to turn, lie there and "claw the air." They have an unsteady movement, and a slight vibratory movement of the wings while on the combs. The great majority of the diseased bees contain honey in their sacks. Fifty per cent of my stocks are diseased; some have lost thousands of bees, and are really worthless for honey-storing. I have just examined a neighbor's stock, and 80 per cent of his hives are diseased. The bees seem to be paralyzed; they can not fly, and they crawl with difficulty. Some of my stocks were affected last summer, but the disease is spreading rapidly. If it continues, we shall not get any surplus, and our apiaries will be worthless by fall. The queen does not become affected, but they continue to lay till the stocks grow weak from loss of bees. They are now gathering from redbud, dogwood, and black locust. When stocks become much affected with this new disease, they lose their energy. I would like if some entomologist would examine carefully into this matter. I am fearful that it is a new bee disease; and if it is, great loss is sure to result. Our bees are Italians and hybrids. Blacks are scarce here. I will ascertain if they are diseased also. Please sound the alarm, and let us know if this new malady has appeared in any other section. J. A. NEWTON, M. D.

Boonville, Ind., May 2, 1882.

Friend N., if you look you will find exactly what you describe, mentioned in the A B C. I have seen none of it of any account within the past few years, although we find a few emaciated bees occasionally, in stocks that seem to have got run down from some other cause. A few days ago I saw a mention of this thing in a California paper. With the roar of business now upon us, we shall be unable to make a microscopic examination, even though we were equal to the task, and I will therefore mail the bees to Prof. Cook. I have little hope the microscope will reveal any thing, for it seemed to me, when I studied the phenomenon several years ago, that it was something like consumption in the human family, although we had good reason to think it soon affected the whole hive, after it once started. Very likely, it will disappear of itself, after a time; but it would be of great moment to know of a remedy, if it be possible to find one.

CAN BEES REAR DRONES FROM WORKER EGGS AT PLEASURE?

APPARENTLY DECIDED IN THE AFFIRMATIVE.

SEEING an article in GLEANINGS, April No., p. 173, by S. H. Lane, entitled "The Sex of Eggs," and as you ask if any one else can give any new facts on this queer matter, I will give you some facts of exactly the same nature, which came to my notice to-day. When setting my bees out, I found one queenless colony, but strong in bees. I had no queen for them. Several days later I gave them a frame of brood, eggs, and larvae, from the center of another stock, the center of which had hatched, and had been refilled with eggs that were just hatching. Several days later, I gave another frame of eggs. I noticed two nice queen-cells capped on the first one, and also noticed a patch of brood above them, drawn way out long, and capped. I supposed them to be queen-cells, although there were about 25 of them. To-day I saw Mr. Lane's article. I proceeded at once to examine the hive, and, sure enough, I found these odd-looking cells to contain drones, fine and well formed; the cells had been enlarged like queen-cells, but they are drones, and were reared from eggs and larvae laid by a queen in a hive in normal condition, and laid in worker-cells just vacated by young workers. The comb is a new one, drawn last year from worker Dunham fdn., and not a drone-cell in it; the bees hatching from all the card are fine workers. The eggs would have produced workers had it been left in its own hive. This is conclusive that the worker bees *do* control the sex of eggs, and do rear drones from worker eggs, same as they do queens. This accounts for the presence of black drones several years ago when I was first Italianizing my apiary in colonies with no drone comb. They would always have a few drones, do what I could. Mr. Lane is correct in his belief; and when these drones commence to color I will send some to Prof. Cook for examination, with the comb.

Arcadia, Wis., May 1, 1882.

E. A. MORGAN.

LUCERNE IN UTAH.

ALSO SOME SUGGESTIONS IN REGARD TO SWEET CLOVER AS A FORAGE PLANT.

YOUR questions on lucerne I will answer, by saying that it is adding its millions to the value of this whole mountain country. With proper irrigation, our driest and poorest lands will yield three crops in one season, of from one to three tons per crop to the acre. To make good hay, it should stand very thick, that it may grow fine. Here in this dry climate it yields much honey, yet not equal to the sweet clover, which here has run wild on all the water-courses and domain where it can find moisture, and it also makes good hay when grown so thick that it will be fine, and, like lucerne, cut often. I am acquainted with your country, and feel assured that lucerne would be a great success with you. In sowing the seed, the ground should be carefully prepared, made very fine, and about 20 lbs. of seed sown per acre, to make fine hay. To raise seed, from 7 to 10 lbs. of seed to the acre would be sufficient. We raise no forage on which stock of all kinds will keep in as good condition, or on which cows will give as much milk, as on lucerne; and it is said that sweet clover, when grown in the same way, would be equally good, but it has not been so

universally tested; but it is proved to be our greatest honey-plant.

B. F. JOHNSON, SEN.

Spring Lake, Utah, April 17, 1882.

Since reading the above, I have pulled some of the rank luxuriant foliage of the sweet clover that grows over one of our underdrains, and given it to the horses, and they eat it without any hesitation whatever. Now I would like to know, what is the reason sweet clover has never been used as a forage plant. The question is one of greatest moment to bee-keepers, for if it can be so managed as to be a forage plant and a honey-plant too, we can, without fear, sow large tracts of it. On our grounds is an old roadway, so hard and yellow that for years not even the hardiest weeds have grown on it. Well, to reclaim it we put an underdrain right in the center of this old roadway, and sowed on sweet clover, three years ago. The clover has all disappeared now, except right alongside of this underdrain, and now we have, right in this hard and yellow clay, a bed of great luxuriance, six or eight feet wide, but none further than that. Well, if these underdrains were only about a rod apart, we should have, in that poorest of poor soils, a perfect field of verdure. In building our new house, we dug through this underdrain, and the sight of those sweet-clover roots, going down three feet, all around the tile, was a sight that will make me feel happy every time I think of it; for I feel sure now that I have learned how to bring the worst spot of ground on our possessions into good condition. I am sure I do not know what these roots would in time do to the underdrains; but if they should fill them up in after years, I would dig new ones. Perhaps some of you can tell us about it. No doubt lucerne would thrive in underdrained ground in the same way.

THE QUEEN DETERMINES THE SEX OF HER OVA.

ANOTHER NEW FACT IN THE MATTER, FROM FRIEND PETERS.

OCCASIONALLY there happens some event which establishes or destroys previous theories and conjectures. I have been forcibly impressed recently by a circumstance which clearly establishes, *in my mind*, a theory of Dzierzon, indorsed by, I believe, the weight of Langstroth's name; to wit, that queen bees determine the sex of their ova in the act of deposition, either by controlling the escape of sperm from the spermatheca during her laying, or in some other manner unknown to us. In this bottom we have recently gone through a terrible ordeal — the most disastrous overflow of the Mississippi River that has occurred for a century, and perhaps exceeds any thing of the kind since the waters that now thunder over Niagara ceased to wend their way to the Gulf by this great watercourse.

During the high water there was a sudden accumulation of twenty inches in twenty-four hours, accompanied by a storm of wind which blew every thing movable into the flood. Away went the remnant of my apiary, blown from the scaffolding, and, of course, I gave them up as lost, having been carried off in the currents sweeping through the forest.

In a few weeks I passed in a skiff by an immense drift of logs and brush, a mile from the house at the back side of the farm. The day being pleasant, I was attracted by the sound of bees. Examining the source, I found most of my colonies impacted in the drift, the lower stories submerged, but the upper ones in part above the water. I always leave the sections on during winter, with such stores as are collected late in the fall. The bees had found an exit from the hives, as most of the tops were more or less displaced; some were still alive, without getting out. All the bees, having been driven into the upper stories by the water in the lower part of the hive, went to work in the sections; such as made an exit were in good condition. The brood-combs in lower stories were flooded, and not fit for use for several weeks. That night I carried them in batteaus back to the house, and in due time all the combs were utilized by the bees.

But, we will go back to the subject, "the power of selection and distribution" by the queen, of her ova. My sections for surplus are of such a size that three completely fill a Langstroth frame, and consequently reach nearly to the top of the upper story. To this circumstance is the safety of the bees attributable. I had used drone foundation for starters in these sections. Well, they were all filled last fall with combs. Now, nearly all these sections with drone combs were filled with worker brood — a very small per cent being drone brood. I watched the development of these worker broods to determine whether a larger cell would produce a larger bee. They were genuine workers, and I at first thought they were a shade larger than other workers; but upon closely comparing, there is not a particle of difference from others reared in ordinary brood combs. I think the offspring of the Arkansas brown bee and the Italian are without a doubt larger than the original bees of the country; and to the improved blood I attribute the improvement of race — not to the drone-cells.

In the above instances the queen had no other place to deposit worker ova but in drone-cells, and their progeny are pure workers; hence the fact, that queens do determine the sex of their ova is unquestionable; but in what manner she does so remains among the unsettled problems of apiculture.

GEORGE B. PETERS.

Council Bend, Arkansas, April 28, 1882.

We are certainly greatly indebted to you, friend Peters, for the valuable facts you have given us; and while I am very sorry for your loss of bees, I could hardly help having a good laugh, to think of the way the poor little fellows made the most of a sad mishap. This is a deep question that lies before us; but, granting you are right, it seems to me the bees have, after all, the power of making worker eggs produce drones, when they wish, as the recent facts brought to light seem to show. And here is another idea: How can you prove that all the eggs laid by a fertile queen would not produce workers if they were not tampered with by the nursing bees? If I am correct, no egg can ever produce any kind of a bee unless the nurse-bees can have a chance to lick and sop it with their pabulum? Here is a field for our boys and girls? Can you make a worker egg hatch by keeping it warm and giving it the milky food taken from other cells containing larvæ?

MAY GLEANINGS.

SOME KIND WORDS IN POETRY AND PROSE.

THERE is more of the breath of spring and the perfume of flowers among the pages of GLEANINGS for May, than in all the outside world of nature in this part of the great American continent. Yet, untoward seasons have their lessons and uses. Here are some of them done into rhyme.

1ST MAY, 1882.

Though winter lingers, May is here,—
Bright, charming, beautiful May,
The sweetest month of all the year
For worship, work, or play.

This morn, when four degrees of frost
The early-riser saw,
A doubt arose: has nature lost
The sway of springtide law?

Faith, too, inquired, Has earth forgot
That ordinance of heaven,
Spring-time and harvest-time shall not
Cease always to be given?

But as the day wore on, the sun
Shone out with genial ray;
The air grew warm, and nature won
A victory for May.

Not always does the unchanging word
Fulfill itself so soon;
Yet, doubts that in the morning stirred
Are oft removed by noon.

Life, like the year, beholds its May
Caught with a wintry nip;
But, through each cold and wintry day,
Let faith maintain its grip.

For soon the cheerful sun will shine,
And winter all depart,
While proofs of life and power divine
Gladden the trusting heart.

But I took up my pen to jot down a few running comments on the May number. Friend Hutchinson's opening article is interesting, and suggests what I have often thought; namely, that bee-keepers ought to visit one another more. If I could afford the time and money, I would like nothing better than to make a summer tour among them. Perhaps this pleasure may yet be in store for me.

Friend Brooks's plan of catching a swarm without letting it cluster at all, is good for those who practice the clipping of queens' wings. I do not, and, with the Jones gate, there is no need of maiming and crippling the beautiful creatures. Therefore I hope that queen-wing clipping will become obsolete.

Martin's bee-tongue register is a triumph of ingenuity, but I shall want a coat-of-mail more than this delicate measuring instrument, when the *apis dorsata* becomes a native of the New World.

Mr. Abbott's communication about bees voiding dry excrement is to the point. Is it not time for Prof. Cook to "rise and explain" on that subject?

I mean to try friend Pierce's plan of transferring, the first chance I get. The only difficulty I see about it is getting off the cover without breaking things up generally.

But I must hasten to what most interested me in the May number,—

FOSTER'S HOUSE APIARY.

Have you ever turned over an idea in your brain, got it developed, and then been chagrined to find somebody ahead of you? That is how it was with me when the picture of our friend's house apiary, and the description of it caught my eye. He has tried it too. Well, I am glad it isn't patented. My idea was the same in principle, but on a larger scale—sufficiently extensive to provide accommodations for extracting, storage for hives, etc., all under one roof. Would not a more extensive plan obviate the difficulty of having the entrances too close? The objection, perhaps, will be, that then the bees will not keep one another warm. But I think a colony

fit to winter is able to keep itself warm with sufficient outside protection. I think this idea will grow in favor, and be improved upon as our more thoughtful bee-keepers come to consider its advantages, and experiment upon it. I am glad you are smitten with it, because I think your active mind will assist in working the thing out to greater perfection.

"Gallup on Ventilation," p. 233, and "The Langstroth Hive for Wintering," p. 241, will reward careful thought. Bees can resist a low temperature, if dry; but excess of moisture is fatal to them, whatever the temperature. This is one of the main points to be studied in all attempts to master the problem of *uniformly* successful wintering. We can all winter successfully sometimes; but who has discovered the secret of doing it *every* time? I will say that I, for one, have lost faith in all schemes of upward ventilation, and intend, whatever else, to have my hives *hermetically sealed* on top. I fancy if there is a corner where the heat can be absolutely retained without dampness, bees will survive any kind of a winter.

OUR HOMES.

I can only take time now to thank you for this department in the May number. It suggested a sermon to me which I preached, first to myself at home, and afterward to my congregation. How much may be done in the way you point out so well, to store honey in the domestic hive, where it is so much needed, both by the adult workers and the young brood! And if, instead of trying to throw the blame of our faults and sins on others, we would repent of them before an all-seeing and infinitely holy God, we should be humbler, holier, happier, and, what is most of all important, more useful.

WM. F. CLARKE.

Listowel, Ont., Can., May 12, 1882.

Many thanks for your kind words, friend Clarke; but may I ask if you really think the Jones bee-guards are to be depended on to restrain the queen as well as the drones, so as to answer the same purpose of clipping a queen's wing? They work beautifully to get out the drones, as we tried to-day. A swarm was purchased full of drones and drone brood; but as they were hybrids, it was quite desirable to get rid of them. The heads of the drone brood were sliced off, the bees all shaken outside the hive, a guard put over the entrance, and in a twinkling every drone was outside, while the bees went in without trouble.

HOW TO GET BASSWOODS FROM CUTTINGS.

HOW TO DO IT ON A LARGER SCALE.

TREAD A. C. Kendel's article and yours on basswoods from cuttings, with interest; but not having had the time to give you my experience sooner, I will give it now.

A. C. Kendel is perfectly right as far as he goes; but to give it to those who wish to try it next season, I will give it more in detail. All those having a greenhouse can easily get along by changing one of the side benches which run over the flue, or hot-water pipes, into a propagating-house by boarding up the sides to confine the heat, which will then pass into the sand, to give the necessary bottom heat. The sand on the benches need not be more than 4 or 5 inches in depth; the glass overhead to be shaded by slats or whitewash, so as to let plenty of light in,

but no sun. I would not start the operation sooner than January nor later than March. Now get your cuttings ready, which should be all nice straight growth, and cut them in lengths of one inch or more, as you please, and insert them one inch apart each way in the sand, and about one inch deep. Keep these always well watered, never letting them get dry, or you will be sure to lose a good many, if not all. Now plunge a thermometer into the sand among the cuttings, and see to it so the temperature never gets above 70°; from 60° to 70° is right—the temperature of the house to be from 50° to 60°, never letting it exceed 60°; the nearer you keep it at the above temperature, the surer will be your success; for it depends more on this than any thing else. After your cuttings are rooted, which will be in about 25 or 30 days, plant them in boxes 2 inches apart (shallow boxes about 2 inches deep), and set in cold frames; keep temperature in cold frame about 40° to 50° at night, and 50° to 60° by day, with plenty of ventilation to keep them from budding out. About the latter part of March or so, according to season and time the cuttings were made, plant them in rows outside, and hoe and keep clear of weeds. In this way I have made cuttings of new grapevines, roses, shrubs, and, in fact, all kinds of plants that I wanted to increase largely and successfully.

FR. HOLTKE.

Carlstadt, Bergen Co., N. J., May, 1882.

There is no question but that it is of the greatest importance that some of our boys and girls set about raising basswoods at once. The way in which the section business is taking off the basswood timber threatens to deprive us of this great honey source, unless new forests are started at once. The demand for little trees is already beyond the supply, at moderate prices, and I know of no better or surer investment than a million of good strong little basswoods. Friend Morris, who had a pretty large lot, has recently informed us that they are all gone. Trees raised in the nursery, and strongly rooted by cultivation, I think much preferable to average crooked gnarly trees pulled from the forests; and by the plan of raising from cuttings which friend H. has given us above, we may have stock from the trees that bear the largest quantity of honey, just as well as any other. Who will set about it?

Blasted Hopes.

Or Letters from Those Who have Made Bee Culture a Failure.

I WENT into the winter of 1880-'81 with 16 swarms. I got through with 11, very weak. They did well until the middle of June, and had become quite strong, when that terrible drought, with the more terrible chinch bugs set in. Our crops were a complete failure; thousands of farmers in Southern Illinois did not raise any thing, either provisions for their families, or provender for stock. The bees suddenly killed off their drones, and barely lived until fall, when the flow of honey was better. I did not get a pound of honey or a swarm of bees last year. I got through last winter with nine swarms; lost two.

JOHN JUDD.

Palo Alto, Ill., March 20, 1882.

FRIEND FRADENBURG'S "DOWNS AND UPS."

Here I am again, after a year's silence. I have not been dead, but sleeping, as far as bee-keeping is concerned; but to let you all know about my standing with the bee-keeping fraternity, I must briefly go back to the time of my initiation, and give the ups and downs, or, I should put it, the downs and ups. As for my share, it has been more down than ups, with bees.

I started in 1876 with 1 stock; increased to 3; in 1877 increased to 5; got no honey. In 1878 I bought 25 stocks in box hives, making 30 in all. Increased by natural swarming to 68; got some honey, but not a large amount. In the winter of 1878-'79, I lost all but 11, and they all weak. In 1879 I increased, by buying and swarming, to 31; in the winter of 1879-'80 I lost 4; in 1880, increased to 57; got no honey; in the winter of 1880-'81, you all remember it, I lost all but 4, and they very weak. I was then practically starved out—had no bees, no money to buy them with, and nothing here to do. So I fixed the 4 nuclei that were left, as well as could be, and said they must shift for themselves, as I was going to for myself, and took my carpenter tools and "lit out."

About May 1st I came back once and made 2 swarms by dividing; came back again in the fall, gave them some candy and packed them well in chaff hives, and said, "Live or die as you will through the winter."

I came back again a week ago, and found the whole 6 in good strong condition, plenty of brood, but small stores; have since bought 10 more. You see I have raised a stake, which makes me 16 all good strong stocks. I never had better ones at this time of year; 11 of them are pure Italians, 3 hybrids, and 2 blacks, which I intend to run this season for honey alone, or not let them more than double in number of stocks.

Friends have often said to me, "Don't invest any more in bees; they are too uncertain;" but I can not help thinking yet that they will be profitable, if we can only keep them through hard winters; and I believe that great problem is getting to be pretty well solved.

A. A. FRADENBURG.

Port Washington, O., May 15, 1882.

There is surely a moral to your story, friend F., and I think it is, to beware of too rapid increase. My early experience at one time was a good deal like yours, until I stopped dividing and selling queens, and declared I was going to raise only comb honey. To do this, I of course made all stocks as strong as possible, and, after the season was over, had nothing but rousing colonies, every one of which it would seem could be divided in the fall as well as not. I did not divide them, however, but just let them alone, and every one of them, or nearly every one, wintered safely, and I made quite a little money by selling strong stocks in the spring, at a good round price. Now, just keep them strong, or even powerful, at every step, and you will be pretty sure to winter, no matter how severe the weather is. Come to think of it, your hopes don't seem to be blasted after all; but after the losses you have had, it is almost a wonder they are not. Our neighbor Shaw, too, once had just such work as you do, but now he is an old veteran in wintering. Now mind, my friend, this summer you are going slow and sure, and you are going to winter, too, all right.



FILLING TIN BOTTLES BY STEAM.

TO fill the tin bottles with water, first cause a vacuum in them by holding them in boiling water, then quickly submerge in cool water, and it is done — atmospheric pressure, you see. By tying them in bundles I can fill a hundred in five minutes — yes, in two minutes. We have to thank that most excellent and practical gentleman, friend N. Emmerson, of Exeter, Kansas, for this item. After quietly watching me a few minutes squirting away at them with a syringe, he remarked, "Why not fill them by vacuum, friend H.?" Did I feel "cheap"? well, the truth must be told, I did. What little practical use I have made of my natural philosophy!

E. M. HAYBURST.

Kansas City, Mo., May 1, 1882.

ADVANTAGE OF THE DIAGONAL WIRES FOR BROOD-FRAMES.

I have three hives with wide frames filled with section boxes in second story. The bees are now capping the honey, and it will soon be ready to remove. Will you be kind enough to tell me the best way to expel the bees? The frames below have sagged so much that the bees fill up the space between the top of lower frames and bottom of upper ones with honey, and it is very awkward to keep it cut out, owing to weight of upper boxes. From the manner in which our Texas bees ignore the fact, that the frames are meant to be taken out at pleasure of apiarian, they can hardly be as thoroughly civilized as your bees, and I find that showing hives like yours, before the bees are put into them, to admiring bee-men ("box-hivers"), is different from manipulating when full of bees. Allen, Root, and King must have straighter combs and more "blessed bees" than I have, notwithstanding one stand in King's "Eclectic" had filled 24 boxes nearly ready to seal by the 24th of March.

Please pardon the length of this acknowledgment; and if I am not intruding on your time, tell me what to do with the two-story hives. If I get the honey out safely this time, I promise you to try the 1½ stories in the future. I have had eight swarms from ten hives up to date.

F. F. ROCKWELL.

Leonard, Fannin Co., Texas, April 24, 1882.

I am sorry to say, friend R., that our bees are just as uncivilized as your Texas bees seem to be. If the top-bar to the frame sags with the weight of the honey, they will assuredly build comb in it, and fill it with honey just as fast as you can cut it out. It is for this reason I never want any more frames without the diagonal wires and the tin bar, to prevent sagging. You will have just the same difficulty with the 1½ stories, for any thing I know, unless you set the boxes on the frames, and then they will help the top-bars to sag still more, by their additional weight.—We are glad to hear you are getting the honey.

ANOTHER DEPARTMENT WANTED.

I see you have three departments you get some of your customers in, but I do not think that either of them will suit my case. You should have another department, and term it the "Blues," into which condition a "feller" falls when he gets such a bayoneting by the little fellows as I got last fall, when I undertook to take a little of their surplus honey, and I tell you there was war in the camp, and I had to retreat on the double quick; and if the theory advanced, that the sting of bees is good for rheumatism, is true, I ought not to have it for the next five years.

J. L. PORTER.

Pleasant Dale, Neb., March 30, 1882.

BIG BEE-STORIES.

I inclose one dollar to renew my "prescription" for GLEANINGS. I think there are some of the *biggest* bee stories in it. I would like to give some one \$25.00 for a stand of bees that will make 520 lbs. of honey in 24 days, or I will give it if they will make that much in a honey season.

JAS. BANNON.

Archie, Pa., March 16, 1882.

So would I, friend B., quickly, for I could sell the honey and come out ahead then. But you know it isn't the stand of bees alone. It needs the locality, the season, and the man to manage them, after all the rest is ready. Are you the man?

LOCKING THE STABLE AFTER THE HORSE IS GONE.

I had a large swarm of bright Italian bees come out the 2d day of April. I was not at home, but the boys hived them, and they stayed in the hive about three hours, and out they came and hied for tall timber; and if you were down here now you might see them passing in and out of a small hollow in a post oak-tree, about forty feet high; and let me tell you, they work in a "sloose" too. If ever I get hold of her ladyship, the queen of that colony, she will lose the point of one wing.

Miles, Ky., April 6, 1882.

W. B. CLOYES.

THE CORN-POPPER SWARM-ARRESTER, AND HOW TO USE IT.

In regard to your corn-popper swarm-arrester, it will work all right if you fill it with bees. I have used a cage of wire cloth, 6 inches long, 4 wide, one deep, with a plug. When your swarm is coming out, hold it at the entrance till it is full; put in the queen, then the plug, and hold it where you want your swarm, and the noise will bring them every time. For a swarming-box, I use a box with a handle; cage the queen, throw a sheet over the hive, place the box in front, on the sheet, lay the queen in front of the box, and when they begin to go in, let the queen go in with them. Pick up the box, and take them where you want them.

J. J. SWARTWOUT.

Union City, Mich., April 7, 1882.

Why, you will see, friend S., by the May No., that you have struck on the idea of friend Brooks, almost exactly. It seems you have both been practicing almost the same thing, and each without a knowledge of what the other was doing.

AN A B C SCHOLAR IN TROUBLE.

You seem so kind, and willing to answer questions, and you show so much patience with dull people, I thought I would venture to tell you of our difficulty. I don't find any thing in the A B C book

or GLEANINGS that helps us out. We have only one hive of bees. They are strong, and are working nicely; they have fastened the sections all together with comb; they built the comb crosswise, and every way; the top of hive is fastened down; in fact, the whole concern is fastened up tight. Just what is best to do with them, we don't know; whether we should let them be until they swarm, or shall we take them apart? Now, if you would give us advice about them, we should be very glad.

E. A. BARBER.

Akron, Summit Co., Ohio, April 3, 1882.

Why, my friend, the reason the A B C says nothing of such cases is because it does not anticipate ever having any. It tells how to transfer from box hives, and I guess that must be the thing for you to do. I can not imagine how your bees ever built their combs crosswise in the sections, unless you omitted the fdn. starters; and if you did this, you would assuredly have this kind of trouble. What should we ever do without fdn., at this day and age of the world?

KENDEL'S FEEDER.

When you make any more Kendel feeders, please have the end quite as high as the rest; if any thing, a little higher, and the perforated tin sunk a little lower. The lot you made for us will let the syrup run out at the end when set just a little lower than level.

A. C. KENDEL.

Cleveland, O., April 29, 1882.

There! Did I not tell you last month that the differences in regard to this feeder were only in construction? You see, friend Kendel made the perforated tin a little lower than the rest of the tube, and this let air into the jar easily enough.

36 COLONIES, AND 1500 LBS. OF HONEY FROM ONE SWARM IN ONE SEASON.

Owing to our winter rains not coming till late, bees have yet scarcely commenced swarming, which is two months late, still, as all farm crops bid fair for a fine yield, although late, bee-keepers look for a fair honey crop. The bee interest is not booming here now as it was three years ago, when our chief bee-man here, Mr. Archer, increased one swarm to 36, and extracted over 1500 lbs. of honey from them. This is wonderful, but I am acquainted with Mr. A., and do not doubt the correctness of the statement.

S. P. SNOW.

Santa Barbara, Cal., April 24, 1882.

The above may seem almost incredible, especially to our friends new in the business; but with a good queen and a powerful colony, and the climate of California and one of California's best seasons, I think we have a few among our number who could reach it. Neighbor H. took a pound of bees in May, as I have told you, and increased them to five good colonies, and every one of the five are working strongly this 4th day of May. A powerful colony might have 10 lbs. of bees instead of one at the date mentioned, and all that would then be lacking to make fifty would be the nine extra queens.

FRIEND DEARBORN'S REMARKABLE SUCCESS(?).

I have kept bees five years; good success every way, except profit. Kansas don't furnish the honey. Sometimes it is too dry, sometimes too wet. I live near a creek, and there is plenty of willow, bass-

wood, maple, mulberry, judas-tree, cottonwood, elm, etc., and peach and apple orchards. Three years I sowed buckwheat, and never saw a bee on it. I failed to get red clover to grow. This spring I sowed Alsike and alfalfa. I prefer outdoor wintering, even if it takes more feed. I fed all last summer after the fruit bloom was gone. They went into winter quarters with about 5 lbs. of honey per swarm, and I fed in February and March.

A NOVEL "OBSERVATORY" HIVE.

Only one year have they made any surplus. One swarm came off in June. I put them into a box without any bottom, set it up so that I could lie down under it and look up and watch them. Up to the 10th of August, they made a piece of comb about the size of my hand; after that they made about one hundred and fifty pounds of comb and honey. They are black bees, industrious, and healthy; but it doesn't pay in cash. It is the pleasure of seeing and working with them that induces me to feed them.

J. H. DEARBORN.

Silver Lake, Kan., April 22, 1882.

Why, friend D., you are a genius. If your enthusiasm *continues* to the extent of prompting you to lie down with your face upward under a bee-hive, I predict you will eventually get honey and money, more than you perhaps have any idea of, and right where you are, too, in your poor location. The quantity you mention, from one hive of black bees, indicates pretty well what your locality may do. After the reports we have had in the years past, I am a little skeptical when I hear people speak of poor localities.

HYBRIDS VERSUS EITHER RACE PURE.

I find, from several years' experience, that the Italians are no better than the blacks—*not so good*; but a pure Italian queen crossed by a black drone is worth almost any two of the pures. They do sting with some force, but they are a powerful bee. I am going to hybridize all mine this summer.

COMBS PUT IN THE EXTRACTOR, NOT AS THEY HANG IN THE HIVES.

I am surprised at your recommending the frames, in slinging, to be put in the same as they hang in the hives. You are aware that the cells are not horizontal, but slope upward a little. Now, if you place the comb in the extractor so that this slope is backward, that is, have the bottom of the comb going round first in the extractor, the honey will slide easier than in any other position, considerably less speed will do, and the honey will come out cleaner.

GEO. RIDDEL, A. M., School of Leslie.

Insch, Aberdeenshire, N. B., April 14, 1882.

Even should we grant that first-cross hybrids are as good as the pure, friend R. (I hardly think it will be agreed they are *better*), you not only have cross bees to handle, but you are in danger of having their drones fertilize your queens, and then you will have bees that are perfect furies when the honey yield relapses. If we could be sure that our queens all had a pure mother, we might get just as much honey, in spite of any number of black bees about us, but we couldn't well rear queens for sale.—Your argument on extractors may console the friends who object to the L. frame because it is turned to set in the extractor. After the comb comes up to full speed, I am inclined to think the position of the comb would make

no difference; but your idea may be correct, while it is being brought up to speed.

HONEY-KNIVES ALL IN THE "SHADE."

Don't go crazy over Jones's uncapping-knife until you take a garden-trowel of good finish and metal, grind to an edge by beveling from the outside or convex surface, then finish on oil-stone to keenness, and you have it. The trowel will cut like a plane, if held properly, and will hold the cappings of one side of a frame without trouble. I have *tried* it and *know*; the main trouble is to get one of good enough metal.

THE IMPROVEMENT IN FDN.

Glad to see your idea of fdn. in last GLEANINGS. I have advocated for some years that cells should be made, say half size, and *round*, if necessary, because cheaper, but only the proper number to the square inch. I found, in 1877, that bees would thin the side walls for room; they are not obliged to thin the base. Bees will work our way in preference to their own, only when compelled to; and this statement will do for an axiom. J. M. SHUCK.

Des Moines, Iowa, May 4, 1882.

I am sure, friend Shuck, we are greatly obliged for the suggestion, any way; and just as soon as we have any uncapping to do, I assure you we will have one of our bright 10-cent steel garden-trowels ground up, and try it. The steel and temper are pretty fair, and if they would do for honey-knives, why, we could have them made with a great deal more care. Who will be the first to try a garden-trowel, for an uncapping-knife? Friend S., you are in a fair way of getting thanks, if you don't get any money, for your idea.—Thanks, too, for your kind words in regard to the new fdn. While experimenting with it, I remembered you once wrote me that bees would accept of plain wax sheets with holes pricked in them at the proper points for cells, or something to that effect? I believe your axiom is a good one to go by.

SEVEN-TOP TURNIP.

It would have done you good to see my bees work on my seven-top turnip a few days ago. I have about one-half acre of it, and would not be without it in early spring, even for my bees, say nothing about salad and seed.

HONEY FROM A FIELD OF BARLEY.

I notice, for the last three or four days, that my barley patches are alive with bees, and, on examination, find that they alight on the stalk near the top blade, and follow up the blade that is next to unfold, which is already twisted, and forms the top of the stalk (for the barley is jointing, and is not headed out), and on examination I find small drops of honey-dew, clear as crystal, produced, apparently, from plant lice, for, upon opening the fold that I spoke of, it discloses plant lice imbedded or enveloped therein. If it comes from the insects, it is certainly sweet. The honey certainly is secreted from the plant, or sprayed from the insects. Some may be ready to say that it is water; but if it is water, the bees would work on it mornings as well as evenings; and besides, it would not be sweet. The bees just roar on it from about noon until dark. I can't say how long it will last. We had a rain last night, but I have been so busy to-day I have not noticed whether the honey still continues or not. Have no-

ticed to see if they worked on wheat and oats the same way, but don't find a bee on them.

J. D. FOOSHE.

Coronaca, Abbeville Co., S. C., April 4, 1882.

Many thanks, friend F., for this new fact you have given us. What a wonderful field is opened to those who are on the alert to see and gather every new fact in regard to the source of honey! Does it not indeed seem as if a bountiful Creator had so ordered it that honey may come from such a multiplicity of different sources, that the field for exploration is almost endless? You may lose your crop of barley, friend F., but who knows but that the crop of honey may almost equal the loss in grain? I have seen bees hovering over grain just before heading, in a way that has led me to suspect something much like what you mention. You know we have recently had reports of a similar phenomenon on corn.

WATER FOR BEES WHEN IT RAINS.

It don't seem as if bees ought to need watering when it rains; but this is the third day of a regular nor' easter, really cold, and no opportunity for the bees to fly. Yesterday I tried a sponge filled with water, laid down at the entrance, and they were so eager that I started for town and bought a dozen for a dime. They will empty one of them in from 1½ to 2 hours all day long. So I am going to look out for water after this when it is so cold they can not get away from the entrance. The cellar men around here complain that the cold weather is taking off the bees, while our chaff and "sawdust" men feel as unconcerned as you please. F. A. PALMER.

McBrides, Mich., May 12, 1882.

BEEWAX — THE OUTLOOK.

We have no beeswax. There is not 500 lbs. in the city of Boston. CROCKER & BLAKE.

Boston, Mass., May 12, 1882.

You see how it is, friends; pretty soon, and the wax of the world will be gone. What shall we do? I will tell you, if you won't be scared. For brood-combs use wires, and go back to our old paraffine experiments of years ago. Had we only put wires into the frames as we do now, we should then have succeeded without trouble. For comb honey, we can use a mixture of wax and paraffine that the bees will work out much faster than pure wax; and for our small 4½ sections, I think we can manage so the sagging will do no harm. No one will ever receive any fdn. containing a particle of paraffine or ceresin, from our establishment, unless it is ordered, and every package will also be labeled as such. We shall in all probability find wax enough at some price, for all demands this season.

POLLEN; CAN IT TAKE THE PLACE OF HONEY, AND TO WHAT EXTENT?

The first pollen was gathered by the bees from soft-maple on the last day of February and first day of March. The elms bloomed from the middle of March to the 6th of April; then the sugar-trees began to bloom just before the cold snap, which killed the bloom upon the earlier trees and kept the late trees back so that there was still some pasture upon them. After the first of May they would get one or two good days' work a week, some days an hour in the middle of the day. The cool weather seemed

to ripen the pollen so slowly that it was in the best condition to carry, judging from the size of the loads they brought in. The most of the fruit is killed, although the trees are in bloom nicely, and they will yield the usual amount of pollen, but no honey. The bees are building up finely, some stocks being strong enough to swarm. Can you tell in what proportion pollen is used as food for brood-rearing? Have any experiments been made to find out whether bees can rear brood on pollen alone, or with very little honey when it is plentiful? I have thought that they were able to accommodate themselves to the season; and if pollen were plenty and honey scarce, they could get along by using more pollen.

JOHN BAIRD.

Elm Grove, Ohio Co., W. Va., May 10, 1882.

I have often thought of the same thing, friend B., and I am satisfied it does many times support destitute colonies for a considerable time, when they can fly out, with but very little honey; but as to whether pollen alone will do, I am unable to say. I presume they seldom get pollen from any plant, without getting at least a little honey with it. New pollen has a sweetish taste that somehow always reminds one of honey.

WATER FOR BEES, AGAIN.

Sunday, the 7th, the bees were out in a mass, and acted as if honey had been spread on the grass. I thought they were after water; then on looking at the bee watering-trough I saw from a gallon to half a bushel of bees in and around it, and they even neglected fruit-bloom for about 3 hours until they had enough water, and then they went for the bloom lively. My bee watering-trough is 12 feet long, 1 foot wide, 4 inches deep, with coarse gravel and stone in it; gravel is to keep water pure, and stones are for bees to crawl up on when they get in. It works well. Corn-cobs would do for floats, but would soon become impure.

A WORD IN FAVOR OF COMB FOUNDATION.

While after-swarms in box hives starved, I found those with foundation all right. I put 2 third swarms in one hive with foundation and division-board, 2 entrances; each gave 10 lbs. surplus, and wintered well. Fdn. did it.

E. PICKUP.

Limerick, Ill., May, 1882.

"INTRODUCING" BROOD.

Please answer the following question through GLEANINGS. Will a nucleus or any colony accept unsealed brood? I have found the cells empty, when I looked a few days after.

JACOB FISCHER.

Elizabethtown, Ky., May 13, 1882.

At first I was a little inclined to laugh at such a question, because it is so well known how quickly a queenless colony rushes for a little unsealed brood, and how obstinately they stick to a frame, after they have once got on it; but after a little I reflected that I had, been many times puzzled to find small bits of comb, which I had put in for queen-rearing, in a few hours with every cell empty. At other times the larvae is all removed, except the few that are in the queen-cells just started. It has been several times explained, by saying the bees ate up the extra larvae to make royal jelly for the queen-cells; but I think this has been shown untenable. Now, who can tell why they sometimes throw

out the eggs and larvae, and do not start queen-cells at all? Is it because they sometimes get contrary and stubborn, and decline their greatest blessings, like some other poor mortals?

HOW SMALL A NUMBER OF BEES MAY BECOME A COLONY?

How small a quantity of bees and a queen can a person start a hive with?

D. F. MARIKLE.

Sioux Falls, Dak., May 6, 1882.

If you put the bees and queen on a little patch of hatching brood, a teacupful of bees or less would answer; but without bees hatching daily, it would be almost impossible for such a quantity to hold out until new ones could be reared. A pint of bees and a queen, in the height of the clover season, might build up on dry comb, but there would be great danger of the queen getting discouraged and swarming out, because she could lay as many eggs as the bees could cover and care for, in a few hours, and then she would have nothing to do for about 20 days, or such a matter, unless it were to go round and lay more eggs in the same cell, as they often do when they have too few bees. As a pint of bees is pretty nearly $\frac{1}{2}$ lb., it might be worth while for some one to weigh them out, and try the experiment. But I predict it a failure, unless in the hands of an expert. With a very little brood in all stages to start on, the matter is comparatively easy, because you will soon have more bees coming out daily.

QUEENLESS COLONIES.

I have a colony that I can't find any queen in, nor eggs nor brood, but lots of bees. Now, if I give them a frame of brood from another hive, can they raise a queen so early in the spring? If a colony has plenty of their own honey, would you feed them? If bees carry in pollen, is it a sign they have a queen, or will they carry it in if they have no queen?

D. M. STOWITS.

Beaver Dam, Schuyler Co., N. Y., May 15, 1882.

Your colony is probably queenless; still, they may have an old barren queen. In any case, the thing to do is to give them a comb of unsealed brood. In 24 hours, you should be able to find rudimentary queen-cells started, if they are queenless. If they have a poor queen, you will be sure to find her on the comb of brood. In the latter case, pinch her head and they will raise a queen from the brood, and fetch up, if they have bees enough. A queenless colony will carry in some pollen; but the loads will be few and small. If pollen is going in briskly, you are about certain they have a queen, or are raising one. I would not feed when they have an abundance of honey.

OPEN-AIR FEEDING.

Please allow me to countermand my order of the 6th for 100 Simplicity feeders, if it is not too late. I have been trying open-air feeding, and like it much better than feeding 140 colonies separately.

Dayton, Ill., May 13, '82.

J. A. GREEN.

If you haven't neighbors' bees around, and there is no robbing, no doubt but that outdoor feeding is the cheapest; and when the weather is warm and dry, I rather think I like the effects of it the best.

"HUCKLEBERRY HONEY," AND SOME OTHER THINGS.

I have been thinking of writing to you for some time. Father has the rheumatism, and it keeps me stirring. But you know more about the troubles of a busy bee-keeper than I do, especially if he is behind time in his work. I will have my little shop and bee business advertised. Do you think I can get plenty of work to do? We will be satisfied with a little, for we get that nice pure whortleberry honey. The next journal you print, tell the people to raise the Italians, and, even if their queens mate with black drones, their apiary will not be in any bad condition at all for honey-gatherers. We have here 45 stocks; lost 1; they are blacks, hybrids, and Italians.

A SINGLE COMB $5\frac{1}{2}$ INCHES THICK.

Ask the friends if they ever compelled a hive to build a comb $5\frac{1}{2}$ inches thick, 12 inches long, 4 in. deep. I raised one last spring.

Tell me your opinion in regard to which is the cheapest plan of shipping extracted honey, etc.

IRA D. ALDERMAN.

Clinton, Sampson Co., N. C., March 17, 1882.

To be sure, you will have work enough to do, friend A., or any other kee-keeper, if you only *do it*. Take good care of your father, and save all of that huckleberry honey.—Yes, we have combs almost if not quite as thick as you mention.—The cheapest way to ship extracted honey is, without question, in barrels. Perhaps the next best way, the shipping-cans we advertise.

LOOK OUT — WHEN YOU MAKE BEE CANDY.

I will let you know that my bees wintered well in the chaff hive. The queens are busy-laying, and the workers in gathering pollen. I have three colonies, which are all in good condition just now. Mr. Root, I thank you for your good advice which you gave on page 48, A B C, in "Caution in regard to Candy-making." As I was cooking it, I dropped some of it on the stove, then on the floor, and after that the table. Then my wife said if she were in my place she would stop bee-keeping. I asked, "What for?"

"Why, it seems to me as if you have forgotten that advice which Mr. Root gives."

And that made great laughter.

JOHN H. HOUTSY.

Fredericksburg, Lebanon Co., Pa., April 3, 1882.

ROBBERS, ETC.

I went into winter quarters with 12 stands of bees. All wintered well, but the robbers are terrible this spring — have cleaned out two hives, and are now working on the third. I don't know which will conquer yet, the robbers or myself.

WARREN FOOTE.

Glendale, Kane Co., Utah, April 10, 1882.

Friend F., we have not had a single case of robbing among our whole 200 hives this spring. I do not really know why it is, but robbers seem to get, with moth millers, "kind of out of fashion," after we get the hang of the business. Come to think of it, I guess I will stop, or you might think I was sort of bragging; and when I get to feeling that way, I almost always get a backset, so I shouldn't be very much surprised to hear our bees were robbing before night. I just want to add, though, that they didn't die last winter, they don't rob, there are no blacks nor hybrids among them, nor moth millers either. So, now!

WINTERING TWO OR MORE NUCLEI IN ONE HIVE, ETC.

I commenced last season with 28 stocks in fair to poor order; got 200 lbs. comb, and enough to winter; started to winter 31 swarms and 10 nuclei, not very strong. A colony that is strong enough to pack on 4 or more combs I call a full colony; three combs or less, a nucleus. I have lost my weakest nucleus and one fair colony — cause, would not protect themselves from the robbers when the entrance was closed, so but one bee could pass at a time, and of course they starved. That is the extent of my loss. I have about 30 fair colonies; will unite the remainder *a la* Doolittle, and will commence with about 34 swarms. Many of my nuclei were wintered on two combs (with chaff at side and on top of frame), but none at ends of frames or bottom; two in a hive with $\frac{1}{2}$ -inch board between. These lost very few bees — less in proportion than some of my best ones. I find that nuclei do better with but two in a hive, as they cluster each side of the division, while, if three or more are packed with divisions between, the center ones will cluster on one division and neglect the other; this makes the outside ones worse than if packed singly in chaff.

Now, friend Root, can you not give us GLEANINGS semi-monthly? It is too long to wait a whole month, and then get such a "dose" of bee talk. It is a good plan to give a big dose for winter, but how about stimulative feeding? Won't you give your subscribers a chance to vote on it? you may be sure of my vote.

JOHN B. CASE.

Baptisttown, N. J., April 10, 1882.

Well, yes, you may vote, friend C., if you choose, especially as your idea is already in practice. If you wish to help it along, just show GLEANINGS to your neighbors, and assist in extending its circulation.—Your ideas on stimulative feeding are correct, I believe. Small doses at a time, and pretty often.—I have seen bees refuse to protect themselves, when wintered indoors, but seldom when wintered on their summer stands.—I agree with you, that it is not well to attempt to winter more than *two* in one hive.

THE GOOD OLD WAY.

I am trying to be an apiarist, and must *ape* other bee culturists, I suppose. I have been reading your A B C book until I can talk *bee talk* a little. I am amused and amazed at your talk about feeding bees. I thought we kept bees for them to feed us; that is what I keep them for, I am sure. During the months of Oct. and Nov. we have our principal honey harvest. In fact, some years I never "rob" until October, if we have plenty of honey to last so late. I sell a little honey sometimes for about 12½ cts. per lb., but it is not built in section boxes. I have "bee gums" of the good (?) old pattern, and when I get the honey torn and mashed and squashed out, and rammed down into an old coal-oil can, it don't look so very attractive; but then, you know, friend Root, it has one advantage (?), you can put the best combs on top, and the worst in the bottom. Now, I see you frown at that, for I know you must be a good man; so you impress me. You should be particular how you instruct the A B C class, for I am certain that every one of them will believe every thing you say.

W. P. LAUGHTER.

Morales, Jackson Co., Texas, April 9, 1882.

Don't you know, friend L., that "there is that scattereth, and yet increaseth; and

there is that withholdeth more than is meet, but it tendeth to 'poverty'?" I think the above will apply pretty well to feeding bees. If the A B C class are really going to believe all I say, I think I had better be pretty careful what that "say" is.

GETTING UP IN THE MORNING, ETC.

I tell you I have all I can get through with. I had to get up at 3:35 Monday morning and fix up two 3-frame nuclei to go on the early train. I have sold over \$20.00 worth of bees and queens this week.

Washington, Pa., May 13, 1882. L. W. VANKIRK.

And is not that just the way to do, friend V.? I believe I always feel the happiest when I have to work so hard I hardly get time to eat and sleep. You see that teaches us to appreciate a few moments of leisure when we get them.

EXTRACTED VERSUS COMB HONEY.

My bees did well last season. I took about 1000 lbs. of extracted honey. In fact, I take no other, for extracted is coming into general use more and more every year, and justly so. It is more nutritious than comb honey, the wax of which is scarcely digestible. I obtain just the same price (20 to 25 cts.) for extracted that I do for comb honey, and we can all do this when we get our customers to understand that we will, under no circumstances whatever, suffer the least adulteration in any honey that we put upon the market. Other professions put inferior and adulterated goods on sale. Let bee-keepers as a class come squarely to the front, and, under the guarantee of their own right hands, offer nothing that is adulterated or of an inferior character. This is my motto.

As heretofore, my bees came through the winter in fine condition, all on their summer stands. I did not lose any, neither have I in ten years.

I think the "new departure" is good, especially when we old subscribers to GLEANINGS are to receive it "free gratis for nothing." Can you stand this? If so, it shows that GLEANINGS is on good foundation, for which we will all rejoice.

Shelbyville, Ill., May 20, 1882. J. W. JOHNSON.

"HOW TO GET THEM LOOSE."

The three-frame nucleus you sent me two years ago has increased to three good colonies. Whenever there comes a warm day they work very strong. I left the upper story of sections all winter, and the frames are stuck as tight as if they grew there. I would like, if it is not too much trouble, to have you tell me the best way to get them loose.

Salem, O., May 13, 1882. WILLIAM STRATTON.

Wait until a warm day, and then let the sun shine right on the sections until all the propolis is warmed up so as to be soft. Now you can remove them without trouble, but they will be so badly daubed up as to be rather unsightly. If we wish nice comb honey, the unfilled sections should be removed as soon as the honey-yield ceases. It is true, the propolis can be scraped off with a bit of glass and sandpaper, after they are filled with honey, but it is quite a laborious task.

SOUR HONEY.

Some one asks in May GLEANINGS if honey will sour in the comb. I will tell you what came under my observation. Several years ago I had a very

large swarm. I hived them in a box hive; they filled it in two weeks during the fall; that honey was so sour that one could smell it anywhere about the hive. J. S. CUMMINGS.

Brooklyn, Pow. Co., Iowa, May 13, 1882.

I should be inclined to think the odor of this honey was a characteristic of the plant from which they obtained it, not because it soured. Hives often smell of onions, you know, where many seed onions are raised. A good strong colony of bees are generally proof against any thing souring that once gets into their combs under their direct supervision.

SMOKERS, ETC.

I ordered a Bingham smoker of you for a friend 12 months ago. I have used it some, and don't like it at all. It is awful to snort out fire. I ordered a Clark for a neighbor some time ago, and I like it the best of any I ever saw. It never snorts fire, and it is *semper paratus* — (always ready).

A man here says he does not now let his bees swarm, and don't have so many to abscond as formerly. When asked how he got swarms, he replied that he would take a few frames out of different hives, and then hunt up a queen and put in; but sometimes the queen is very hard to find, and in such cases he would put in a *drone*, and he never could see but that it did just as well.

My bees commenced swarming the 10th of March, and for the last 3 weeks I have had one and two swarms every day. I cut down the cells and put the queen back. It seems that don't do much good here. They will swarm again in a week or ten days, and several have swarmed thus 3 or 4 times. I have saved several swarms until I have every thing full of bees, even ash and salt boxes. I now have 40, and if I had the lumber to make hives I could have 80 or probably 100 this season. They are not making much honey yet, but just enough to give them the swarming fever. In my present circumstances, I would sell several lbs. of bees at 50c, if I were near a market. The honey harvest here will not open till the middle of May. I never saw the horsemint finer, and this, undoubtedly, will be a great honey year. Maysfield, Texas, April 24, 1882. S. C. FOX.

Friend Bingham says, in his advertisement, no complaint has ever been received in regard to his smokers. Well, the above is not much of a complaint; but if friend F. wants one that doesn't "snort fire," and the Bingham does, it seems there is one dissatisfied customer. I am generally pretty well pleased to have them "snort fire;" for where there is fire, there is generally, pretty soon, some smoke too. And I think, friend Fox, where there is lots of swarming there is generally lots of honey to be had if you manage rightly; so, go ahead and don't let the bees waste or go off.

\$80.00 WORTH OF HONEY FROM SEVEN HIVES.

Bees are just booming now. I have 23 colonies, and never had them so strong this time of year before, since I kept bees. If the honey season is good, I expect to get a great amount of honey. Last year I got 400 lbs. of comb honey from 7 hives, and sold it at 20 cts. per lb., which amounted to \$80.00 in money. Cash invested in bees, and then taken care of, pays better than any thing else for the same amount.

WM. FLICKINGER.

Doylestown, Wayne Co., O., May 10, 1882.

BROOKS' SWARM-CATCHER, ETC.

This reminds me of a similar suggestion I had thought to write you when I wrote before, but overlooked it. My plan has been to seize a common swarming sheet and throw over the hive when the bees begin to return, and if I had failed to secure the queen, which was generally the case, I was sure she would be in the swarm by the time they had settled. I would just take up the sheet by the four corners and carry them where I wanted them. I think it not desirable to multiply implements and fixtures about the apiary, and see nothing to the advantage of the complicated arrangement of Mr. Brooks. This, I believe, is in accordance with your theory—simplifying every thing as much as possible. I like your Simplicity hives, and I think I shall like your chaff hives (when I get them), and I am pleased with GLEANINGS and A B C book, and generally with the implements and fixtures you recommend, and your ideas; but I don't like your delay in sending my goods. C. H. SMITH.

Ellaville, Ga., May 10, 1882.

I do like simplicity, friend S., but it seems to me friend Brooks' simple apparatus isn't very complicated. Since you mention it, I think a sheet might be made to do very well, and we thank you for the suggestion. I, too, terribly dislike delays; but with a business that is on the boom only at a particular season of the year, and at the same time you can never tell how much of a boom there is going to be, it is a pretty hard matter. We are improving, and preparing ourselves and learning by experience every year; but when a season comes like the present one, when everybody's bees winter, I know of no other way than for those who dislike delays, to order so far ahead there can't be any disappointment. That is the way we have to do.

CLIPPING QUEENS' WINGS AS SOON AS THEY HATCH
— A WARNING.

I bought 4 hives of Italians last spring; increased to 18; by fall they were very weak to commence winter. This was caused by cropping my young queens as they hatched, though I had the luck to queen them again in time, and they got through safely, and I lost none. If you wish to put this in GLEANINGS, do so for the good of some beginner. It won't do to crop young queens. I have 23 colonies now in good condition. I have taken 115 lbs. from them this spring. J. W. TEAGUE.

Brownwood, Texas, May 15, 1882.

It isn't at all strange you had bad luck, friend T., if you commenced clipping their wings as soon as they had hatched. How did you suppose they were going to fly out to meet the drones? or had you imbibed the new doctrine recently taught in the *Scientific American*? If you did, you unwittingly made a pretty fair proof of the absurdity of it.

THE RAILROAD APIARY.

Friend Root.—We call you friend, because you seem to be friendly to all bee-keepers, and we certainly feel friendly toward you. As our extracting-car [see p. 247, May No.] seems to be a new idea to many bee-keepers, we take the liberty to give you a description of it. The car is 12 feet long by 6 wide, painted bright scarlet, and trimmed with white, and makes a very showy appearance; but the car is not

for show, by any means. It has a door in each end, and two windows on each side with double sash, one side being glass and the other wire cloth, so that we can have free ventilation through. Each side of the car is fitted up with two drawers that hold just 10 Langstroth frames. We start out with one drawer full of empty combs on each side. Pushing the car alongside of the hive, we take the full frames from the hive to the empty drawer and fill the hives right up with the combs from the other drawer. Then we are through with one swarm, the time occupied with the swarm being incredibly short. Then we are ready for swarm No. 2, and the combs from No. 1, when extracted, go into the hive of No. 2. Of course, the honey is being extracted inside the car at the same time. The drawers are so arranged that the car is bee-tight when they are either open or shut. We will send you our picture some day.

M. A. WILLIAMS & Co.

Berkshire, N. Y., May 17, 1882.

BEES IN A GREENHOUSE, ONCE MORE.

In Middletown there is a man by the name of Firth who raises winter cucumbers for the New York market. Last fall he bought a late swarm of bees that had not stores enough to winter on. Before Christmas he put them into his hot-house, and kept them there until about the 20th of April. They would fly and work on the cucumber blossoms whenever the sun shone. He fed them 7 lbs. of sugar, and some honey from the comb. He had the hive in one end of the room, and put his feed in the opposite end. The room, I should think, is about 25 feet long by 12 or 14 wide. He said that the blooms with the bees were mostly male blossoms, but he picked more cucumbers from that room than from either of the others (he has 3 hot-houses), the bloom in the other two being mostly female or bearing blossoms. The bees fertilized the blossoms in their room, and he did it in the other rooms by hand with a camel's-hair brush. They raised young bees and built up strong. He put in one lot of dark honey in the comb for feed, which they would not work on at all, even when he put it under their hive. He intends to put a hive in each of his hot-houses this winter. It has been a hard spring for bees here, being very cold and backward.

E. D. HOWELL.

New Hampton, N. Y., May 13, 1882.

There you have it, friends. A man who is not a bee-keeper has kept a colony all winter in a greenhouse, and they are common bees in a box hive besides. They worked on the cucumber blossoms too; and with a greenhouse large enough, we might have not only cucumbers, but cucumber honey; and I declare, I am not positively sure but that we might, after a while, get cucumber swarms, not to mention "cucumber queens." The friends who claim that bees spoil the fruit should make a note of this fact: Where our friend had no bees, he had to fertilize the blossoms with a camel's-hair brush, or he would have had no cucumbers.

A SWARM IN APRIL, SENDING OUT A SWARM IN MAY.

A swarm issued April 6th, and was put into a hive, and the same queen led out another swarm May 6th, settled a short time, and concluded to try the woods, and off they went. I was at church. Had I been at home, I think I could have accommodated them in the way of a home. How often is this beaten in the

way of swarming? The queen was a pure Italian, correctly mated; workers, dark leather-colored. At times they can use their stings pretty well.

G. W. WHITE.

Hickory Grove, Crawford Co., Ga., May 9, 1882.

Friend W., you can say as did the man whose pig went through a window, that he had got his dimensions, any way, and you have done better than that, for you have got a lot of queen-cells from that queen that gets around so fast. If they left a fair colony with combs full of brood, they certainly did extra.

DRONE FOUNDATION, ETC.

I have a large lot of honey ready for market, and the demand at home is better than ever before. I can sell extracted at 15c, and comb at 20. I have extracted from some of my best colonies, during popular bloom, 100 lbs. per colony, and as much as 75 lbs. comb. I don't like your drone fdn. for sections, or in large frames for storing honey either, friend Root; the queen *invariably* occupies the combs. Hybrid bees are ahead of any thing so far this season in gathering honey; but, oh how they sting!

Forsyth, Ga., May 17, 1882.

F. N. WILDER.

I presume there will always be this objection to drone fdn., even though the bees do build it out and store honey in it faster than in worker comb. If there is no drone comb in the hive, the queen is very apt to seek for it in the section boxes. What has been the experience of others in this matter?

THE RUBBER PLATES; A NEW WAY OF USING.

I have rigged my rubber fdn. plates to press by foot, so as to have my hands free to handle the fdn. I sit in a chair, with a dish of water just hot enough to keep the strips of wax limpid; keep a few of them floating on it, ready to press. I do not know how others work with the plates, but I succeed first rate as above.

GEORGE H. PATCH.

Stevens Point, Wis., May 1, 1882.

Our friend, it will be observed, has been using the rubber plates like a Given press, and, to make such soft yielding material take an impression, the wax sheets are warmed by hot water until very soft. Now the point is, that this supplies the missing link needed to make wired frames with the rubber plates. The only trouble I apprehend, is in keeping the wax sheets so soft as to be readily impressed by rubber, and yet not come to pieces in handling. The plain sheets will likely need to be of pretty good thickness, to get nice walls on both sides.

DO BEES KEEP DRONES ALL WINTER?

Yes. The first of last April, while examining a strong colony, a last year's swarm, I was obliged to shake some of the bees from the combs, in front of the hive, in order to accomplish a thorough investigation of the brood-nest. While the bees were returning from the hive, I improved the opportunity to examine them through a magnifying-glass. They displayed that glistening appearance of perfect health so satisfactory to the eye of the bee-keeper in early spring. Among the bees were three drones—real, veritable, lumbering drones. But they did not bear the marks of that youthful health so prominent in the appearance of their surrounding companions. Their color was somewhat faded, with

general indications of old age otherwise. That instance was my first experience in finding *old drones* in my hives in the spring, before brood had begun to hatch. The cows hadn't been meddling with the hives, either.

J. F. LATHAM.

Cumberland, Me., May 8, 1882.

ENEMIES OF BEES; THE ENGLISH SPARROWS.

They are playing hob with my bees just at present; they come down in front of the hives, and pick the bees off the alighting-board as they come in with new honey, and feed their young birds with them. Now, I don't mean I saw *one* bee go that way, but I have seen at least 50 go in a very short time—one hour and a half. To what extent they catch them other ways, such as on the wing or on the blossoms, I can't say. Now for the point. I think it was my own fault in cultivating a taste for the bees in the sparrows, by the following: When I transferred the combs to the wired frames, of course I destroyed quite a little capped brood; and the next morning, after the bees had cleaned up house, of course there were a good many dead bees in the white state lying around the entrances, and thus the sparrows started on them, and when they were all gone they tried the live ones; and, from all appearances, liked them, to my sorrow. Although the sparrows are fed every morning with soaked bread, they will let it lie all day, evidently having a preference for bees. The bees will, once in a while, drive the sparrows away, but they are too smart for the bees. If the sparrows get hold of a bee that has pollen, or one that has not much honey, they bite him and throw him aside, and pick up another.

Moral, do not let any bees in the worm state lie around the hives.

BEELER, JR.

Philadelphia, Pa., May, 1882.

I am sure we are much obliged to you, friend B., but I am inclined to think this a rather exceptional case. I have watched the English sparrows around here, and have never seen them go near our hives, although a sort of swallow does, sometimes. All these reports seem to indicate that a great variety of birds and reptiles may at times learn to devour bees. For instance, in the past years we have had reported toads, frogs, skunks, snakes, king-birds, martins, swallows, and even common fowls, where they had accidentally learned it as you taught the English sparrows. Before waging war on the latter, it might be well to inquire if others have ever noticed them eating bees.

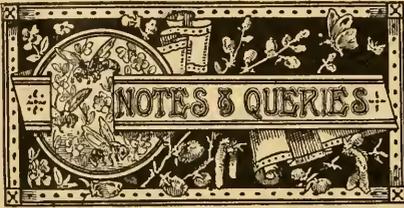
ON THE BOOM.

I have 53 hives in fine fix; in fact, they are on a boom. I took 106 gallons yesterday, and will take much more next week. Poplar is now at its height, and the honey flow is splendid. Can you find us a market for ten or twenty barrels of honey? I have never had any loss. I sold 95 colonies last year; shipped to Indiana. The trade in bees is growing here for bees to ship north. I should like to have an order for 100 colonies; and if you know any such, direct them to me. I can give you good reference.

T. W. HARGROVES.

Bunford's Station, Giles Co., Tenn., May 7, 1882.

Bees are on the boom everywhere, friend H., where they are owned by a live bee-keeper. Tell us what you want per lb. for your honey, and we will put it in the Honey Column.



HORSEMINT.

BEES are just booming now, gathering honey from horsemint pretty rapidly. I had 30 colonies last fall, but doubled back in February to 27 strong ones; have had 26 new swarms to date, besides 40 three-frame nuclei; I have returned all I could, but some were too large to be returned. The chaff hive I got of you is *the* hive for Texas as well as North. Our sudden changes are more severe on bees here than the continued cold north.

J. S. TADLOCK.

Luling, Caldwell Co., Texas, April 21, 1882.

I am going to change to the regular Langstroth hive, and discard all others. S. H. HUTCHINSON.
Mechanic Falls, Me., May 4, 1882.

COTTON-SEED MEAL, AGAIN.

My bees prefer cotton-seed meal to any other substitute for pollen. D. S. HALL.

S. Cabot, Wash. Co., Vt., May 16, 1882.

Gallup gives my ideas to a "L-Y-L." I never had but one to dwindle in spring. If you want to know, I will tell just what made it. J. W. D. CAMP.

Camden, O., May 5, 1882.

[To be sure, we want to know.]

SPIDER PLANTS.

If there is any one who wants plants, they can get them of me by coming and pulling them up, for there are thousands coming up where my plants grew last year. J. PARSHALL.

Skidmore, Mo., May 4, 1882.

I could not find a cant file in Cleveland, not even at the file-works. C. N. MEECH.

North Ridgeville, O., April 24, 1882.

[I am not at all surprised, friend M., for a great many of our files and other tools are made expressly for us, and can not be found anywhere else.]

FIGWORT.

I raised only one single plant last year, but I got as many seed from it as I wanted. I have about 100 plants, transplanted in my garden, now about 4 in. high. I raised them in my flower-house.

Bonham, Texas, Mar. 28, 1882. J. P. INGRAM.

THE RIGHT WAY TO BEGIN.

Two years ago I started with two hives; last spring I started with ten; have 36 now; never bought any nor lost any by wintering. How is that for a beginner? HENRY LARGE.

Whlgville, Noble Co., O., April 10, 1882.

GOOD RECREATION FOR STUDENTS.

I have been attending college here for the past two years. I brought a hive of my favorites with me, to watch and work with. I keep them in my bedroom window of the dormitory, third floor.

WALT. J. QUICK.

Purdue University, Lafayette, Ind., April 22, 1882.

I would like a pkg. of Simpson honey-plant, and also one of Spider plant. I am going to experiment this season, but expect to put in five acres or more next season, as it seems to be a good thing.

G. H. SHIBLEY.

Richmond, McHenry Co., Ill., May 8, 1882.

OPENING A HIVE THE FIRST TIME.

I must tell you of my first trial in taking out my frames. I went into them without a veil and got along splendid without a sting, and I have had them out four times and no stings; they are hybrid, too.

W. L. RICHMOND.

Parkersburg, Wood Co., West Va.

HOPEFUL, IN SPITE OF DISCOURAGEMENTS.

I don't know that I shall have any bees very long, as they are doing something as the Kilkenny cats did—fighting, etc.; but if there be a few left, it may be like the "handful of corn on top of the mountain," which hereafter may wondrously grow.

W. H. CHILD.

Cornish Flat, N. H., April 19, 1882.

I had a very choice swarm of bees come out yesterday, May 4. Can you beat that, Mr. R.? If so, I'd like to hear from you. I bived them, and they are working nicely; \$10.00 would be no temptation for them, Mr. Root. I have 10 stands of as nice Italian bees as there is in Delaware County.

GEO. L. SCOTT.

Lewis Centre, Delaware Co., O., May 5, 1882.

[We can't beat it, friend S., for the best we ever did was a swarm on the 11th of May.]

NEW HONEY IN SOUTH CAROLINA.

Bees commenced swarming April 1st; have increased from 17 to 35, even after doubling up second swarms. Have taken 23 lbs. extracted honey from upper story of my best new swarm within six weeks of the date of hiving them. Perhaps 15 to 20 lbs. could be taken from lower story to advantage.

Newberry, S. C., May 18, 1882. F. WERBER, JR.

CHEERING FROM TEXAS.

Bees are at the very height of the horsemint season, and are literally *pouring* the honey into the hives. We began taking off sections April 12, and have continued at short intervals since; have extracted some also. We are indeed at this time in a land of sunshine, flowing with milk and honey.

Hallettsville, Tex., May 16, 1882. J. E. LAY.

I think in next GLEANINGS you had better tell us what to do with upper stories and hives for new swarms when we have no fdn. GEO. H. MCGEE.

Point Marblehead, O., May 22, 1882.

[Why friend M., do as you did before we had any fdn. of course. Use comb guides, and make the bees build their combs straight, by keeping an eye on them, and if they build drone comb, cut it out and use it in the boxes. Go and visit Doolittle.]

ONLY 1 LB. PER MONTH, PER COLONY.

I have never had bees as strong as they are this spring. They consumed a little less than 1 lb. per colony each month, while in the cellar. There are plenty of young bees flying, and drones from some of the stronger. I am not afraid of their stores, as my 90 colonies had an average of 40 lbs. last fall. I haven't lost any yet, nor do I expect to, unless something unusual occurs.

L. W. VANKIRK.

Washington, Pa., March 23, 1882.

FRIEND GIVEN IN CALIFORNIA.

My health is still mending some, but I shall not be able to return East this spring. The prospects in California look well for a good honey crop this year. I have the care of some 255 stands that are beginning to swarm.

D. S. GIVEN.

Los Angeles, Cal., April 8, 1882.

It is a very cold, raw, windy day. The first week in April could not be improved — bees did splendidly, and we bridged over the cold week following the freeze, by feeding liberally, and continue to do so every cold or stormy day. Our bees are in splendid condition.

MRS. L. HARRISON.

Peoria, Ill., April 22, 1882.

SPRING VERSUS WINTER.

In my article, page 224, May No., I say, "If I kept over 100." It should be, "If I kept *many* over 100." I finished taking my bees out of the cellar April 30; have lost one out of 141 in the cellar, and three in the five days they have been out. I can winter bees, but how to get them through the spring is what troubles me. Judging from my experience other springs, if I have 100 the first day of June I will be well satisfied.

N. F. CASE.

Glensdale, Lewis Co., N. Y., May 5, 1882.

SWARMING-BOXES.

There is a little mistake I see in printing my article [on p. 243]. You say, "5 or 6 boxes of different lengths." It should be on *poles* of different lengths. The reason why I think a "5-cent basket on a pole" would not be as good as a box, is, it could not be handled so well, and crowded up through among the limbs of a tree, as a box, if well made

N. N. SHEPARD.

Cochran, Crawford Co., Pa., May 3, 1882.

[To be sure, it should have been *poles* of different lengths, friend S. How stupid in us!]

HONEY FROM PEAS.

After our long drought, one colony of hybrids yielded me 50 lbs. extracted honey from the small pea crop grown near town, making about 100 lbs. for the colony. The peas are the ordinary speckled or whippoorwill peas. They are planted here in May or June for cow feed. Immediately around town 10 or 15 acres are sown, and during the day till after sundown, the patches are in a perfect roar. As there are no other sources of honey supply at that time, I conclude they gather from the peas.

DR. T. J. HAPPEL.

Trenton, Gibson Co., Tenn., Mar. 30, 1882.

[Many thanks, friend H. The pea you mention is something unknown to us here. Will you be so kind as to send me enough to sow about $\frac{1}{2}$ acre? The matter surely needs looking after.]

ONE-QUART PAILS.

I can't get 3-lb. pails made here for less than \$16.00 per 100. Bees are nearly ready to swarm, the strongest of them. I did it by feeding.

W. MALONE.

Oakley, Lucas Co., Iowa, April 27, 1882.

[Tell your tanners, friend M., that if they wish to be up with the times they can, with a little machinery, be able to make these pails at the regular prices; or they could do a nice trade on them by purchasing a hundred or thousand at a time. There is at present a great demand for them, and customers will often give 5 or 10 cents for a little pail, for a single occasion, rather than to try to borrow one. Our price for a covered pail to hold 3 lbs. of honey is \$5.25 per hundred.]

TOBACCO COLUMN.

UGHT DOCTORS TO USE TOBACCO? ALSO THE REASON WHY DR. TYRRELL NEVER DID.

FOR many years I have wondered at the bad habits of smart, educated men, and that they will persist in using active poisons as medicines, while many of them admit that the people would be better off without such medicines; and nature and common sense teach us better than to use them. No wonder that boys and illiterate men got into the habit of using whisky, tobacco, and other intoxicants when the example is so prominently set before them. I taught my boys while they were young, not to use tobacco, and not to use whisky, coffee, nor tea, as a beverage, and not to take poisons or anything that would act contrary to nature, and only such as would assist nature in removing disease. And when they enlisted in the army I told them there was more danger in the hospitals with the surgeon's medicines than on the battlefield with the enemy's bullets. My patients in army hospitals and camps soon noticed the difference between my medicines and treatment, and that of other surgeons. I will not call their science of medicine "scientific ignorance," nor their practice "murderous quackery;" others may testify. When a boy, I quit the use of tobacco while walking home from meeting with the preacher's daughter, and have never smoked nor chewed it since. Success to you in all your works in every department of reformation!

D. TYRRELL, M. D.

Toulon, Stark Co., Ill., April 24, 1882.

Now, just look a here, friend T. We think it's downright mean to leave off just where you did. What became of that minister's daughter? After she had wasted her time in giving good advice to a tobacco-using chap like yourself (begging pardon), if you did not just set about taking good care of her, and are in the same business yet, we shall feel very much disappointed. May be *she* will tell us about it; we are all listening. May we beg of you to be so kind, Mrs. T.?

Please find pay for the Clark smoker you sent last fall, as I am again using tobacco. I am sorry, but the flesh is weak.

J. L. MERCER.

Madoc, Ont., Can., May 8, 1882.

Well, I declare, friend M., did tobacco really come out master and you the slave? In any case, we know you are a "square man," and a man of your word, and as such I respect and honor you. Here is my hand, old friend, and now I want to see you just "buckle to it," and, with God's help, just climb above that old appetite as did friend Balch. Just hear him.

March GLEANINGS came on time, and, as usual, the first place to read was *Our Homes*. Being in a hurry, and for what other reason I can not tell, unless it was to give me an idea what GLEANINGS would be without the *Home Papers*, I did not find it. Well, I threw it down, and began to think, "Has A. I. Root really backslid? if not, he would have written something for the *Homes*." Then I began to think of the many cares and trials in business; and as my thoughts ran along, "You haven't prayed for him lately," came into my mind. Then I picked up GLEANINGS again, and the next thing to look for important was the Tobacco Column, to see who had given up the filthy habit, and, to my surprise, not

one name in that. Then it came to me, as it has before, "Better tell how you stopped using tobacco." Really, I am not writing this for a smoker, but for the glory of God. Yes, praise his name for what he will do when we ask him in simple faith. I commenced to use tobacco when a boy, nearly 30 years ago; my health has been very poor for the past 3 years, and my physician told me it was no use to doctor, unless I would stop using tobacco. Says I, "Doctor, I have such a taste formed, and the habit is so old, that when I stop for one day I am so dizzy that I stagger and reel like a drunkard. I have tried, time after time, yes, very many times, and shed tears over it, used thoroughwort in its place for some time, yet with no success. I "hankered" after it more than for my meals, or any thing. None but one who has had the experience can have any idea how much I suffered. Last August I went to one of these noisy (bless God) Free Methodist camp-meetings, where the minister said, "We do not run this meeting with whisky nor tobacco." After preaching, all who wanted religion, and all who wanted more religion, were invited to come forward to the altar. The Spirit of God that was sent into the world to convince men of sin, righteousness, and judgment to come, said to me, "THOU ART THE MAN." Pride said, "You! an old professor, belonging to a church of another denomination for 20 years? yes, and here are lots of them besides, and some who have been in your Bible-class. You will make a pretty show! A nice representative from our church;" yet the Spirit said, "You are a sinner; go forward." And I started (praise God, I feel the fire welling up now). When I got to the altar, the first thing I said, and that just as soon as I got there, was, "Lord, take away all desire and appetite for tobacco, for I have done the best that I can to stop;" and in that very moment I was cured. It was my extremity. Bless the Lord, I haven't wanted it yet, neither did I feel any of the former effects; for when I stopped, no dizziness nor any bad effects followed. My wife asked me the next day if stopping would not make me sick. No, it did not, and it never has since.

WM. H. BALCH.

Oran, N. Y., April, 1882.

I presume, friend B., you must have had a journal, a part of which was carelessly omitted; but if such accidents always brought letters like the one you have given us, I do not know that I should feel so very badly about it. When a revival brings us a religion that makes men give up their sins and bad habits, the world, with almost one accord, decides it comes from God. When noisy meetings will lift us up to as good a purpose as they lifted you out of your bondage and slavery, by all means let us have the noise. I feel like grasping your hand, and saying, "Bless God" too, brother B.

If you will make me a present of a smoker, I will promise you faithfully that I will stop using tobacco for ever. I am not able to buy one, for I have been saving up for a long time to get money enough to buy those things.

J. M. CUNNINGHAM.

Uniontown, Pa., March 20, 1882.

Why, friend C., it don't seem as if you had been saving at a *very* lively rate, or you would have cut off the tobacco ere this. Well, now, you will kill two birds — get a smoker, and save your money too.

Send me one smoker, for which I will pay you when I resume the use of tobacco, if not before. I have used the weed 35 years, except about 5 years during that time; and for the last six weeks, your writings have caused me leave it off, and I hope many others will be led by you to leave it off, for it is injurious to the human race; and may the Lord help them to quit it.

A. W. MATTHEWS.

Pott's Station, Ark., April 18, 1882.

Amen to your closing remarks, friend M.; and if I get poor in furnishing smokers, I can feel that it was in a good cause.

I saw in one of your GLEANINGS that if any one would quit smoking tobacco, you would send them a smoker; so, away goes the pipe and the tobacco; and if I turn to the habit again, I will pay for the smoker.

E. A. MUMFORD.

Annawan, Henry Co., Ill., April 21, 1882.

All right, friend M.; and may God help you to hold out!

I see you have a tobacco corner. May I give the experience of one who began its use at 11 years of age, and left off at 65 years — not in my own strength, for I had tried several times, but always got back again; but in the strength of Jesus it was dropped from me like an old garment. Now don't put this into your Tobacco Column. I may give my experience in meeting some time, but not now.

J. L. L.

But, friend L., we can't well excuse you, for your experience has something in it that I know will be helpful: and, even if you do "speak in meeting" some other time, we want this from you now. Our evil habits should drop off from us like an old garment, when we commence in real true earnest to follow the Master.

Please let me in the tobacco class. I am a young man; began 3 years ago to use cigars as a kind of way of putting on style. The appetite thus created led to the use of the pipe. I have made up my mind to apply for the smoker, and bid adieu to the whole tobacco business. I have in partnership with my father, 60 stands of bees. We wintered in a pit in a sandbank; lost none. Bees all wintered well in this section. Had a very mild winter.

MCE. STEWART.

Orion, Richland Co., Wis., April 5, 1882.

There you have it, boys. When a young man commences to smoke, he does it because he wants to put on style. Friend S., we rejoice that you have had the manliness to come out and own up your fault. We pray that God may help you to have a higher motive in living.

Please send me Clark's smoker. I will never use tobacco again. I will pay for 20 if I do. I will pay the postage at Louisville.

JOHN B. COX.

Louisville, Tenn., Feb. 24, 1882.

May the Lord help you, friend Cox, just as he helped friend Balch, in the other letter; and be assured he will, if you trust him, and *fight it through* as he did.

I had been a great slave to tobacco for 23 years, but I have not touched it since the 15th of December, 1881; and by the help of God I will let it alone.

JOHNSON WILSON.

Rockwood, Ill., April 13, 1882.



For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have ever-lasting life.—JOHN 3: 16.

READER, does it pay you to live? Is life a boon, a blessing? Have you never, amid trouble, trial, perplexity, and sorrow and disappointment, been tempted to think it didn't any more than pay? I say tempted, for one is surely tempted of the evil one when he harbors such thoughts. They may come, as all other selfish thoughts at times present themselves to poor frail humanity; but I trust they don't come to you often, and that, when they do, you give them to understand very quickly they can have no dwelling-place with you. As I sit at my type-writer the sun is just rising, and it is the 19th day of May. The apple-trees are in bloom, and, as the day is warm, we shall have a merry time with the bees to-day. All nature is lovely; but the happiest part of it to me is the little verse at the head of the chapter. As I read it over and over, my heart swells with thankfulness, and the most precious word in the whole verse is that one "loved" — for God so *loved* the world. As I am one of the world, it means me as well as you, and all the rest of us. God *loves* us. These are the words of Jesus himself; and just before he uttered them he said,—

If I have told you earthly things, and ye believe not, how shall ye believe if I tell you of heavenly things?

Then this verse was one of the heavenly things he alluded to. It is indeed a heavenly thought, that God loves us. I know what a great sea of unbelief rises up to contradict and deny it. I have tried to tell the men in jail of this great and wondrous love of God, and have heard their unbelief expressed. Many of them would like to believe it; but with their past habits it seemed a great undertaking to grasp it all at once. I have heard those out of jail deny it, too, as an impossibility. If God loves us, why is it thus and so? Poor, weak, sinful humanity,—poor, *warped* humanity,—says, "If he loves me, why does he thus afflict me?"

I once knew a beautiful child, so pretty and beautiful that his kind parents called him "Lovey." They were well to do in the world, and the child had every thing he could ask for. As they lived in town, he was beautifully dressed every day, and was a great part of the time on the streets, attracting the attention and kind words of the passers-by. He had bright, smart, pretty ways, and, as a consequence, was rewarded with cakes, candy, and sweetmeats, a great part of the time. Years passed, and I lost

sight of him. When we were building our factory, a shabbily dressed fellow came prowling around; and, as he had no errand, was finally driven away from the station by the agent, and some of the boys said he was crazy. After committing some petty theft, he in anger smashed in a window of one of our stores, and for that and some other offenses was sent to jail. He was the victim of an ungoverned temper, until some called him crazy. I had some friendly talks with him, but he was too stubborn and unyielding for me to get much acquainted with him. It was the child "Lovey" — the one who was so lovable in his childhood, and, with sadness I think of it, might have been a lovable man still, with the proper training. Now, friends, I ask you the question, How should the parents have shown that they truly loved that beautiful boy God had given them? Even in his infancy his childish will needed subduing, and very likely he and the street loafers who gave him candy would have thought his parents hard and cruel had he been trained in the way he should go. He is now in the penitentiary; but the bondage of that unrestrained will and temper is a thousand times worse than the stone walls and iron bars that cut off his liberty. In fact, that very stubbornness seemed to be a barrier I could not get through, even sufficiently to tell him about God's love for a sinful world. It will shut him out of heaven.

Now before you declare that there is no God about it, or that God could not thus afflict one whom he loved, will you not consider the point now before us? Is it not a kind hand that afflicts? and are not these afflictions and trials, that we may grow strong and good? We shall not grow strong and good, mind you, unless we take these things patiently, and with a submissive spirit; for parents punish, and God punishes, oftentimes, when it only hardens the heart. Many a parent has been made even more bitter toward God because a loved child was taken away; and very likely children have, in a few cases, been driven away from home because the parent insisted on obedience. The discipline of the law sometimes hastens the criminal to ruin and death. Shall we on this account abolish law? You see, friends, these afflictions and trials are beneficial, only to those who take them as coming from a loving hand. Had this boy, when desired by his mother to take off his nice clothes, give up his candy, and carry in wood, said to himself, "I know that my mother loves me, and would not require of me any thing that isn't for my best good," you all know he would have risen to be a good and useful man. Proper training, from infancy upward, will almost always make a good man; but the time must come, sooner or later, when the child feels the power within him of deciding for himself, and the fearful responsibility comes up before him,—

Choose ye this day whom ye will serve.—JOSHI, 24:15.

It has been suggested, that man got his bodily form from the lower forms of animal life, by successive stages of evolution. It is not in my province to discuss whether or not this doctrine agrees with that laid down in

the Bible, but I have often thought of the idea advanced, that, if such were the case, there must have been a point in the development when man, instead of walking on all fours, began to stand up erect, and look about him. We might imagine it was about the same time that God breathed into his nostrils the breath of life, and he became a living soul. I believe I have heard something of a "missing link" that isn't yet found, just about here; but we won't stop to argue on that point just now. We are here, and we are living souls and responsible beings. There is a good deal of the animal left about us, still; but there is with it all, enough of the breath of life in us for us to look up and claim relationship with God, because he created us "in his own image." Weak, wicked, foolish, and sinful as I am, I know that God loves and cares for me. I have a jovial sort of a brother-in-law, who has a way of saying there are but two things in this world we are positively sure of. The two things are "death, and taxes." Not very comforting, friends, is it? Well, now, there is something I am sure of, and it is comforting, too, I assure you. It is God's unchanging love. Again my heart bounds and thrills when I think of it. It has grown stronger and steadier, and more enduring, too, I trust, than it was when I first began to write these Home Papers. I can feel his approving love, too, when I write these words to you, and tell you where *you* may find in his word,—

I know that my Redeemer liveth.—JOB 19:25.

A consciousness of God's love gives hope. It gives energy and zeal. The inebriate who is sinning his life away, will tell you all mankind are corrupt, and that the whole plan of creation is a hopeless failure. The libertine will talk worse than that, and his power in jeer and sarcasm is not only satanic, but it is poisonous. The coldest, hardest, and most steely bitterness toward God and humanity is that which wells up from the mouth of one guilty of this last-named class of sins. It sometimes seems as if you could see the imps of darkness leering and blazing out of his eyes, when you attempt to talk to such a one of God and his love. Hatred of God comes first, then of your fellow-men, and, finally, of yourself and your own life. With the hatred comes lack of faith in God, man, and yourself, and the end is often suicide. A pure, unselfish life, brings love and faith in God, faith in your fellow-men, gratitude, and thankfulness.

The work of missionaries in reclaiming savages is first to assure them of God's love; and our work in the jails and penitentiaries is the same, to first convince men of God's love for sinners. At a temperance meeting last evening, the lady who spoke mentioned some of the discouragements they had a few years ago, during the woman's crusade. One man was especially bitter. He hired men to persecute the women with dirty water, mud, tripping them up with a concealed wire, etc. They were praying women, and not easily discouraged. They went to the man, and plead and prayed with him. It only made him worse. Anybody might have known those foolish women would have had

no effect on a man like him. Wait a bit! At the last moment, he confessed that he could not sleep nights, the matter lay so heavily on his mind; and just one step further, and down he went on his knees, saying, "God have mercy on me a sinner." He became a converted man, and a Christian. Wait a bit again. This hard, bitter man, when he was converted, set straightway about telling everybody else about God's love, and by and by he was allowed to hold services with the convicts at the penitentiary. Mrs. Woodbridge, for it was she who told it, has just visited him and his work there, and out of the convicts present at their little service, 73 arose and told of the love to God that had lately sprung up in their hearts. Those who have little faith in God and man will insist their penitence was not genuine; but the real earnest Christian worker will thank God for the start they have taken, and hope and pray that they may each and every one leave a record, like the man who was converted by the efforts of the woman's crusade. God honors energy and faith, when they go together.

God's love goes with us through sickness and death. The following is an extract lately received from our old friend A. F. Moon, whom many will remember as a former editor of one of the bee journals:—

I have suffered pretty badly with my limb—the one that was amputated. It was taken off about eight inches below the knee, but not high enough to get the diseased bone, and it is never healed up, and at times is quite painful—so much so I almost give up, but still keep around. But it can never get well unless it is taken off higher, which I can hardly consent to have done, as it is quite hazardous to my life. Yet I suffer enough every month to have it done. For two years I have done but little or nothing in raising bees or queens. I have not been able to take care of them; about all I have done was to take care of house plants and flowers, and the most of it was sitting on a bench.

I have been so cramped by losing my limb, that it seemed almost impossible for me to clear up my little matters; trouble and misfortune have ruined me. What shall I do? A. F. MOON.

Rome, Ga., March 13, 1882.

Several years ago my youngest brother wrote me of the death of their little boy. He was a sweet, loving child, and before he died he put his arms around his parents' necks and bade them good-by. In his grief and sorrow, my brother wrote me. It was my duty to offer some kind of consolation. As I did not then believe that God loved the world, or, in fact, in any thing particular, I could not think of a word to say to cheer or comfort them. The child's good-by rung in my ears, but I dare not try to point out to them any comfort in that direction. The letter was a very brief one. About all I could do was to say I was sorry for them. What shall we say to comfort friend Moon? To go on, is a lingering disease with much pain and suffering, and death at the end: to submit to another operation will be terrible pain, and there is much danger that he may not survive it. Shall we say,—

"Friend Moon, we are very sorry for you

in your affliction, and we would gladly do any thing in our power, if we knew how" ?

You pause here, feeling how very weak and feeble is humanity, when it comes to the point of grappling with grim death. Something more must be said. You venture,—

"Do not be cast down, brother Moon."

Until the words had passed your lips, you did not dream how hollow and empty they would sound. You ask him not to be cast down; but you might as well tell one who is struggling in the midst of the Atlantic Ocean, to get out without help. You venture again,—

"Friend Moon, we must all die some time. Bear up under your pain as well as you can, and it —"

You came very near saying it would soon be over, leading indirectly to the thought that he might hope for death, and that the greatest blessing his friends can hope for under the circumstances, is that he may die soon. What sort of comfort is that to a dying man? If a horse were suffering greatly, it would be perfectly right to say you hoped death might soon end its sufferings.

Please bear with me a little now, dear friends, in what I am going to say, for I do it solely to show you where skepticism and infidelity leave a man.* When a horse is suffering with an incurable disease, the society for the prevention of cruelty to animals demand that his sufferings be put to an end by taking away his life, and it is a Christian act to do so.

The horse is a dumb brute; but man is a part of God, and endowed with a living soul — a soul that enables him to look up and comprehend God, and know and love him as a father; and, friend Moon, in the name of that Son whom God gave as a token of his love to a poor, lost, and sinful world, I bid you look up.

Let not your heart be troubled; ye believe in God, believe also in me.—JOHN 14:1.

Verily, verily, I say unto you, If a man keep my saying, he shall never see death.—JOHN 8:51.

Verily, verily, I say unto you, He that heareth my word, and believeth on him that sent me, hath everlasting life, and shall not come into condemnation; but is passed from death unto life.—JOHN 5:24.

Disease may torture, and pains may rack your poor suffering frame; but that wonderful love can bear you up through it all. A little common-place illustration may help to make this seeming paradox plainer. My wife says that, when she was a child, if she could sit in her father's lap, and lay her head on his shoulder, all pains and aches were gone at once; yet when he put her down, they at once came back again. We may smile at this; yet how many of us are there who can not remember something of the same kind? The touch of a loved one, and the consciousness that we are loved, and that some one cares for us, often makes pain

easy to bear. Physicians can tell how much there is in a hopeful spirit to help one to bear up, and not give way and break down in despair under pain and affliction; and, friend Moon, although we can not promise you, positively, restored health and freedom from pain, we can point you to the Lamb of God who taketh away the sin of the world. Peter said,—

Silver and gold have I none; but such as I have give I thee: In the name of Jesus Christ of Nazareth, rise up and walk.—ACTS 3:6.

And we say, unitedly, that you shall have our prayers, that God may give you strength and grace to bear your trials, and that, if it be his will you should go down into the dark valley, it may be with that consciousness and assurance that will give you peace and rest and resignation. In closing, I will give an extract from a sermon by my beloved pastor, who first turned me from this world to thoughts of the world to come.

I must die. You, my hearer, must die. You may seek to waive aside this tragic event as of little moment; you may absorb the stoic's philosophy, or drink of lethean waters; you may shout peace, peace, to that last great enemy; that one momentous event, the concentration of the evil and good of a lifetime, in a few agonizing throes of mingled physical and mental pain, will soon come to me and to you. You may say, "Let not the preacher frighten us. We do not enjoy dwelling upon this theme." But if to speak of it is a pain, what must it be, O unwilling hearer! to experience it? If you flee from the bedside of the dying, averse to the presence of the king of terrors, what will you do when you yourself lie upon that bed, and feel for yourself the ice-cold fingers, and the chilling deeps of the dark cold river? If you can not now look with steady nerve into the open grave, how can you slowly descend into it? It might at first seem desirable that this great crisis should be ignored, or that we should soothe and flatter ourselves that there is no real enmity between us and death, or so deceive ourselves with some fixed-up compromise as to suppose we have avoided the issue. No, no, my friends, there is positively but one way to meet this issue, and that is to face this last great foe with a realization of his implacable nature, exclaiming, "O Death, I know thy dread terror. Thou delightest to blight the fairest and the best; I know thy heartless purpose; I have seen thy devastating work; the groans and agonies of thine insidious cruelty have reached my ears. My own loved ones have withered under thy foul and loathsome breath; and after persecuting me all thou canst, thou wilt make of this form I love so well, a loathsome carcass and a nest for worms. Ah, I know thy nature, thou subtle enemy of mankind. But I know of one force greater than thine,—a still, quiet, deep power that thou canst not greatly disturb nor undermine. I believe, I trust, I hope in, I wait upon, One greater than thou. I know thine enmity, and I know *his* friendship. I look thee calmly in the face, O thou my cruel and relentless enemy, and I say to thee, do thy worst; come when thou wilt, in the exuberance of youth, the fullness of manhood, or the weakness of old age; come as thou wilt, in storm or tempest, by fire or sword, in wreck or disaster, in peril of waters or peril of robbers; by plague or famine or fever; by slow, lingering, torturing pain, or quick dissolution; by the terror of night or the arrow that flieth by day; in the pesti-

* The following statistics show the comparative number of suicides in different nations: In Christian Sweden, 1 suicide to every 92,000 inhabitants; United States, 1 suicide to 15,000 inhabitants; in England, 1 suicide to 13,000 inhabitants; in London, 1 suicide to 21,000 inhabitants; in *Infidel Paris*, 1 suicide to 2700 inhabitants! Is there any thing startling in the last item?

lence that walketh in darkness, or the destruction that wasteth at noonday. Thou mayst torture, but thou canst not destroy; thou mayst afflict, but thou canst not kill. I may shudder, but I shall not sink; I may groan, but I shall rejoice; I may be wounded, but I shall be conqueror. Though I die, I live. Because I have ever died in *living*, I know I shall *live* in dying. To thee only, do I die; to supernal joys, to a better life, I *live*."

Trembling, hoping, lingering, flying,—
Oh the pain—the bliss of dying!

• O dear hearer, whosoever thou art, may you and I so live, so pass through all other crises, that, when this last great earthly crisis shall come we may say,—

The world recedes; it disappears:
Heaven opens on my eyes; my ears
With sounds seraphic ring;
Lend, lend your wings! I mount, I fly!
O Grave! where is thy victory?
O Death! where is thy sting?

Once more, dear friends, I commend to you the opening text,—

For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life.—JOHN 3: 16.

Read it over and over again, and when you begin to drink in this great promise, read the whole chapter and the whole book; then ask yourself what would be the consequence of making your life conform to the ruling spirit of that book.

I love thee, because thou hast first loved me,
And purchased my pardon on Calvary's tree;
I love thee for wearing the thorns on thy brow;
If ever I loved thee, my Jesus, 'tis now.

I will love thee in life, I'll love thee in death,
And praise thee as long as thou lendest me breath;
And when the death-dew lies cold on my brow,
If ever I loved thee, my Jesus, 'tis now.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, JUNE 1, 1882.

Then Simon Peter answered him, Lord, to whom shall we go? thou hast the words of eternal life.—JOHN 6: 68.

REMEMBER that fldn. is now 5c per lb. more than quoted in any price list you may have received prior to June 1st.

ORDER queens and bees from some one near you. Don't have them shipped long distances, if you can possibly avoid it.

WE have now about 300 colonies of bees, and 4,785 subscribers, and a business that amounts to from one to two hundred orders a day.

A GREAT trade has sprung up in the Jones beeguards, to put before the entrance. Price, each, 10c; by mail, 12c; 90c for 10, or \$8.00 per hundred.

CAN not some friend in Oregon advertise and furnish queens? We can ship them thus far, but the losses are so great that it is, as a whole, a losing business. As it will be a very great accommodation all round, we will give such an advertisement free, from some responsible party.

JUST see how the papers go on: "Some sage Ohio legislator wants it declared felony for a man to break into a bee-house. Why not make it a crime to sit down on a hornet's nest?"

AS no one has sent in any thing for the "Reminder," we leave out that department this month; but I tell you to look out for robbing and starvation, in localities where clover is not yet out.

EVERYBODY now seems prospering in the bee business, and I hope this season to see nice honey offered at so low a price that it may come more into general use than it has ever done any season before.

IT seems to me as if our reporters were a little sleepy, some of them, in regard to the condition of the wax markets. The New York quotations sound as if they knew what was going on, and were ready for business; but how about the rest?

PRICES of goods change unavoidably, and what is still worse, it is a hard matter to get the clerks to explain these changes, as we would like to have them do. Please bear in mind, dear friends, we can not write very long letters about a 5 or 10-cent article, but we do always put in your package a late price list, informing you of the change in prices.

SOME idea may be obtained of the favor with which our 50c Clark smoker is being received, when I tell you we purchased one bill of leather for them, amounting to \$180.00. This will make about 5000 smokers, and they will hardly last us through the present season. Those made now are a great improvement over those of a few months ago.

WE shall pay, during this month, 75c each for dollar queens, from reliable breeders. We shall sell them for \$1.25. I do not suppose they will be any better than those you buy of other parties, only we propose to send them, in all cases, by return mail. We can not undertake to deliver queens alive to Oregon, and other like remote points. If these distant friends will take the risk, we will do the best we can.

OUR good friend Mrs. Lowe has again this spring sent us more queens, and in nicer order, than any other queen-rearer in the South, man or woman. I feel a degree of pride in telling this, because it demonstrates pretty conclusively that women are equal to men in one more department of the useful industries. May be her husband does the work, and she gets all the credit, which, you know, is often the case (?). How is it, friend L.?

FRUIT-BLOSSOMS are over, and we are now feeding our bees on soft-maple sugar, laid right on top of the frames, under the enameled sheet. Any kind of sugar will do to feed now that they will eat, and it is a great mistake to let brood-rearing stop for the want of a pound of maple sugar. If you haven't maple, stir up any sugar with a very little water, until it makes a sort of dough. When you get through, you haven't any feeders to gather up and stow away.

WE hope to be able to fill orders for our regular-sized Simplicity sections; but to stop our machinery now, and adjust it over for each 500 or 5000 sections, is almost an impossibility. Another drawback is, that we find it impossible to make odd sizes without much waste of lumber, aside from the delay. I am very sorry to seem so disobliging, but for these rea-

sons I fear we shall have to decline orders for odd sizes until the great rush of the season is over. The regular goods we advertise to keep in stock, we *must* keep on hand. Don't you see?

If your watch stop, or the queen we sent you comes dead, do not imagine that it is necessary to write us a long letter about it, dear friends, but just come right to the point, and say it stops, or she was received dead. A postal card will contain all that is necessary to tell about it, and if I think you ask more of me than is right, I will tell you so frankly. In case of the watch, send it back at once, but never send us dead queens unless we ask for them. It is about all we can do here to look after the live ones; and besides, dead ones always make us feel dismal. Under no circumstance think of taking several sheets of paper to narrate all the particulars.

In ordering regular goods, don't attempt to give dimensions, but just give the name, for one is very apt to give the figures he did not intend. For example, instead of saying, "Send me sections $4\frac{1}{4} \times 4\frac{1}{4}$ and fdn. $8\frac{3}{4} \times 17\frac{1}{2}$," say, "Simplicity sections, and fdn. for wired frames." You won't then make mistakes, and the clerks won't make mistakes. Several times this season we have, at great expense, changed our machinery to make sections according to order, when the *regular goods* were wanted; but our friend made different figures from what he meant to. Even our careful friend Heddon has, in one place, in his circular, said $4\frac{1}{4} \times 4\frac{1}{4}$, where he evidently meant to say, $4\frac{1}{4} \times 4\frac{1}{4}$.

A NEW HONEY-PLANT.

ONE of our girls brought me a flower a few days ago, from what she calls a wax ivy, containing so much honey on its petals that it was literally dripping. More than all, the honey was as thick as the best ripened honey in the hive, and of most exquisite flavor. Were it not a greenhouse plant, and a rather shy bloomer, I would at once set about having a plantation of it. As it is, I should like to see a greenhouse full of them, to see what a swarm of bees would do with such a banquet spread out before them. Can any of our florists tell us if the wax ivy always bears honey in such profusion?—I have just been to see the plant, and find it has something like a dozen bunches of flowers on it, and that they remain, perhaps a week in blossom. The oldest ones have the most honey on them, and some of the drops were almost ready to drop off.

SOMEBODY says I am uncourteous. Well, I am afraid I am in one sense. If I should stop my typewriter, pull down my vest, and shake hands with every stranger who comes in, I shouldn't get very much written, or many letters read. A gentleman called yesterday, who looked, to my unsophisticated eyes, as if he were editor of a bee journal, or proprietor of a thousand colonies; but after I had shaken hands and talked about the weather, etc., I found he had made his way through all the clerks, away up stairs here to me, to buy five cents' worth of tomato plants! Now, remember our latch-string is always out, and you are quite welcome to go anywhere on our grounds, or in the buildings, and I am always glad to see visitors; but I have had to learn, by sad experience, that I must not take very much time with each one, especially until I know who you are, and what is wanted. You do not wish to see me break down with overwork, do you?

QUEEN-CAGE.

STILL ANOTHER.

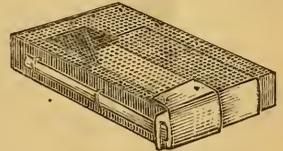
I MAIL you one of my cages that I use in the apiary. What do you think of it? I have used a great many different styles, and have never yet used one that has given me as much satisfaction as this one. You see that there are no stopples to lose, and if it should get stepped on, there is not much danger of killing the queen, as is the case where they are entirely of wire. The cage can be taken in the left hand, and the spring pushed back with the forefinger or thumb, when the queen can be put in, and as many bees as one likes, without bothering with a loose stopple. The cage can be tumbled about without any fear of its coming open and letting out its inmates. They can be made very cheaply. The spring is taken from an old hoop-skirt, and any one who can cut tin and drive a few small tacks can very quickly make them. In time of swarming, a quantity of such small cages for surplus queens should be kept on hand, and in a convenient place, where they can be got at handily and quickly. I always carry a number in my pockets at such times, and have often saved two or three dollars' worth of queens, which would have been lost or killed if I had not been supplied with these little cages.

I have often been in yards when, at such time, the owners were sorely puzzled to know how to take care of surplus queens; and instead of having a number of these handy little cages to protect and keep the queen from getting lost or killed, would have them under tumblers and other unhandy devices.

FRANK BOOMHOWER.

Gallupville, N. Y., May, 1882.

I should object to this cage, because it don't seem to have any place for candy; but this can easily be provided. The especial feature of it is the door operated by a small spring. By catching the finger on the point of the spring, it is easily opened with one hand. No doubt but that this is a convenience; but the cage is hardly suitable to be used otherwise, as we use cages now, nor could we very well add this feature to the Peet cage without making it more complicated than it is now. When one is used to the Peet cage, he finds little of the difficulties our friend has mentioned. You are right, friend B., in saying that a bee-keeper should have queen-cages handy, and plenty of them too.



BOOMHOWER'S QUEEN-CAGE.

OBITUARY.

PARSE.—Our friend and brother, Melvin Parse, Pine Bluff, Ark., died on the 12th inst., after a very short illness, and unexpectedly. Friend Parse was a good man and a good bee-keeper.

Cincinnati, O., May 24, 1882. CHAS. F. MUTH.

Mr. Parse has been for many years a valued correspondent and friend, and his death will be lamented by many. He was one of the foremost in introducing into his vicinity the late improvements in modern bee culture.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CLEVELAND.—Honey.—The honey market continues very steady with us. Several small lots of very nice white sections have been sent in from various quarters. The best has met with ready sale at 22c; second, 18 to 20c; but buckwheat is unsalable at any price. Extracted, none in the market, and no inquiry.

Beeswax.—25 to 30c. A. C. KENDEL.
Cleveland, O., May 20, 1882.

BOSTON.—We are entirely closed out on honey and wax. New honey will be in demand early this year.
Boston, May 18, 1882. CROCKER & BLAKE.

CHICAGO.—Honey.—I am paying 7@9c for extracted honey on arrival. Sales of comb honey are slow and unsatisfactory.—*Beeswax.*—24@25c for bright yellow; 15@22c for off colors and dark.
Chicago, Ill., May 22, 1882. ALFRED H. NEWMAN.

CINCINNATI.—Honey.—Market for extracted honey is fair. Demand very good for manufacturing purposes, and fair in the small way for table use. It brings 7@10c on arrival. Demand slow for comb honey, and prices nominal.—*Beeswax* brings 20@25 on arrival. CHAS. S. MUTH.
Cincinnati, O., May 21, 1882.

NEW YORK.—Honey.—The demand for comb honey is very light—no white in this market. We quote mixed and dark grades comb honey, 2-lb. boxes, 11@13, of which we have enough supply to carry us over until the new crop arrives. Best white extracted in firkins is selling at 9@10c. Dark grades of extracted, 7@8c. *Beeswax* is in active demand at 27@30 for prime quality.
H. K. & F. B. THURBER & CO.
New York, May 22, 1882.

SAN FRANCISCO.—*Beeswax.*—Your postal received. Sorry to say, there is not a ton of surplus wax in the market. Our season is backward, and we are anxiously awaiting the new crop, which will be in S. F. in sixty days. STEARNS & SMITH.
San Francisco, Cal., May 17, 1882.

CIRCULARS, ETC., RECEIVED.

J. T. Scott & Bro., Crawfish Springs, Ga., send out a very nice "Catalogue and Guide Book" of poultry, hives, etc., illustrated. Price 3 cents.

H. H. Brown, Light Street, Pa., issues a 16-page list of bees, fdn., extractors, etc.

S. Valentine, Double Pipe Creek, Md., has published a pretty 12-page map-fold circular of Italian and Albino queens, nuclei, etc.

A. B. Miller & Son, Wakarusa, Ind., send us a one-page list of hives and apiarian supplies.

J. H. Martin, Hartford, N. Y., sends out a 4-page circular, the prominent feature of which is sheets of wired fdn. on a light wood rim. This rim can be pushed into the frame, and you are all ready for business. We see no objection to the plan, other than the expense.

E. H. Cook, Andover, Ct., sends us a postal circular of hives, etc. It was printed with a rubber stamp.

S. E. Douglass, Whitmore Lake, Mich., sends out a one-page list of bee-keepers' supplies.

W. Hoyt, Ripley, Me., sends a 4-page list of Italian and Cyprian queens.

E. B. Beebe, Oneida, N. Y., has published a very presentable 12-page list of bees and all kinds of apiarian supplies. Friend B. seems to value the Cyprian and Holy-Land bees more highly than the Italians, and yet he is not prepared to "discard either race."

J. D. Goodrich, East Hardwick, Vt., sends us an elegant 4-page list of bee-keepers' supplies.

W. G. Russell, Millbrook, Ont., Can., sends us a 8-page list of bee supplies.

L. E. Mercer, Lenox, Ia., publishes a postal price list of Italian bees, etc.

S. P. Roddy, Mechanicstown, Md., sends us a 1-page list of apiarian supplies, bees, etc.

Friend Alley, Wenham, Mass., is out with a tasty 4-page list of Italian, Cyprian, and Hungarian bees.

Friend Heddon sends us a bright, wide-awake circular of 8 p., from which we make the following extract: "While I have not the space to present the numerous arguments in favor of a standard frame and section, I will assure you that I know its advantages to be very great. In buying, selling, renting and interchanging colonies, hives, and fixtures, do we feel the stern necessity for a uniform frame and section. Most agree that, all things considered, the standard Langstroth frame is best. Whether this be true or false, it is evidently the coming frame, and in my opinion the difference in advantages in different frames is not to be compared with the benefits accruing from all using one size of frame. If you have no more than fifty or a hundred colonies, I feel sure it will pay you to adopt the standard L. frame at once, and in the change secure perfect combs. I changed over fifty colonies when the cost was double what it is now, and it paid me twice over. The 4½ x 4¼ x 2 section is also becoming a standard."

KIND WORDS FROM OUR CUSTOMERS.

I think the magnetic tack hammer is a little beauty.
Wallace, Ill., March 4, 1882. JOSEPH MASON.

The queen arrived yesterday. As we were leaving the church, one of the P. O. clerks came to us (who is a bee-keeper) and said that a queen came to our address this morning, and it we would drive by the office he would get it for us. She is now confined on a comb in a hive. Thanks for promptness.
Peoria, Ill., May 5, 1882. MRS. L. HARRISON.

The 80 hives came through all right. I haven't lost even a queen. She stood the storm of winter like the burning bush on the mount before Moses. Thanks to the Lord. The Lord bless you and your business. I had one hive last summer that gathered 375 lbs., 200 of it in 22 days. J. W. UTER.
Amity, Orange Co., N. Y., May 8, 1882.

THE CHEAP FDN. MILLS.

My fdn. machine came to hand May 1, and in the very best condition. I have used it, and last week made up about 150 lbs. of fdn., and it works to a "pin." I would not take \$50 for it. I had a chance to sell it, but did not know whether you had them on hand or not, so I did not do so. There is no question but that your machine is the best now at the present day. The express on it was only \$2.25. I am glad you sent it as you did. F. G. KINNEY.
Bristol, Ind., May 15, 1882.

I have never been so much pleased in dealing with a man as I have been with you; in fact, I am pleased beyond description. The Waterbury watches were received in due time, and are, in short, just beautiful, and are good time-keepers. Can't see how such a watch can be got up for so low a price. They are a boon here. If it were not for the limitation of my pecuniary means, I would order an entire dozen. I know I could dispose of them in a short time, and make a good profit. AUG. TIGGES.
Marathon City, Wis., March 21, 1882.

I told my wife that I believed you to be either a good, jolly, honest man, or deserving much credit for having reduced hypocrisy to a science; and if the former, or either, I could lose nothing by helping you. We get terribly out with our bees sometimes (they are the little black, spiteful kind), and just as soon as I get able I mean to get some of your amiable kind. You remember to have told us not to buy until we could spare the money, and a right sensible suggestion it is. F. M. BLOUNT.
West Point, Ga., April 3, 1882.

I see by February GLEANINGS that you are successfully learning to govern your numerous employes by being yourself governed by the meek and lowly One. Bless him who is higher than the heavens! How wondrous his stoop of love that he should, as it were, kneel to the chief of sinners, and pray, through his ambassador, "Be ye reconciled to God"! Oh! surely we are here taught the simple and only way to obtain "great peace" and "rest to our souls." Let not the unbeliever triumph. If the righteous fall he shall rise again. Jesus says, when taken by those who were seeking his life, "Of them which thou has given me, have I lost none." I very much approve of the kind advice given you by George and Ernest about crowding so much work

IN THE FRONT RANK

of Queen-Breeders. Our handsome 24-page

Illustrated Catalogue

of four races of BEES, QUEENS, and BEE-KEEPERS' SUPPLIES for 1882 is now ready. Secure a copy before you purchase elsewhere. Address

E. A. THOMAS & CO.

(Successors to E. A. Thomas),

Coleraine, Franklin Co., Mass.

2-7d

MUTH'S HONEY EXTRACTOR, SQUARE GLASS HONEY JARS, TIN BUCKETS, BEE HIVES, HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.
P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers."

1tfd

MOLDED COMB FDN.

has advantages over all other. My new machines make it very perfect. *Thin fdn.*, warranted 10 to 11 ft. per lb. See free samples, and price list of fdn. molds, Bees and Queens. OLIVER POSTER,

3tfd Mt. Vernon, Linn Co., Iowa.

C. OLM'S COMB FOUNDATION MACHINE. SEND FOR SAMPLE AND CIRCULAR.

4-6

C. OLM, Fond du Lac, Wis.



1882. QUEENS! 1882.

I am now booking orders for warranted Italian Queens; each, \$1.00; six, \$5.00. Tested, after June, \$1.50. Cyprians, unwarranted, \$1.00; six, \$5.00. Send for circular giving description and recommendations from P. M. and county officers. Money-Order office, Versailles, Ky.

1tfd J. T. WILSON,
Mortonsville, Woodford Co., Ky.

SUPPLIES FOR THE APIARY.

Purchase your Hives, Crates, and Sections, from where pine lumber can be bought cheap. Special attention given to large orders.

2-7d HIRAM ROOP, Carson City, Mich.

ITALIAN BEES AND QUEENS

Full colonies, 2, 3, and 4 frame nuclei. Tested Queens, in May, \$3.00; in June, \$2.50; July, August, and September, \$2.00. Untested queens, in June and July, \$1.00; Aug., 90c; Sept., 75c. All queens will be reared from imported and home-bred queens. Please send for list to GEO. W. BAKER,

3-9 Lewisville, Henry Co., Ind.

THE British Bee Journal.

The British Bee Journal is now mailed to our address in packages, each month. In order to dispose of them, we offer them at present at \$1.00 per year, postage paid, beginning Jan., 1882. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

FULL COLONIES

Italian Bees, with queen, in Root's Simplicity hive,

\$7.00.

E. D. GILLETT,

Brighton, Lorain Co., Ohio.

5-6

QUEENS FROM THE SOUTH.

I fully demonstrated, last season, that queens could be shipped safely from the South as early as March. Dollar queens this month, \$1.00 postpaid. Bees by the pound, \$1.25. Orders promptly filled, or money refunded.

4tfd

CHAS. S. LARKIN, Lockport, La.

ONE-Piece Sections a Specialty. Pound size, \$4.50 per 1000; L. hives, 50c each. Circular free.

3-7d

B. WALKER & CO., Capac, St. Clair Co., Mich.

\$6.-COLONIES-\$6.

If you wish to buy bees, send for Price List.

5-6d C. W. & A. H. K. BLOOD, QUINCY, MASSACHUSETTS.

BEEES AND QUEENS FROM MY APIARIES.

3tfd

QUEENS AND NUCLEI IN SEASON.
Circular on application.

J. H. ROBERTSON, PEWAMO, IONIA Co., MICH.

HEADQUARTERS FOR Italian and Holy-Land QUEENS and BEES.

I use the very best of Imported and Home-bred queens to breed from; and all queens warranted to be mated with pure yellow drones. If you want bees that are sure to winter, try our Italian queens. *No black bees in the vicinity.* Dollar queens, before June 20, \$1.25 each; after that date, single queens, \$1.00; six queens for \$5.00; twelve or more, 75 cents each. Tested queens, before June 20, \$2.50; after June 20, \$2.00; bees by the pound, in May and June, \$1.25 per lb.; after June, \$1.00 per lb.

40c per lb. COMB FOUNDATION. 40c per lb.

The purest and brightest yellow foundation made. Extra thin and bright for sections, 10 sq. ft. to the lb., 48c per lb. I will work up wax for 10c per lb.

Send for sample of our comb foundation before purchasing elsewhere. F. W. HOLMES,
4-9d Coopersville, Ottawa Co., Mich.

A HANDY FEEDER.

QUEENS FOR BREEDING PURPOSES A SPECIALTY.

Circulars free.

4-9d

JOS. M. BROOKS,

Columbus, Ind., Box 64.

SMALL FARM AND APIARY FOR SALE CHEAP. Property worth about \$1500. For particulars, address J. E. COLTON, Waverly, Bremer Co., Iowa.
4tfd

BY SENDING YOUR NAME AND ADDRESS on postal card I will send you my 16-page circular of Italian, Cyprian, and Holy-Land Bees, Queens, and Apiarian Supplies, etc. H. H. BROWN,
4tfd Light Street, Col. Co., Pa.

I. R. GOOD, Nappanee, Elkhart Co., Indiana,

Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land apiaries, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

BEEES AND QUEENS A SPECIALTY.

I have had 21 years' experience in breeding the Italian bee; have queens, nuclei, and full stocks, from the best strains. Price reasonable. Satisfaction guaranteed. Send your address for price list.

4-7d

I. S. CROWFOOT.

Hartford, Wash. Co., Wis., April 1, 1882.



Vol. X.

JULY 1, 1882.

No. 7.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 32.

QUEEN SURGERY—A CASE THAT DIDN'T TURN OUT SO WELL.

I HAD a case last season that was similar to one mentioned by friend Little, on page 277 of June GLEANINGS. After waiting a week for nature to remove the protruding and dried-up drone organ, I clipped it off, using my finger-nails for nippers or scissors. The queen then commenced, in a day or two, to lay, filled the combs of her nucleus with eggs, and was, apparently, all right, so I sent her to a customer. In two or three weeks I received a card from her purchaser, saying, "One of those half-dozen queens that you sent me does not perform her duty as should a well-behaved queen. She scatters the eggs all over, puts more than one egg into a cell, and sometimes attaches them to the sides of the cell. It is not the work of a fertile worker, as the queen is present, and I have seen her laying." I concluded that it was the queen that I had operated upon, and so I sent another.

SELLING EXTRACTED HONEY.

Nearly all of the honey that I have sold away from home has been sold in Mason's fruit-jars. In packing them for transportation, I place an inch of chaff in the bottom of a box, set the jars upon it, and then pack chaff between them. I always carry the honey away myself, and I have broken only one jar, and that was caused by a small knot, from some board, getting into the chaff packing, under the jar. When honey is in the liquid state, it certainly does present a sort of "make-your-mouth-water" appearance

when put up in glass; but after it candies it looks well, one groceryman remarked, like *lard*. If I should ever have honey enough so it doesn't "get sold" before the cool fall weather begins to make it candy, I shall try putting it up for sale in small tin pails, and adorn the pails with bright, attractive labels. For shipping liquid honey, I have used, to a small extent, the 100-lb. spruce kegs, and I could ask for nothing better.

NOT GOING TO THE FAIR, AFTER ALL.

It is with regret that I have finally decided not to make an apiarian exhibit at our State Fair this fall. What's the reason? Well, "too much to do," haven't time to spare to prepare things for an exhibit and do the subject justice. I wish, however, to thank the kind friends who have offered to help me in the matter, and who have written and given me some valuable suggestions.

MY REVISED REPORT FOR 1881.

In giving my report last January for 1881, I estimated my 28 colonies at \$5.00 each. One died in the winter, one was robbed this spring when I was away from home (my first loss from robbers), one was found queenless, and was united with another, so I commenced the season with 25 colonies. I think it fair to estimate these 25 colonies *now* at \$2.00 each, which would place my profits at an average of \$18.30 per colony.

MY WINTERING EXPERIMENTS.

You will perhaps remember, that last fall I prepared my bees for winter in several ways, with a view of determining which was the best method of wintering. Some colonies were left unprotected upon their summer stands, others were protected with chaff cushions; some were covered with the chaff

over the combs to the depth of eight inches, some were simply covered with a cloth, and others were left with nothing over the frames. Some were placed in a well-ventilated cellar, while others were buried in "clamps." Some of the colonies which were left out of doors, as well as those placed in the cellar, and those that were buried, had pure granulated sugar for winter stores; others had part sugar and part honey, and still others had only the honey that was in the hive in the fall. The majority had little or no pollen, while others were given an abundance. Some were prepared for winter early in September, and then left undisturbed, while others were not packed until late in October.

The results can be told in a few words. As nearly as I can discover they have all wintered alike. The past winter was mild, and bees, under almost all conditions, have universally wintered successfully. So all my trouble and experiments, this time, have done little toward solving the wintering problem. But I shall continue my experiments, year after year, and, without doubt, in a few years a severe winter, or some other cause, will again sweep away the bees, and then my experiments may throw a little light upon the subject. To make such experiments valuable, they should be continued through a series of years, and, if possible, be made in different localities, and under different circumstances. For this reason, I wish that other bee-keepers would experiment in this line, and continue to do so for a number of years. The bees which were wintered in the cellar and in the "clamps," consumed very little honey compared with those that were wintered out of doors.

HANDLING BEES WHEN IT RAINS.

June 3. I have a lot of queen-cells that will soon hatch, and I ought to be starting nuclei for them, but it rains.

June 4. Rains again to-day.

June 5. And yet it rains. Will it never stop? Queens are beginning to hatch, and there is no place to put them; what shall I do? And then came the thought that they handle bees in house apiaries, even in rainy weather; why not carry the colonies that I wish to handle, into the shop, and handle them there? No sooner said than done. A colony was brought in, looked over, the queen found, combs for nuclei selected and hung in an empty hive, their places in the old hive filled with empty combs, and the colony carried back to the yard. Then another colony was brought in and treated in the same manner, and then another and another, until I had a sufficient number of combs to form as many nuclei as I wished. Thanks to previous management, the nucleus hives were all on their "stills" in readiness for the bees. I took a comb, covered with bees, in each hand, and carried them to a hive in so short a time that no harm was done, even if it did rain. The half-dozen queens that had hatched were given to as many nuclei, and all but one were accepted.

June 6. At last it has "cleared off." Although queens "kept hatching all the time," there are plenty of nuclei started for them.

June 12. Bees are "lying on their oars," waiting for the white clover that is just beginning to blossom.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., June, 1882.

We too, friend IL., have found the Mason jars about as good as any thing for honey, or maple molasses either; and if you seal them

up as you do fruit, while hot, you will have little trouble from its ever looking like sugar, or lard either.—If you have much work to do with bees when it rains, why not have a small house apiary, with a few hives in it for rainy days? Thanks for your good practical article this month, friend H.

REVIEW OF GLEANINGS.

SEE, in the GLEANINGS for June, that there is, in Paris, one suicide for 2700 inhabitants. Such a figure would give about 1000 suicides every year, or nearly 3 every day.

As I am a native of France, where I have lived for 46 years, I can not let pass such an assertion without protest. No doubt, friend Root, you have found that in some Christian paper. It is, indeed, shocking to see what means so-called pious people use to blacken the men who take the liberty and have the courage of thinking freely! The *electes*, unable to meet the arguments of the liberals, are accustomed to slander them. If such is the charitableness of religion, the people at large would be better to have none of it.

On another page of the GLEANINGS you advise us to use paraffine to make comb foundation, and to mix it with wax for sections. This advice is about as bad as the one you gave several years ago about glucose, and will lead to the same results.

Your advice will be commented in the journals, and the conclusion will be that what we bee-keepers offer to sell is not honey at all; shall we use paraffine to make combs, and glucose to fill them? It would have been better for all of us if you had quit type-setting when such an idea came to your mind, so as to think of its consequences; for, at a time of so many complaints against adulteration, one in your position ought to be careful not to lead the consumers to suspicion.

This advice of yours is the more surprising when we read in the May number, page 238, that you consider ceresin, or mineral wax, as a thing unfit to make foundation. Paraffine is mineral wax too. In this circumstance, as in a great many others, your mind is far from being settled.

Your fear of being unable to find, in the whole world, beeswax enough to make comb foundation is altogether groundless. For several years the production of beeswax in the U. S. was so much above the consumption, and its price so very low, that it allowed a fair margin to the exporters. As soon as a fair lot of beeswax was gathered, it was sent to Europe, and sold there readily at 29 or 30 cents. Such was the position of the article when the scarcity began. This scarcity was caused by the mildness of the last winter, which did not kill the bees as usual. Now the price of beeswax is too high to leave a profit to the exporters; we will, in consequence, be able to find, henceforth, what we need, and more. Having anticipated this scarcity, we have bought, at high figures, enough beeswax to fill all our orders, and have a few thousand pounds in reserve.

In the same number of June, I see also that you indorse the idea that worker bees are able to raise drones from worker eggs. Such ideas remind me of the joke played by Mr. Waite, of St Louis, on us bee-keepers, about the fertilization of queens in confinement. Mr. Waite, having written that he had had 125 queens mated in the hives with select drones, all the bee papers were filled with articles of bee-

keepers who had succeeded. What has become of such assertions? I dare say that it is as impossible for the worker to change the sex of the egg as it is impossible for a hen to raise, at will, a hen or a rooster from an egg which she has laid.

Hamilton, Ill., June 7, 1882. CHAS. DADANT.

P. S.—*Friend Root*:—Please insert the criticisms that I inclose in this letter, without changing or extending a word. Yours friendly,— C. D.

SUICIDES.

You are right, friend D., in your surmise that the item I gave came from a Christian paper; but you are surely wrong in saying that Christian papers would willingly print untruths. After receiving your letter we turned to the *People's Cyclopaedia*, and looked for "suicides." We found it just as I gave it. We looked again in Chambers', and found it stated a little stronger still. Our proof-reader looked in Zell's, and he says it also gives stronger figures than mine. Our cyclopedias are reliable on a matter of statistics, are they not, friend Dadant? Three suicides a day is indeed terrible to think of.

BEEWAX, AND THE POSSIBILITY OF A SUBSTITUTE.

I hardly think any one has misunderstood me in what I said about using paraffine or ceresin with wax for fdn. For brood-combs without wiring, it will not answer at all; but with wires near enough together, it is worked out even faster than natural wax; and, if I am not mistaken, Capt. Hetherington was the first one who informed us of this fact. Several years ago I used, in section boxes, starters made of part yellow wax and part paraffine, and the bases of the cells were thinned out beautifully, and the honey in no way differed from any other. We then discontinued the use of it, because it worked so disastrously for brood-combs; but such a thing as wiring frames was then almost unknown. Grape sugar is still being used quite extensively for feeding bees, and works admirably for keeping them from starving during such a spring as we have just had. I live in the fear of God, or, if you choose, I fear a guilty conscience; but I do not fear what men may say, nor that I shall lack patronage so long as I am doing business honestly.—I am very glad of the facts you have given us in regard to the supply of wax, and doubtless you are right. Since our last, we have found wax enough at from 26 to 28 c., and we have, in fact, been obliged to drop our paying price one cent. We have, so far, worked up about 13 tons of wax this season, and we have now about two tons in stock, so I presume there will be no need just yet of our thinking of a substitute.

CAN BEES REAR DRONES FROM WORKER EGGS?

Will it not behoove us all to decide cautiously in this new matter of the ability of the bees to change the sex of a worker egg? Since it has come up, Neighbor IL and I both recall to mind cases where drones were reared on pieces of worker brood given to queenless colonies. You can all try it. Take a nice comb of worker brood, cut out a piece, and give to a queenless colony. The portion left in the hive will produce all workers,

while that taken to the queenless hive will often produce more or less drones. Try it and see, and then give us an explanation. I thank you, friend Dadant, for the kindness and courtesy with which you have pointed to me where you think I might be in danger of making mistakes.

In regard to this last matter, facts are continually being brought in, and here is one from friend Flanagan, while I am writing:—

In regard to being able to change the sex of the egg, the following came under my personal observation, and seems to corroborate friend Peters' statement in a recent number of GLEANINGS, only in this case they made drones from worker eggs, instead of workers in drone-cells. In going over the apiary in which I have an interest, placing in the nuclei pieces of brood to ensure no fertile workers, (and to supply eggs for rearing a queen if any accident happened the virgin queen), a piece of comb containing eggs of the proper age was inserted in 3 different nuclei at the same time. In the first there was a virgin queen, and the piece of comb containing the eggs developed into first-class drone brood. In the 2d and 3d nuclei, the young queens were lost (probably on their wedding flight), and the result was the raising of a nice lot of queen-cells that hatched good queens from each piece of brood. The comb was freshly drawn out of foundation, and had not one drone-cell in it. Where there was a young queen, and the bees had no way of raising drones but from the worker eggs given, instinct and desire prompted them to change the sex, while with the other two cases, being more in need of a mother than drones, queen-cells were the result. These are the facts. Make the most of them, and let us hear if any one else has had a similar experience. Who will speak first?

E. T. FLANAGAN.

Belleville, Ill., June 23, 1882.

FRIEND BOOMHOWER AND HIS "DARK CLOUD."

ALSO HIS PLAN OF PUTTING ON IT A "SILVER LINING."

A DARK cloud is hovering over the bee-keepers of this county. To-day is the 18th of June, and up to the present time our little pets have gathered scarcely a pound of honey. Intelligence has reached me from adjoining towns, and from localities in Albany County, that many colonies have perished from starvation. In my short experience I never knew bees to consume so much honey, and be in such a weak condition up to date, as they have this spring. I never saw a more extensive bloom than we have had this season, but the weather has been so cold and wet that it was impossible for the bees to take any advantage of it. Up to date I have heard of but one swarm in this State; everywhere bees are weak, and some are in a deplorable condition except where extensive feeding has been kept up for the past two or three weeks. The bees seem to have become discouraged, dragging out their brood and swarming out. The crop of white honey positively must be short; and only where bees have been fed, and had extra care, can any white honey be obtained. Box-hive men are suffering more than those who have frame hives. The former, as a general thing, have been careless, and, having box hives, could not readily

see or tell how much honey or in what condition their bees were in; it makes me feel sad to pass through the country and see what a miserable condition and way these box-hive men keep and manage their bees. I must say, they are doing a great injustice and damage to the bee-keepers who have their bees in frame hives, and are trying to build up a great industry in the way of producing fine honey, and in a fine condition to fetch a good price. These box-hive men, as a rule, get their honey (what little they do get) in such an unsightly condition, that it will not fetch a decent price; and when it is in market, it is hurried off at the first price that is offered for it, therefore injuring the price of choice honey in fine shape.

Now, friend Root, I have a little scheme in my head, and I think it will work admirably. In the first place, as a general thing the most of these box-hive men will improve, and get their bees in better shape, if they only have somebody to get them started and instruct them a little. The most, or nearly all, who are keeping their bees so slovenly, will try to better their condition, for there is, in my opinion, no one who has a lot of bees, no matter what the number is, but will, if he can, be convinced that it will be for his or her personal gain (for it is natural for humanity to better its condition) to get them in such a shape that they can make a few dollars instead of a few shillings. Now, what I am driving at and going to propose is this: That you request all readers of GLEANINGS to send you the name of every box-hive bee-keeper in his or her vicinity who has not or is not taking some bee journal, and that you will forward them a sample copy of GLEANINGS with the following, or something else, as your better judgment will decide, printed upon the wrapper or a separate sheet of paper:

Dear Friend:—Your name has been sent in to us as a bee-keeper, and, thinking that you would be glad to receive a copy of our GLEANINGS IN BEE CULTURE, and that you will carefully look it over, and become convinced that it will be for your advantage to become a subscriber, we take the liberty of sending you one. It will not only teach you how to take better care of your bees, but show you how to put up your honey in such a way that it will command a good price in market, therefore putting dollars in your pocket where you do not shillings, and thus bettering your condition and that of those around you who are striving to produce nice honey, and are putting it in salable shape.

A. I. ROOT, Medina, O.

I think that this suggestion will not only benefit the bee-keeping fraternity, but secure for you several hundred subscribers.

For the past few days the weather has become more settled, and warm; the bees have commenced to work, and are now getting some honey, and I for one will rejoice if feeding is over.

F. BOOMHOWER.

Gallupville, N. Y., June 18, 1882.

I am pretty well aware of the general failure of white clover to yield honey this season, friend B., and we are a little anxious about the nearly four hundred colonies in our own apiary that have, many of them, not over a pound of honey; but still, we are hopeful. The season is backward, and the abundant rains have had the effect of washing the honey out, to a great extent, or at least that is my reason for the lack of white-clover honey; but this same abundant moisture will, we hope, prolong the honey-yield later than usual. In our case, the large

number of strong stocks in one point would be a pretty good reason why they should not accumulate very much honey. Neighbor Blakeslee reports that a colony on his spring scales brought in 3 lbs. on the 22d, which is not a very bad showing.—I thank you for your suggestion in regard to increasing the circulation of GLEANINGS, but it is pretty nearly what we have been doing for years past. It is true, I have not many times asked our friends to send us the names of box-hive bee-keepers specially, but I have stated that we are always glad of the opportunity of sending sample copies free to any name you may choose to give us. We now send you, friend B., a sample copy and price list, that you may see just what we do put on the wrappers. One more point: If we keep up the JUVENILE the year round, and hold to the old price of \$1.00, a little larger circulation would be quite a favor. Therefore, all who feel friendly to the little "bantling" can show their good will by helping to extend our circulation.

Bee Botany.

OR HONEY-PLANTS TO BE NAMED.

YELLOW CLOVER.

I HAVE now 19 colonies, including one new one, the only swarm I have had this season. Nearly all my colonies are doing well, or seem to be; many of them are very rich, from quite a number of which I have taken from 45 to 60 lbs. of nice finely flavored honey. Our surplus honey is made this year mainly from the bloom of a grass, or weed, with a small yellow bloom, which we call "yellow clover." So far as we know, it made its appearance here only a few years ago, and now grows spontaneously almost everywhere. Bees have been, and are now working on it to the exclusion of nearly every thing else on my place. The honey is of a rich golden hue, and very fine flavored; so you see we have some encouragement to give a little time and attention to our bees this season. Bees generally in this county are doing well now, though only a few swarms. I inclose a sample of the yellow clover. What is it? J. B. RITCHIE.

McMinnville, Tenn., June 9, 1882.

We have sent the specimen to our botanist, and here is his reply:—

Plant from McMinnville, Tenn., is *Trifolium procumbens* (yellow clover, low hop clover), a small-growing clover found mainly in the New England, Eastern, and a few of the Middle States, in rather dry soils. Branches many from one root, slender, 3 to 6 or 8 inches long, leaflets small, wedge-obovate, denticulate or orbiculate, terminal, one on a petiole 1-6 inch long, lateral ones subsessile; heads small, yellow, subglobose; corolla persistent, reflexed, and brown when old. This plant is often mistaken for *Medicago lupulina* (non-such, or black medick), and vice versa. It does not, however, assume the "weedy" character of the black medick, and is readily recognized by the shape of the seed-pods.

W. R. LAZENBY.

Columbus, O., June 19, 1882.

NEW JERSEY TEA, OR RED ROOT.

For a few days, the bees have been getting some

honey, as we thought, from dog fennel (hope you have none in Ohio), but to-day one of my daughters was out getting berries, and noticed the bees very busy at work on a certain bloom. On examining it, she found that it had a scent like the honey our bees are getting; so we have decided that it is not dog fennel, but "red shank" (this is what Laura called it). I inclose a twig with the flower, but it may not retain the disagreeable scent till it reaches you.

Cedartown, Ga., June 16, 1882. J. M. HARRIS.

Plant from Cedartown, Polk Co., Ga., is *Ceanothus Americanus* (New Jersey tea, or red root), a small shrub 1 to 4 feet high, bearing a profusion of pretty white flowers in clusters from the axils of the leaves. The branches are reddish, round, smooth, downy. The flowers are small, white, in beautiful clusters. Calyx campanulate, 5, cleft; corolla white, sepals long-clawed, sacate-arched. Leaves oblong-ovate or ovate, serrate, and with three prominent veins. They were used as a substitute for tea during the Revolution, whence its common name, or one of them; the other is from its roots being used for coloring. There are several other species of the *Ceanothus* from Mexico and South America, that have recently been introduced into the greenhouse. The disagreeable scent is somewhat variable in the same species, often nearly wanting.

Columbus, O., June 19, 1882. W. R. LAZENBY.

MIAMI MIST.

I send you a sample of a weed that no one here can name; tell us what it is. I think it is an excellent honey-plant; it blooms about twenty days immediately after apple-bloom, at a time when there is nothing else for bees to work on. It was the prettiest sight I ever saw. Just think of a ten-acre field of these beautiful little flowers covered with Italians from morning until night! I saw such a sight as this. I intend to gather some seed; they are now nearly ripe.

JOEL TILMAN.

Akron, Ind., June 13, 1882.

The plant is what goes by the common name of "Miami mist"—*Cosmanthus purshii*—order *Hydrophyllaceæ*. It is quite common in fields and river-bottoms, and is a very handsome flower when in bloom. It is found from Pennsylvania to Georgia, and west as far as Iowa. It is very abundant here in Franklin County, Ohio, and I have just made a collection of seed.

W. R. LAZENBY.

Columbus, O., June 23, 1882.

BLADDER-NUT.

Inclosed you will find a small branch of a tree of which I should like to know the name. I know of only two trees; they are both on my place, and are small yet, but are growing very rapidly. They bloom just after fruit-bloom is gone; the blossoms hang in clusters all over the trees, and the bees work on them just as they do on basswood.

ILA MICHENER.

Low Banks, Ont., Can., June 16, 1882.

The plant is the bladder-nut (*Staphylea trifolia*), order *Sapindaceæ*. It is a handsome shrub, 5 to 10 feet high; found in moist woods and thickets from Canada to the Southern States. The flowers are whitish, appearing in drooping raceme-like clusters terminating the branchlets. The most remarkable feature of the plant is its large inflated capsules, which are more or less 3-sided, and contain several hard, small nuts, or seeds. It usually blossoms in May.

W. R. LAZENBY.

Columbus, O., June 23, 1882.

WATER-LEAF, OR BURR-FLOWER.

I put in a honey-plant that the bees seem very fond of, to get the botanical name. It is called chicken's foot, and is used for greens.

SILAS M. JEWELL.

Cleveland, Oswego Co., N. Y., June 14, 1882.

The plant is what is commonly known as "water-leaf," or "burr-flower," *Hydrophyllum Virginicum*—order *Hydrophyllaceæ*. It is found in moist woods throughout the United States; is a herbaceous plant, with a stem from one to two feet high, bearing large tufts of flowers. I have observed that it is a favorite with the bees.

W. R. LAZENBY.

Columbus, O., June 23, 1882.

We are indebted to Prof. W. R. Lazenby, of the State University, Columbus, Ohio, for the above very full and complete descriptions of the plants we have sent him. The plants are pressed, and kept in our herbarium with his descriptions, so that we may ourselves identify them when they are sent in again.

DWARF HOLLYHOCK.

I write you in regard to one of the greatest honey-plants in existence. I refer to the "dwarf hollyhock," or mallard. I have a patch that has been in bloom since early in April, and each plant now has thousands of blooms, and has been roaring with bees since first in bloom, at all times of day; and when poplars were in bloom, which literally flow with honey, they still roared and swarmed on the mallard. It blooms till frost. I will send you a lot of the seed, if you desire. I have seen every species of honey-plant, and this excels every thing that ever came under my observation. It grows on any soil. I could get barrels of honey if I had a field of this plant.

J. H. BURROW.

Lynnville, Tenn., June 19, 1882.

We have what is called mallows, a small sort of hollyhock, if hollyhock it could be called, that we have mentioned before on these pages; but send us some seed, and we will give yours a trial, and tender thanks besides.

WATER FOR BEES,

AND SOME OTHER MATTERS.

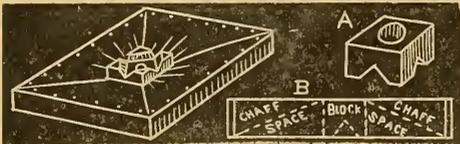
ON the 8th day of May I feel safe to make a report of my successful effort in wintering my bees. I put into the cellar 121 swarms on the 21st of November, and put them upon their summer stands on the 18th of April, losing one in the cellar. I wintered 5 in chaff outdoors, and lost two. Since putting them upon their summer stands I have found a few queenless, and a few feeble swarms that will require doubling up, which will reduce my numbers to about 112; and although we have had a frigid and dry April and May, they are all building up splendidly.

For the first time in my experience as a bee-keeper I weighed every swarm when they were put in the cellar, and when placed upon their summer stands, and I wish to say that, as long as I keep bees, I shall hereafter practice the weighing. The average consumption of honey was only 6 lbs. per colony. Now, will some of our chaff-hive advocates give us the average consumption of honey, say for 100 swarms of bees? I think we will find the

cellar the more economical in the consumption of winter stores. Our bees were very quiet, and I could have kept them in the cellar until May 1st, and perhaps longer, by the use of that glorious beverage for man, beast, and insect,—

WATER.

I had experimented some with water upon uneasy swarms, and comparing notes with Bro. Thomas, of Coleraine, I concluded to adopt his size of bottle, a 4-oz., and put one upon every hive. I wished to also give the bees that clustering-space above the frames, so I invented a chaff mat according to this plan.



J. H. MARTIN'S WATERING DEVICE.

I made a rim two inches wide, to go on the top of the hive, Simplicity style; to the under side of this rim I tacked strong cotton cloth—duck is better. I then placed in the center under the cloth a block with a hole through it, in which to insert the neck of a bottle. The block is also notched upon the sides to give the bees free access under it. After placing this block under the cloth the rim is filled with chaff, and another cloth tacked to the upper side of the rim, and both thicknesses of cloth are tacked to the block, and a hole is then cut through the cloth into the hole in the block. When the mat is placed upon the hive, the block rests upon the frames, and a clustering-place is formed; and when the bottle of water is inserted, the bees have free access to it. The bottles were put on about the middle of February, and were emptied according to the strength and disposition of the colony. A few swarms emptied five or six bottles of water, while others would empty but a part of a bottle. I am so well pleased with the success of the experiment that I shall continue its use. It is also a good plan to keep the bottles on after putting the bees out of the cellar; if a cold term comes on, the bees can be shut in the hive several days without becoming uneasy.

J. H. MARTIN.

Hartford, Wash. Co., N. Y., May 8, 1882.

I think it is now pretty well proven, that water for bees, at the proper time, would have saved many of our troubles in wintering. The mass of facts, all in this one direction, are beginning to point pretty strongly to the importance of some device similar to the one friend Martin has given. The glass bottles, in plain sight, indicate most clearly whenever the supply of water is out.

Most assuredly they need water. I winter in cellar, and fasten a sponge right at the entrance of each colony, and keep them wet. If you have never tried it, you will be surprised to see them take water. Be careful to make the sponges secure, as the bees will completely cover them, and might roll them off to the cellar floor. The sponges can remain at the entrances, and be kept wet, even after the hives are carried out, preventing the loss of many bees in early spring. It is good advice when you say, "Teach your bees to get water at a convenient spot near the apiary." It keeps them from bothering your neighbors' pumps, and saves the lives of a great many that get killed in different ways. You will find a shallow tub, filled with water and covered with a

piece of carpet, to suit them better than any thing else. It seems that the evaporation from so large a surface draws the bees, and they will fairly swarm there for water every afternoon all summer.

Columbus, Ind., May 5, 1882.

J. M. BROOKS.

CHAFF FOR WINTERING.

TIMOTHY CHAFF VERSUS ALL OTHER KINDS.

ON page 227, May number of GLEANINGS, one of your correspondents details results of experiments in reference to heat-retaining properties of different kinds of chaff and sawdust. As I have had a large practical experience with chaff hives, permit me to suggest that Mr. Fowls' experiments were in entirely the wrong direction. Any of our kinds of chaff, properly freed from straws, etc., also very fine dry sawdust, has plenty of heat-retaining properties for the needed purpose. The two great desiderata for successful wintering by any mode, are to keep bees in as even a temperature, and as free from moisture as possible; and the last condition is by far the most important, as well as the most difficult to obtain. Show me a practical method of keeping the entire inside of a hive perfectly dry during winter, and I will have no further fears about unsuccessful wintering. As you already know, I have been quite successful in the use of chaff hives, and I have learned that the dryer you can keep the packing, the better the bees winter, and that the dryness depends both on the method of using and on the kind of chaff used.

I have used buckwheat, oat, wheat, and timothy chaff, and have discarded all except the last, retaining that because of its greater power of absorbing moisture given off by the bees, without retaining it and itself becoming damp and moldy. I have never tested clover chaff, although a typographical error in the report of the Michigan State Convention makes me advise the use of that; but I think it would answer well. Very fine dry sawdust is, without doubt, an excellent non-conductor of heat and cold, but I should be afraid of its liability to retain moisture.

I am glad to see so strong a believer in cellar-wintering as is George Grimm, admitting the truth of the statement I made at the Lexington Convention, that "chaff hives are, in my opinion, worth all of their extra cost if used only from the time of taking bees from their winter quarters until the commencement of the honey season;" but I can not understand how he, as well as so many others, have an idea that chaff hives are not successful during long cold winters. I lost only about 5 per cent of my bees during the winter of 1880-'81, and nearly or quite all of my neighbors who use the same method of packing that I do were equally successful.

O. O. POPPLETON.

Williamstown, Iowa, June 22, 1882.

Thank you, friend P. I presume it will do no harm if I say I had been wishing to hear something from you on this same matter, ever since I listened to your very able address at our very pleasant convention at Battle Creek, Mich. And now, if you will excuse me once more, I want to thank you for your very kind and able exposition of *The Dollar-queen Traffic*, in the *A. B. J.* of June 21. Said article sums up, in such a masterly manner, all I would say on the subject, it seems to me I could just drop it right there, and refer all future objectors to it.

BEST FUEL FOR SMOKERS.

JAMES HEDDON.

THE above may seem a pretty small subject for an essay; but to the practical apiarist who is doing business on a scale of any considerable extent, the item of good fuel for his smoker is one of the largest of the details of which the business is composed. It is a matter of no very small importance to *any one* who uses a smoker at all. I have suffered much, even since smokers have been perfected, from the want of proper fuel. When, under unfavorable circumstances, or when one is in a hurry, and the bees need considerable subduing, to stand and puff and puff and puff, and see so little smoke issue as to be only just discernible, or to go to the other extreme, that is, pick up the smoker and find it out, are trials that it is worth many dollars to avoid. Numerous are the substances highly recommended as the "best fuel for smokers."

TOBACCO

was once the all in all. Experience has demonstrated that the smoke from it puts too much spirit into the bees, and is liable to lead to habits that take it out of the bee-master. That substance is almost abandoned, and wisely too.

COTTON RAGS

were next recommended. They don't come into general use, however. Speaking for myself, the reason they do not is because they do not make enough smoke for many occasions. The smoke they do make is villainous to both bees and man, and is finally justly resented by both. They must be kept in a pretty dry atmosphere all the time, or they readily absorb moisture enough to fail totally.

PEET

is preferred by some. This, I find, has two objections: It is quite inaccessible to many, and burns out too fast. Many other things, such as corn-cobs, buffalo-chips, and the like, have all been recommended, and, so far as I have tried them or exchanged experiences with those who have, they have been found to come under one or the other of the above-named objections; viz., they make too little smoke (going out oftentimes), or burn out too fast, consuming too much of the apiarist's time in "firing up" the tube.

Mr. Bingham, I infer, has spent much time in experimenting with different substances for smoker fuel, and has finally perfected his smoker so as to burn

SOUND WOOD.

This sound dry hard wood has one splendid advantage—it is easily obtained by all bee-keepers in all localities. But upon testing its use, I found that it had several serious disadvantages. It makes such an intense heat that "fire-shields" are attached, and this heat wears out the smoker rapidly. But that is not the worst of it. It blows fire out of the tube, increasing the danger of a "fire" of larger and more disagreeable proportions, and abusing the bees to such an extent that the heart and brain of man go into partnership, and invent the

COLD-BLAST SMOKER.

Still another serious objection with the hard wood is that the intensity of heat generated by it causes the condensation of creosote, which runs out all over the fire-tube, daubing and mussing up the smoker, and oftentimes the operator.

After experimenting with all the various sub-

stances mentioned above, together with many more, as well as nearly all I have read about, I will tell you

WHAT I USE,

and find to fill the bill exactly.

Perhaps it may be properly called

PUNK.

I know it has been so named by others, who have used it and written about it. It is a peculiar dry *rot*, collected in just a certain stage of decay. I have found that from hard-maple we get the best. Touch a match to a piece, and it will catch instantly; fill the fire-barrel of the smoker, and your trouble from unruly bees is soon at an end. It smokes in a volume that is unmistakable. The smoke is almost odorless. It never gets too hot to handle the tube-cover freely, while it subdues the bees instantly, and leaves no irritating reaction upon them. Your smoker does not die down nor go out while the fuel lasts, which is from one to two hours. It burns equally well in all sorts and sizes of smokers. Keep it out of the rain, and dampness does not affect it. It is not as readily found in woods where it might be expected, as one would suppose. It exists only in *standing* trees. It is usually a heart rot, and is always a dry rot, and no wet, moldy rotten wood is of any account when artificially dried. It must be a dry rot.

About five years ago a woodman brought me a cord of it, for which I paid twice the price of sound maple (I mean, an 18-inch cord). Of course, I had to slice and hew the good from the worthless portions, which left about one-third real smoke wood. Toward the latter end of last season I ran out of it. Then trouble began. Then I began to think of the woodman. I saw him. He could find no more. I accosted another expert woodman, and he found me a quarter of a cord of the very best I ever saw. I have it now in the attic of my honey-house at the apiary. I think of it often through the days. If I wake up in the night, I am sure to think of it. Really, I feel childish about it. I would refuse \$25.00 for this $\frac{1}{4}$ 18-inch cord, could I not replace it for less. I have been thinking of those who have not access to this material, and how I should have it boxed and shipped to me by freight. Well, I'm in such circumstances, and the thought has occurred to me that a traffic in this material, while it might be the means of giving such poor woodmen labor wherein they are their own proprietors, it would, at the same time, threefold bless the purchasers. This man (an honest and deserving one) says he would like the job of hunting, securing, and cutting this material at such prices as would give \$1.50 per day of 10 hours. Then there would be the nominal cost of boxing and shipping and freights, which would then, in my judgment, make it the cheapest and best smoker material known to bee-keepers. Of course, no one can exactly estimate the cost per cubic foot at first; yet the traffic, once started under the auspices of a man of integrity, a proper price could soon be adopted. Competition would soon select the fittest to supply this boon to the apiarist. What do you think of the idea?

Dowagiac, Mich., June 5, 1882.

I think favorably of it, friend Heddon, and I have already tried two or three times to get a similar project started. My price was, I believe, 10 cents for a peck basket full, basket thrown in; but I found great difficulty in getting a sufficient supply of a real-

ly first-class article. The wood we used was rotten elm, however, and not punk; and while I am about it, what we here term punk is a fungus excrescence growing out of logs and standing trees, especially the maple. I used this for years, until the supply gave out. In the earlier days of GLEANINGS it was advertised put up in 5-cent packages. Now since you have got some that is just right, I propose, friend H., that you send us some to try, in the shape of a 10-cent package by mail; and if we like it, we will ask your woodman to send us a dollar's worth by freight. If it isn't up to sample, we shall not want any more of him. If anybody else can furnish good smoker wood, let him also advertise it, sending samples by mail at, say, 10 cents. It seems to me that a good clean article should be furnished at about 25 cents per bushel. A regular wood-chopper is the man to furnish this material, and I should like samples from all who think they can supply what is needed. I want a sample of that quarter cord, which you lie awake thinking about too, friend Heddon. Smoker fuel that will light at once with a match, and don't make sticky, tarry "juice" either, and will burn a good while and not go out, will be indeed a boon. I would give \$5.00 for a cord of it to-day.

DISABLED QUEENS, ETC.

I RECEIVED the queens you sent me, April 21st. One was in fine condition, but the other was disabled; one of her hind legs had got fast between the edge of the candy and the feathery edge of the hole it was run into, and her leg was twisted off at the knee joint. I tried to introduce, but it was no go; the bees were friendly to her, but she could not stick to the combs, but would tumble off as fast as I could put her on. I then let her go, and watched for results. In about five minutes I looked again. She had fallen on the bottom-board again. This time a few bees were trying to take her out. I worked nearly half a day with her, and then pulled off her head, united the two nuclei into one, and the other queen was laying before night. I sometimes think I should have sent her back; but would it have done any good to you? I send you balance due you for queens; and now, friend Root, if you think I deserve another, send her along, but not till I call. I believe you to be a Christian, and I am willing to abide your decision. In regard to the queen having her leg off when she came, I refer you to F. J. Gridley, express and ticket agent at Transfer, Pa., for I opened the package in his presence, and he first called my attention to her disability.

½ LB. OF BEES AND QUEEN IN JUNE.

I must tell you of that queen and half-pound of bees I got of you about the middle of June, 1881. I put her and the bees on three frames of comb, and fed them a little for a week or two, and supplied them with frames of fdn. as they needed it, and by fall they had ten frames full of honey, and hive full of bees. Thanks for JUVENILE GLEANINGS. I tell you, it made the boys happy. S. BENNINGHOFF.

Transfer, Pa., May 1, 1882.

One of the reasons why we have to have the margin on queens we do, is that we may not be out of pocket in making good all acci-

dents like the above, replacing drone-laying queens, queens that do not lay at all, etc. In regard to disabled queens, we never send out such a one if we know it, although many a queen does, so far as we can see, just as well with a leg gone entirely. In my earlier experiments in clipping queens' wings, I used, once in a while, to get nervous, and clip a leg when she interposed it in order to save her wing, and I never found them to lay less afterward. In your case, friend B., the queen must have been enfeebled as well, I should conjecture, and of course I should expect to send another in her place. I am sorry you wasted half a day with her, my friend, and that you thought necessary to send a reference from your express agent. A real enthusiastic bee-man is always a truthful one in the main. Is it not so?

FRIEND CATHEY AFTER TWO YEARS' SILENCE.

SOMETHING ABOUT HIS TRIALS IN ITALIANIZING, AND HOW HE AT LENGTH SUCCEEDED.

IT was some time during the year 1880 that the readers of GLEANINGS heard from me; but I have but few apologies to offer, as I think they have been set back but little on account of my long reticence. But whether your readers have felt the loss or not, I have at times felt an effervescing which was hard to control; but by using proper palliatives, I have subdued it so far.

THE HONEY CROP OF LAST YEAR was very poor in this region. Most of the bee-keepers here (and they are few) use the black bees and buster hives; their bees declined in numbers, and gave not an ounce of honey. Mine were those *worthless* hybrids; but I about doubled my stock, and got some honey. This year bees took a fine start, and there were many early swarms; but the cold wet weather has greatly retarded their progress.

VENTILATION.

There has been much said and little proved on the subject of ventilation—upward, downward, and lateral. From all I can hear, I have not yet been convinced that bees in a hive ever died from cold alone. I have had them die in cold weather with honey in the hive, but I always found that they had consumed all the honey in reach, and could not move to get the honey which was some distance from the cluster. I will not be dogmatical, but "take an example, to our purpose quite." One of my neighbors had a box hive stolen from him one Christmas night, when there was snow on the ground. It was carried into a wheat field, robbed, and left standing on end, with one half the head off. It stayed there until the wheat was cut. It had borne all the snow, sleet, and rain, of winter, and was in good condition, or the bees seemed to be, working out at the top of the hive. I saw several hives last winter, so open that the bees were working out at the top. We of the South have no need of chaff hives, bee-cellars, or bee-houses.

SEX OF EGGS.

I am glad that friend Lane and some others have brought up this subject, for it has bothered me for about 14 years, and I should have mentioned it long ago, but I did not wish to introduce any "heretical" views. The first bees I ever attempted to transfer

was in the latter part of winter. I found a little patch of brood on 2 sheets of comb, in the center of the hive — just about as much as I always find in a hive of blacks in winter, but I never found it in Italians. In each patch of brood was a queen-cell, capped; the other was all drone brood in worker-cells. I was then a disciple of Mr. Adair. I wanted to let him know how I was progressing in the knowledge of bee culture. I told him that the bees had lost their queen, and had started to make two others, and had made the rest of the brood into drones for the fertilization of the queen. He did not reply to this; but my chagrin was intense when I subsequently learned that my views were not strictly orthodox. I supposed that he was ashamed of my ignorance; but that thing has haunted me until the day I read friend Lane's communication.

SWARM-CATCHERS.

I notice that several new swarm-catchers have been recently invented. I use a much cheaper one, and much more convenient. My queens are all clipped soon after they begin to lay. When a swarm starts out, I catch the queen and then move the parent hive a little distance, set my new hive in its place, and then hold still until the bees start back; I then turn the queen loose at the entrance, and in a few minutes from the time they emerged, I have them hived. If I know the old hive is strong in brood, I let the new one stay in its place; but if it is a large swarm, and the old one weak, I move the old one back to its place, and move the new one some distance off.

DOLLAR QUEENS.

There is nothing I have heard recently among bee-men, which has so astonished me, and which seems so unreasonable, as the war made on "dollar queens." I bow low to the superior talents and erudition of Prof. Cook. I have learned to look upon him as the highest authority on all questions pertaining to the science of Botany or Entomology; but I know he is "off," badly "off," on the subject of dollar queens. I can see nothing to prevent queen-breeders going to the highest state of improvement possible, and still the traffic in dollar queens continue, for the benefit of those of limited means. For instance, how would such poor men as I, and many others, ever have got a start with Italian queens in any other way? I was an enthusiast from the time I read the first pamphlet on bee culture, and wondered that every one else was not; but I could get none to see it as I did. The high prices asked for queens caused men to say that it was all a humbug, to make money. But I was determined to have a queen. My first queen and hive cost me only \$29.00; but my queen came dead, and my hive was a humbug. But the man replaced the queen with another dead one, and still promised me another one, to be mailed on the 5th of August. I rode three miles three times a week for four or five weeks; but it has not come yet. These two queens lasted me about six years, when I paid \$5.00 in October for one, and did not get it till the next June, with 80 cents charges. I caged her and put her into a hive, and when I looked for her again, in 24 hours, she was dead. This one lasted me about two years longer. At this time I was working along with a few weak colonies of black bees, and no honey.

My next effort was with A. I. Root. I got a tested queen from him for, I think, \$2.00. She had been baked in the express office; but he replaced her with

a live one, and I lost her in introducing; there were 80 cents charges on this.

At this date I had paid \$37.60, and no nearer starting, so far as I could see, than at first. I forgot to state, that before I sent to friend Root I bought a full colony of Italians for \$10.00, thinking that I had a sure thing of it; but it proved to be a drone-layer, and I kept all of my hives queenless five or six weeks, trying to raise queens from drones, and I came near losing my whole stock. Nothing daunted, I got 2 one-dollar queens from Paul L. Viallon, which cost me \$3.00, and proved a success. I have bought some other dollar queens since, and can produce as finely marked bees, and as good workers, as any one.

Friend Root, I think I have read somewhere that you invented the dollar-queen system. I am glad you did not patent it. I can't think of any thing you have ever done which has proved as great a blessing to humanity as that, in a worldly or pecuniary point of view, and I think the people owe you a vote of thanks; and the longer it continues, the more certain will the bee-keeper be in getting and keeping up the pure blood.

HYBRIDS.

Friend M. Young gives his experience with crossing the breeds, and it is so different from mine, and from that of all others from whom I have heard, who have given them a fair test, that I wish to notice it. Among other things which are contrary to my experience, he says: "Cross pure drones with pure black queens, for one cross seems to improve them; but mate a black drone with a pure Italian queen, and we make them worse at the start."

I raised a queen from those I got from Viallon, which was mated with a black drone. She was as prolific, and made as good honey-gatherers, as I ever saw — far ahead of her mother's progeny. I gave her to a neighbor, in order to try to keep my stock pure; but about this time I lost my other queen, and had to put up with a daughter from my hybrid queen, mated with a black drone, which took nearly every whit of yellow out of her bees. Last year they stored 60 or 70 lbs. of box honey, while others (some full-blood) did not store more than 10 lbs. I have had pure queens about four years, but my hybrids have always started brood about a week before any others, and have been my best honey-gatherers, notwithstanding the pure Italians are always out earlier of a cool morning. If my sole object were to get honey, and I could keep my bees at a standard of half-breeds, I should never have any other sort.

B. F. CATHEY.

Cabot, Lonoke Co., Ark., June, 1882.

HOW TO DRY SWEET CORN, ETC.

ALSO SOME GENERAL IDEAS IN REGARD TO DRYING THINGS.

IN the June number of GLEANINGS you ask for a cheap evaporator. I think I have a plan for a dry-house, that will work well. Make a small house 3 ft. square and 4 feet high; have the front to close with two doors; on the two sides nail cleats to hold sliding racks, or, better still, have wire sieves to hold the corn. Put a small stove in the bottom, with pipe to pass around and out at back side, or build a small brick arch, and cover with a piece of sheet iron. Perhaps it would be well to cover the sheet of iron with a layer of brick, to keep the heat

more even. Board up and down with cheap lumber; batten the cracks; there should be small openings in the gables, for ventilation. Now you can dry corn, fruit, or any thing else, rain or shine, out of the way of flies, chickens, children, etc.; and when you want to fumigate empty combs, etc., all you have to do is to remove some of the sieves, or shelves, put in your combs, throw in some sulphur on an old pan of coals, shut the door, and then go off about your business.

H. G. KING.

Baraboo, Wis., June 15, 1882.

We have had a great number of communications, reports, and suggestions, in this matter, and it may be well to consider the general principles involved. To dry fruit, lumber, green corn, or any other article, we want to send over it a continual stream of dry air. As the readiest means of making the air dry is by heating it, heat is generally used; but heat without a continual change of air is of little or no avail; therefore, whatever plan is used, dry air should be admitted freely at the bottom, and let out freely at the top, after it has become charged with the moisture taken from the article to be dried. In one of the plans submitted to us, the damp air, after it passed from the fruit, was carried off by a small pipe leading into the stovepipe. This is the same plan so generally used for drying bee-cellars, and the stovepipe gives a draft by drawing or "pulling" the air through, as it were. Make or buy what you want, without paying any attention to patents or "family rights." Where steam is available, the most perfect apparatus can be made with a series of tin pipes, such as we use in melting wax, evaporating syrup, etc. By having the wire-cloth trays set directly over the steam-pipes, we can get any amount of heat, and distribute it evenly, and with great regularity, and with no possible danger of scorching.

THE FLOOD, AND SOME OF ITS DOINGS.

SORELY TRIED, BUT NOT DISCOURAGED.

I MUST confess, friend Root, I am not in such spirits as I was last year. The flood came, and I lost 60 out of 70 colonies; 59 of them had young and beautiful Italian queens. I lost a great many hives and frames, besides my entire crop of cane and corn, which I estimate worth some \$2000, cane included. My bees were in good fix, with their honey-boxes on ready for business. I had five feet of water on my apiary, so I had to put them on my gallery, side by side and three deep, and all this at day time, so you can imagine what a mess; and how they found their hives again is a mystery to me, unless they did away with their general rule of flight, and went in any hive most convenient. They did not spare me when waste-deep in water, where I could not handily retreat. If bee-stings are a cure for sickness, I think I ought to be healthy the rest of my days. My loss gave me such a shock I thought I would ask for a place in Blasted Hopes. My wife thinks that I deserve a place in the Growlery. I think I had a right to growl; what say you? So I made up my mind not to go in either. I had 3 stories on the hives, which were full of honey and brood from bottom to top. I do not think I ever saw so many bees in that number of hives. Could it be that the

bees which were lost, having clipped queens, returned to the remaining hives? I extracted $\frac{1}{2}$ bbl. honey, and I made 10 colonies from brood and bees from honey-boxes, and I also made 10 nuclei from the bottoms to raise queens from. I had only one Italian left, and I fear I am giving her too much to do. I captured 9 late swarms, which will give me 39 colonies. I intend to go into the woods and hunt some up that I lost. What bees I have are better off for honey than they were this time last year. Although four-fifths of the land was under water, I am only $\frac{1}{2}$ mile from heavy timber and swamps, back of which is a beautiful lake. I think the fall crop of honey will be large, as we usually have a great deal of smartweed, and a great many other varieties of weeds and flowers after a flood.

M. A. GARRETT.

New Iberia, Iberia Par., La., June 3, 1882.

Since hearing of the losses our friends sustained in the South, I have often thought, when I looked on our flourishing apiary, what I would do if they were drowned out as yours have been. The account of it may serve to remind us to be thankful while we are well off.

HOW SHALL WE PUT UP OUR HONEY FOR SALE?

THE GREAT QUESTION FOR HONEY-RAISERS.

THE enterprising editor of the *Bee-Keepers' Instructor* has taken the pains to propound to the honey-dealers in our large cities, a series of questions in regard to the way in which honey should be put up; and as the whole article is of so much value, we give it entire. One cheering part of it is, that all the dealers seem to agree so well, and their opinion of the 1-lb. sections partly explains why we have had such a whirlwind of orders for them for the past few months. Here is the article:—

MARKETING HONEY.

The manner and style of packing, and the size of package used, both for comb and extracted honey, are matters of much importance to every bee-keeper who desires to realize the largest possible returns from the sale of his product. When the production was limited, and honey looked upon merely as a luxury, the manner of marketing it and the style of package used were of comparatively little importance. But the production has increased many fold during the last score of years, and honey is fast becoming a staple article of food instead of a luxury. With this increased supply and demand has come a demand for smaller and neater packages than those formerly used; in fact, the large boxes used almost exclusively a few years ago are scarcely salable now at all.

The size of package used, and manner and style of packing, having so much influence on the prompt sale of honey at the most remunerative prices, it is self-evident that it will pay every bee-keeper to give special attention to these points. Realizing the advantages to be gained by securing and marketing the honey crop in the most salable shape, we a couple of weeks since sent a number of questions to commission merchants and dealers in honey in New York, Chicago, Boston, St. Louis, Cleveland, Cincinnati, and Baltimore, which were designed to draw out the most pertinent information obtainable on

the subject. Up to date we have received answers from all except the two last-named places. We give them in full below, and hope that the information they contain will be of interest and value to our readers. It has cost us some time and trouble, but we will feel well repaid if it throws any more light on such an important subject:—

ST. LOUIS, May 26, 1882.

Your favor of the 26th inst. received and carefully noted. We render you with great pleasure, as nearly as possible, the desired information.

There is really no difference in value per lb. of honey in packages of 300 to 500 lbs. and packages holding 50, 100, and 175 lbs., when there is a good demand. When the article moves slowly, dealers prefer it in the lesser packages, and frequently pay $\frac{1}{2}$ to $\frac{3}{4}$ c. per lb. premium for them.

In 10 and 5 lb. wooden packages and $2\frac{1}{2}$ and $1\frac{1}{4}$ lb. tin packages and 1 and 2 lb. glass jars, the honey is generally held and sold at a higher price (from $\frac{1}{2}$ to 1c. more per lb.), but it sells slowly, dealers preferring to buy the larger packages and put it up in such lesser packages as suits their trade best. We would not advise sending packages containing less than 2 gallons of extracted honey (20 lbs.), and to send small quantities in tin cans, the 2-gallon can preferred.

Comb honey sells best in 1 and 2 lb. packages; $1\frac{1}{2}$ lb. packages are not wanted, and generally sell at from 1 to $1\frac{1}{2}$ c. less per lb. than the 1 and 2 lb. packages.

All barrels and kegs should be thoroughly cleansed, hoops tightened, and weighed before filling, and the "tare" distinctly marked or branded on the head. Unclean packages, with no tare marked on them, are not easily placed. Frequently, sale of such is only effected subject to emptying packages and thereby determining the tare, while the tare marked on nice clean packages, from reputable shippers, is hardly ever questioned. The tare should also be distinctly marked on the outside of comb honey.

Extracted honey sells most readily in cold weather, though the sale does not suffer in warm weather. We have sold some new extracted honey in barrels, from Arkansas, at $9\frac{1}{2}$ c. per lb. New comb, 1 box, from same State, at 21c. per lb. Beeswax scarce at 24 to 25c. per lb.

R. C. GREER & CO.,
Per Schiefeldecke.

CHICAGO, June 2, 1882.

The difference in the price of honey put up in barrels, and that in kegs of 50 to 175 lbs., is little, if any, for the general market. That put up in tin pails of from 10 to $1\frac{1}{4}$ lbs. weight, and in 1 to 2 lb. glass jars, sells at from $\frac{1}{2}$ to 1 cent more per lb. than the barrels and kegs — not more than enough to cover the difference in cost of package.

There is a difference of from 1 to 2 cents per lb. between 1, $1\frac{1}{2}$, and 2 lb. packages of comb honey.

There are demands for all sizes of packages containing extracted honey, while for comb honey there is a profitable demand only for that which is put up in single-comb sections holding from 1 to 2 lbs. each.

The apiaries of the North report excellent prospects for the honey-gathering.

H. A. BURNETT.

NEW YORK, June 2, 1882.

We are often asked, What is the difference in price per lb. between extracted honey put up in barrels of about 300 to 500 lbs., and that in spruce kegs of 50, 100, and 175 lbs.? also, what is the difference in price per lb. between 1, $1\frac{1}{2}$, and 2 lb. sections? To these questions we reply as follows:—

1. Our wholesale trade will pay no difference in the price, owing to the fact that the bulk of extracted honey is used for manufacturing purposes, although we often find dealers who will take 50, 100, and 175 lb. packages in preference to larger ones, at the same price, as they find them more convenient to handle. Honey put up in $1\frac{1}{4}$, $2\frac{1}{2}$, 5, and 10 lb. tin pails rarely find ready purchasers, because extracted honey will granulate, and in this condition finds very slow sale. We therefore advise bee-keepers to pack their extracted honey for this market either in irkins holding from 150 to 175 lbs., or in small barrels of about 300 lbs. net. In these packages they are most salable for the general trade. By this method regular dealers can always place their goods before the public, looking fresh, clear, and transparent.

2. Comb honey put up in 1-lb. sections, no glass, finds readier sale than 2-lb. sections, besides bringing 2c. per lb. higher price, as long as they remain on

the market. As soon as gone, however, the 2-lb. packages sell fully as well as the 1-lb. sections did. By 2-lb. sections we mean that the section should be well filled and glassed, and should not weigh over 2 lbs. gross. Sections weighing $1\frac{1}{2}$ lbs. gross will not sell any better than the 2-lb. sections. We think, as a general rule, that a section measuring $5\frac{1}{4}$ inches makes a very desirable package, and would find very ready sale.

We would advise all bee-keepers to pay more attention to the grading of comb honey and the gluing of the glass to the sections, as often, when showing up the honey to customers, the glass drops off completely. This is very often the cause of losing the sale entirely, or of having to make an allowance in price on account of the defect. Fault is sometimes found with prices obtained for honey because some lots have sold for one or two cents per pound more than others. This difference is mostly due to the mistake the bee-keeper makes in grading, and fastening the glass to sections. We could mention several bee-keepers who pay special attention to grading comb honey for market, always making two separate grades of white honey, the result of which is the highest market price for each grade. We notice that parties who complain of prices put up two grades of white honey in one crate, and the result is that their honey sells at the price of the inferior grade only. In a great many cases they also pack mixed grades in the same crate with the best white honey. Mixed honey does not, as a rule, sell for any better price than a good article of buckwheat, although it has the preference at the same figure. Mixed honey should therefore always be packed by itself, and graded as such.

In addition to care in grading, in order to obtain full market prices, it is necessary to have a neat and attractive crate for shipping purposes. Such a crate should contain 24 1-lb. sections, and weigh from 22 to 24 lbs., or 12 2-lb. sections, weighing the same.

H. K. & F. B. TURNER & CO.,

Per J. M. McCaul.

BOSTON, May 27, 1882.

Honey in kegs and half-barrels sells from $\frac{1}{2}$ to 1 cent higher per lb. than in barrels, and in cans from 5 to 10 lbs. weight, and lighter, from $\frac{1}{2}$ to 1 cent higher than that in kegs and half-barrels. Tins and glass jars (10 lb. tins) sell best.

One-pound packages of comb honey sell at from 2 to 4 cents higher than $1\frac{1}{2}$ and 2 lb. packages. More 1-lb. packages should be produced. Half-lb. packages are also wanted at 2 to 4 cents per lb. more than 1 lb., and 4 to 8 cents more than 2 lb. Glassed sections are not wanted.

The first new white comb honey in 1 and 2 lb. sections will bring a good price here.

CRÖCKER & BLAKE.

CLEVELAND, Ohio, May 26, 1882.

Your favor of the 25th is at hand. We take much pleasure in answering your several questions, and also add a few thoughts which bear on the subject.

The price of honey put up in barrels of 300 lbs. is about one cent less than that put up in 50-lb. kegs, or about 10 cents per lb. The price of 50-lb. kegs is about the same as 50 to 60 lb. tin cans, say ten cents. The 30, 25, 10, 5, and $2\frac{1}{2}$ lb. tin cans and pails bring about one cent more, say 12 cents. We give these prices merely as a basis, in order to show about the difference.

The demand for honey in full barrels is very uncertain. It is bought only by manufacturers and large dealers, and such are few and far between. The 50-lb. packages are usually bought by small druggists, and are therefore in better demand. The 30, 25, and 10 lb. packages generally go in the same direction. The packages of 5 lbs. and less are taken by the grocery dealers, and are sold direct to families for table use. This trade, of course, takes the largest quantity, and can be better depended upon for constant demand. In our opinion it will not be many years before this latter trade will be fully developed, although it has taken years to wear off the prejudice against strained and extracted honey, especially where candied. The press, the great molder of public opinion, is one medium through which this prejudice can be overcome; but the chief means lies in the hands of bee-keepers and dealers themselves, by being honest, putting up only the best qualities, and strictly pure honey, with a warrant of purity over the producer's name.

In comb honey there is usually a difference of 1 to 2 cents per lb. in favor of the one-pound sections, quality, appearance, and condition being equal; be-

sides, the 1-lb. sections find a more ready sale. When honey is scarce, these differences are often set aside, and thus it happens that 1½ and 2 lb. sections bring the same price as 1-lb.; for it is the duty of the commission merchants to take advantage of such a state of the market for the benefit of his consignee.

Comb honey must be graded all throughout the crate of uniform color, and the sections well filled. Showing the best only on the outside, and filling the interior with a lower grade, works disastrously to the shipper, and is not even policy. The more attractive in appearance the honey is, the quicker the sale and the better the price. Honest grading tells very quickly, purchasers usually leaving orders for the whole of the next consignment of the brand which has pleased them in this respect. Thus it will be seen, that while the market may be filled with a fair quality, these special brands find ready sale on arrival, whilst others drag, causing returns to come in slowly.

Another cause of slow returns, for which commission merchants are often unjustly blamed, is the failure on the part of shippers to have the tare of the cases marked on each package. In such instances, when sales are made the tare of the cases must remain unsettled until they are returned for settlement, which often takes weeks and months.

Glass jars we would recommend only for the home market, not for shipping.

Nice new crates, made to hold a single tier of sections, and cheap enough to give away, will be the most desirable package for all concerned.

A. C. KENDEL.

As will be seen from the above, the requirements of the different markets vary considerably, and shippers in packing will have to consult the taste of the market they propose to sell in. We might go on to considerable length and point out the differences, but it would make this already long article much longer, and it is not necessary, as every intelligent reader can easily see them for himself.

The friends will notice that a half-pound section is mentioned and asked for in one of the above letters. We have made such, and had honey stored in them, but I am inclined to think it will not pay, unless we could have almost as much for a ½-lb. section as we get for a pound, as the bees are so loth to use these very small receptacles. As the matter comes up, I can not but revert to what I said many years ago, that if a plan could be devised for dividing up large sheets of honey into nice little squares, without any dripping or waste, bee-keepers could afford to pay thousands of dollars for such a process. Will it ever be done? The 1-lb. section grew out of an attempt to solve this problem, and is as near it as any thing yet furnished, probably. Who will start the thing with a suggestion?

FRIEND ATCHLEY IN 1882.

280 FINISHED SECTIONS FROM A HIVE ALREADY.

A FEW words for friends James Bannon, of Archie, Pa., and R. C. Taylor, of Wilmington, N. C. My friends, it seems a little like making fun of my report for last year; but I don't know how you term it, from your letters in GLEANINGS. Friend Bannon says he would give \$25.00 for a hive of bees that would make 580 lbs. of honey in 24 days, or in a whole season. So would almost anybody; but the queen from that hive alone can't be bought for \$25.00, even if she is only a daughter of a dollar queen.

Friend Taylor, I am going to watch for that big snake story from that little bunch of bees that returned to you. If you both will come down, I will

show you how Texas bees are managed, but I won't have much time to talk with you, except after dark and before daylight, for I have more than one big booming colony this season, or fifty-one either.

I am running that big colony this season, and several others, for comb honey, and the big one has already turned off 280 finished one-pound sections, or 5 Simplicity cap fells, and 112 more ready to seal up, and some more colonies not far behind; and if mint continues to bloom all through this month, as it usually does when it rains enough, God knows how much they will make, for I don't. I have often heard of bees becoming lazy or disgruntled after gathering so much honey, or so much being fed to them; but none of my colonies have made a flinch yet.

Now, friends, I know this all looks big to some; but if you want it proven, it can be done by four other persons besides myself, and one of them a preacher. We have bee-keepers all around us, but they don't seem to get any thing but ordinary yields; the reason why, I can not tell. Friends, if you could see my two little boys Willie and Charlie, aged 5 and 7 years, with bee faces on, smokers in hand, caging and introducing queens, and hiving swarms, and telling what such and such hives needed, I think you would wonder whether we were not going to get all the honey there was in the fields, saying nothing about pa and ma as bee-keepers, who often stop to get breath a minute, and thank God, while the children are at the other end of the apiary examining from hive to hive to see what is needed.

Dallas, Tex., June 10, 1882.

E. J. ATCHLEY.

EXPLANATION.

HOW DOOLITTLE GETS HONEY EVERY YEAR.

BY referring to page 75 of present volume of GLEANINGS, it will be seen that J. A. Buchanan draws some conclusions, after which friend Root makes some comments, the explanation of which is the purpose of this article. When I first commenced bee-keeping I was greatly benefited by the writings of E. Gallup, M. Quinby, A. I. Root, Adam Grimm, and many others; for by their writings I learned my A B C in bee culture. My first year of bee-keeping resulted in 12 lbs. of surplus box honey, and one swarm from the two I had bought to commence with. The next season I obtained about 25 lbs. surplus from each hive I had in the spring, on an average. At the end of the fourth season I chronicled an average of 80 lbs. box honey as the average surplus for each stock in the spring. During these four years I had studied, read, and practiced all my wakeful hours, about the bees, for I never spent an hour in my life in work pertaining to bee culture without its being a real pleasure to me. Many a night have I lain awake from one to three hours, planning how to accomplish some result I desired to achieve in regard to the practical part of apiculture. Although no scholar, and having scarcely the advantage of a common-school education, I felt that I ought to write for publication, thereby adding the little I might discover from time to time, to the general fund of knowledge, thus helping others what I could to pay in a small measure the debt of gratitude I owed for the instruction I had gained from the writings of others. Hence I began to write; and as the editors kindly fixed up my articles so as to make them presentable, I had the lightest part of the job in jotting down my dis-

connected sentences. And to-day finds me still scribbling away, trying to tell what I know concerning practical bee-keeping. But I see that, of late, some think that "Doolittle" is writing only for the sake of giving a big report, to make it appear that "*I am a big bee-man.*" Now, friend Buchanan, did you *really think that*, because you could not reconcile a hive full of honey in the fall with a small brood-chamber, or were you a little jealous? At first I hesitated about giving in a report at all; but when I looked back over the past, and saw how eagerly I followed the plans of those who backed up their system of management with a good report each fall, I saw that, if any confidence were placed in my methods, it would be necessary for me to show the success of those methods. Right here I wish to say, that I never yet reported a pound of honey but that was actually sold; so the insinuation of something else, falls harmless to the ground. If you wish to learn farming, to whom do you go, to the man whose farm grows up to weeds and briars, or to the man who produces good crops each year?

At our N. E. B. K. Association there is usually a person who is always telling his methods of management. While he was giving a long harangue over it, E. D. Clark, an excellent, practical bee-keeper, said to me, "I double his yield of honey every year; and until he can better his reports, I don't care for his methods." Thus I have given you, in Mr. Clark's sentence, why I have reported each year.

But, to the next point: "Colonies so managed are not self-supporting." Had you forgotten, friend B., how I have advised that the bees be made self-supporting, and not only this, but that each bee-keeper so control his expenses that he is self-supporting also? To show that my bees have been so managed as to live without "resorting to feeding for winter supplies," I will say, that for the past nine years in which I have reported, I have feed only two barrels of sugar, which was in the spring of 1878, after a failure of honey in the apple blossoms. When I read of so much feeding of bees as others report, I don't see the need of it; but as I presume they do, I am willing they should do as they think best. But, says B., since with your small hive the frames will "be filled with brood, the bees must store all their honey in the surplus boxes;" from whence comes your honey for winter? Well, it is in this way: After I have worked my bees so as to get every cell full of brood as far as possible, the boxes are put upon the hive, after which, it will be remembered, I have advised letting the bees alone, unless something of necessity occurs, such as loss of queen, getting a frame of brood for queen-rearing, etc., which demand that the hive should be opened. Now, by thus leaving the hive alone, the queen, which has heretofore been somewhat overtaxed, takes a partial rest; and as the young bees hatch, the bees fill the outside combs with honey, as well as the upper parts of the frames. This part of the matter, my friends opposed to small hives seem to have forgotten.

The main secret of success is the getting of the combs literally full of brood before the honey harvest, thus getting a full force of workers ready for the field just when they are needed. What man is there who hires a lot of hands to hoe corn before the corn is up? Not one; but they wait until the corn is ready to hoe, and then have the help. Just so we want our bees at the right time, to have them profitable. A hive full of bees in April is of no more

use than a field full of men to hoe corn would be at that season of the year; for June is the time we hoe corn in this latitude. Again, if we do not have this brood and bees in time for the honey harvest, all the extra powers of the queen are spent in vain; for it would be like getting a lot of hands to hoe corn in September, after the corn was ripe. Once more: If the hive is not full of brood when the honey harvest opens, the bees will store their first honey in the brood-combs instead of going at once into the boxes; and if a start is thus first made in the body of the hive, the bees will idle away their time to a greater or less extent, as they are loth to work in the boxes at all. "Enough is as good as a feast," and so 25 lbs. of honey in the brood-chamber the first of Oct. is just as good as 50 lbs.; and as a rule I have 25 lbs. in my small brood-chamber, while with large ones the average will be 50 lbs.; and I have already shown why that £5 extra lbs. is far more profitable in the sections than in the brood-chamber, aside from its selling value. Of course, I have to see to each hive in the fall, and equalize the stores so that all have the 25 lbs., which would not have to be done with the large hives, for the lightest would doubtless have that amount. If there is not enough honey in the yard to make the 25 lbs. on an average, as was the case in 1876, I double my stocks down till there is enough, and then make them self-supporting. If I can impress upon the minds of the readers these two facts, that, to get plenty of bees in just the right time for the honey harvest, and the hive full of brood at this time, is the great secret of successful bee culture, I shall not have written in vain.

Now a word to friend Root. As I read, "If friend Doolittle would get along without the losses he sustains in wintering so almost invariably, we should have still more faith in his peculiar plan of management." My mind was carried back to my visit at Medina, Ohio, in 1876, at which time friend R. told me he believed it was his sphere to teach the bee-keepers of the world, through GLEANINGS, which we all know has proven true. Now, friend R., shall we lose our faith in your teachings because you don't succeed in wintering bees any better than does your humble servant? Nay! I rejoice to see a man winter his bees every time; still, I respect the teachings of the man the more who loses half of his bees every winter, and still clears \$2.00 off the half left, than the man who winters the whole and clears a dollar. Geo. T. Wheeler once said to me, after losing nearly all his bees during the winter, "I can make 500 per cent on money invested in bees from summer management, and buy my bees of my more successful wintering neighbors, while they make only 250 per cent out of their bees, total receipts all counted." G. M. DOOLITTLE.

Borodino, N. Y., June 16, 1882.

I believe I agree with you, very nearly at least, friend D., and was rather anxious to have you quote my reply to friend Buchanan when I said, "If a bee-keeper makes money with his bees, year after year, we have hardly a right to find fault." You are right, too, when you intimate that successful wintering alone does not make one up to the highest point in modern bee culture. It has been several times suggested, that a smart, up-to-the-times bee-man could make money by selling out in the fall and buying his bees new every spring, and I haven't a doubt of it; so that successful wintering is not really

an essential condition to success after all; but for all that, I should be a little ashamed to buy *all* my bees *every* spring.

H. A. BURCH & CO.

IN our June No. we had considerable encouragement that friend Burch was going to fill at least a part of his orders this season. It is now July, and no word has come from any of his customers of having received bees or any thing else. If bees are sent now, they will be like those sent out last fall — of little use to those who receive them. Hearing that Mr. B. had quite an apiary this season, I wrote him, after our last number had gone out, asking if he would be so kind as to let the friends know what to depend on, or at least let us know about how many bees he had, with which to fill orders. Here is his reply:—

Friend Root:—Certainly; yet our matters are in such a shape at present that we hardly feel at liberty to comply with your suggestion. Will give the matter due consideration, and may possibly forward you such a statement in time for publication in your July No. H. A. Burch & Co.

South Haven, Mich., June 8, 1882.

I presume it will be as well to consider now, without further delay, how we may have this business settled up, so far as it concerns myself. Those who were not *bona-fide* subscribers to GLEANINGS when they sent their orders to Burch & Co., have, of course, no claim on me; neither have those who, although they may have been subscribers, were induced to send by receiving Mr. B.'s circular, or seeing his advertisement in some other publication. I shall have to trust to your word and honor on this last point; but I am not afraid, for I have found bee-men, the most of them, remarkably truthful. If you deceive me, you may get some of my money; but you will lose in the happiness of a clear conscience, and in the eternal summing-up that is to come to us all.

Now to the remainder, to those who did send money to Burch & Co. solely because the latter advertised in GLEANINGS, I would make the following plea: First, my purpose in wording my remarks about advertisers, was to guard against being taken in by swindlers, or such men as N. C. Mitchell, who make it a constant practice to receive money, without any purpose of making any return. Mr. Burch has been for many years a business man, and has been prompt enough, at least, to build up quite a business. He for years stood in good repute by the great mass of our bee-keepers. We have letters from him where he refused to receive more money. I never intended to hold myself responsible for men who *failed* in business. My friends, I will submit it to you, and I beg of you to answer me without prejudice: Do you think I should pay the debts of a man who fails in business, because of my guarantee on my advertisers?

One more point, and I am done. In the August No. of last year I said this:—

If Mr. Burch, or any other one, fails to send the goods, or return the money, I will pay back the amount as soon as it is determined that it can not be collected of such advertiser.

Do you wish to know why I am not as good as my word, and why I do not pay all these bills without further words, this is my plea: The amount then was about \$200 or such a matter. To my great astonishment, I learned, after this had gone out, that he had received nearer *two thousand* than two hundred. Does this make any difference? Perhaps an illustration will make it look a little more as it does to me. When fdn. was first sent out, years ago, I made for Mr. Burch, out of his own wax, a small lot. The amount we received for working the wax was something like five or ten dollars, perhaps. It did not please him. After some considerable correspondence, rectifying mistakes, he still complained, and I, perhaps a little petulantly, told him that amount would make it satisfactory, and *I would pay it*. He demanded \$50.00. I meditated a good while as to what I should do. I had always been a man of my word, and I did not see any way to get out of a fair and square promise. I sent the fifty dollars. Did I do right? Suppose he had demanded five hundred, or five thousand. Would it still have been my duty as a man or a Christian to have made my word good? This brings out the point, that every promise given is to be taken in the spirit of it, and not the letter. If we hold a man to what we feel sure he meant, we should be satisfied without demanding the letter, or the exact words he used. Is it not true, that every promise given is to be taken within the bounds of reason?

No doubt you will think I ought to be careful of what promises I make, by this time. It is true, I ought to have learned more by experience. I have several times cautioned our advertisers against promising to give satisfaction, unconditionally. I think, therefore, I will make no promise now; but I would ask all who think I honestly owe them, on this Burch matter, to say what amount I must pay them, to have the whole matter dropped pleasantly. Let us have all the claims sent in before the August No. comes out, if we can. I have been unwise, and perhaps foolish, and I will try to bear my punishment bravely.

HONEY FROM THISTLE, AND HONEY FROM DANDELION.

I SEND you by to-day's mail a small package containing honey from thistle, and also dandelion, thinking perhaps you never saw honey from the former before. It has been in the hive since August last. T. C. CRILLY.

Grafton, O., June 15, 1882.

The honey from dandelion is lighter in color and milder in flavor than what we have been in the habit of considering dandelion honey; but as it had candied, this may have made a change in it. That from thistle is dark, but perfectly clear, and of much finer flavor than the dandelion honey. I can hardly suppose anybody would raise thistles on purpose for honey; but in tracts where thistles are suffered to grow in great abundance, it may be that hives might be profitably located. Thanks for the samples, friend Crilly.

THE WINTERING PROBLEM.

COTTON SEED VERSUS CHAFF.

IN GLEANINGS, page 166, April No., appears an article from Mr. Geo. Grimm, which would seem to convey the idea, that "some safe outdoor winter protection, so as to bring the colonies out strong in the spring," is the great desideratum, "even if it costs ten dollars per hive," etc. The cellar is too much trouble, and not satisfactory; chaff and stable manure are unsatisfactory also. He asks the question, "How can we do it?"

We wish to exclude dampness as well as cold. Horse manure is a regular steam generator, therefore it will not do. Some friend suggests sawdust. It can be packed until it is very dense, and it will, perhaps, remain so, and it is a tolerably good absorbent, and is also the best retainer in the world. All creation can not dry a wet compact pile of sawdust. I am, therefore, dubious as to its adaptability.

Now, in my section of North Carolina we have, or at least take, but little trouble wintering our bees out of doors, etc. But we do have, or, rather, *did* have, lots of trouble wintering sweet potatoes. Recently I have found that, by making a large box, similar to your chaff hive in construction, and packing it with cotton seed, then putting in my potatoes, and covering them with an 2-inch layer of seed, that I can save potatoes any season. Indeed, keeping potatoes over winter has become a pleasant, paying pastime, rather than a wearisome, money-losing labor. Cotton seeds are heavy enough to be packed very densely, and the peculiar lint that remains on them after ginning, repels rather than absorbs all the moisture. Of course, I insert good ventilation in my box of potatoes. I have never heard of bees being wintered in that way, but I reason from analogy, and I do firmly believe that, in cotton seed, we have the very thing Mr. Grimm is looking for, and at a far less cost than \$10.00 per hive.

Now, friend Root, I have a proposition to make you: I will furnish you the cotton seed next fall for nothing, if you will make a hive like the chaff hive, giving six inches space; insert in each side (5 sides) a wire ventilator, in form of oblong cube, 4 inches square, long enough to reach clear through to the combs; prepare a sliding cover for each ventilator, so they can be closed and opened as the weather may require more or less of them to be open. Pack it full of dry cotton seed, tight as you can pack them; put into a good average colony as to bees and stores, and set them in a shelter with one whole side open, like the one for swarm-hiving implements, a sketch of which you give us in A B C—side open to the south, the other sides, or side and ends, closed very closely, and shed deep enough that snow and rain will not blow in on them, and then open and shut ventilators all winter, as weather may require, etc.

Such a hive, I am confident, will stand the winter, and come out strong in spring. The seeds are cheap, costing from 8 to 15 cts. per bushel of 32 lbs. retail, and the same seed will do 100 years, if kept in the dry, so the final cost will be far less than Mr. Grimm's proposition of \$10.00.

If you conclude to try cotton seed, you might fill the shelter all around the hive with straw, during the coldest weather, as an additional protection; and don't forget to give good upward ventilation. During the winter of 1880-'81, all who put up pota-

toes in coal dust, chaff, sawdust, and pine straw, lost all their potatoes, and all of us who used cotton seed saved all our potatoes. ROMEO.

Triangle, Lincoln Co., N. C., May 23, 1882.

I am sure we are very much obliged, friend R.; for if you haven't told us how to winter bees, you certainly have told us how to winter sweet potatoes. I will cheerfully give the cotton seed a trial, if you wish; but as our bees winter already as it is, in chaff, I don't see how the experiment is to prove any thing definitely. It seems to me, operating ventilators, five to a hive, on two or three hundred hives, would be rather tedious; our chaff hive, as it is, usually runs itself six months of the year without any care. We expect the porous chaff to furnish all the ventilators needed. I am now inclined to think that cotton seed, properly disposed, will do excellently, and, if I mistake not, reports from it have been already given in our back volumes.

A STOOL FOR THE APIARY.

INCLOSE a drawing of a stool that I have used in my apiary for more than a year. The points in its favor are these: It is just about the cheapest and simplest thing of the kind that can be made. The whole thing is made in a few minutes, out of an oil-can, some strips of wood, and a few nails and rivets. It is lighter than any thing that can be made of wood, and as strong and durable. The pocket on the front side will hold all the tools that it is necessary to carry from hive to hive. I should greatly object to carrying around a whole "work-box," and using about half the tools it is filled with. Set the stool down by the hive with the pocket in front of you, and when you sit down you have the pocket just between your knees, always ready to drop your queen-cages, hammer, screw-driver, etc., in.

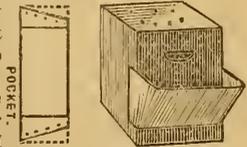
DIRECTIONS FOR MAKING STOOL.

Get an old oil-can, cut out the top with a common can-opener, leaving about two inches of margin around the outside. Now cut some narrow strips of pine to fit the inside, thus making a wooden frame to stiffen the lower edge; bend the tin down over the strips, and fasten with wrought nails driven from the outside. To make the hole for the hand, just cut a half-circle with the can-opener, and bend up the tin inside of the can. Now set the can right side up and punch a few holes in the top so there will be no danger of sitting down in rain water.

The cut will show how to make the pocket. It should be fastened on so as to stand out about $\frac{1}{2}$ inch from the can, at the bottom, to allow water and dust to escape. I think, if you queen-raisers will make and use one of these cans, you will find them to save a great amount of trouble and a pain in the back when you have to stoop over your nuclei all day. WM. L. STILES.

Austin, Tex., May 13, 1882.

Your seat is certainly ingenious, friend S., and it combines lightness with strength, to a very unusual degree. We do not have oil-cans about here like those you describe, but I presume they are plenty in other localities,



as I have heard them so often mentioned. It has occurred to me, since seeing your description, that we might get up a similar stool, neatly painted, for about half a dollar. I think I should prefer that pocket inside, out of the rain, if a shower should happen to come up unexpectedly. Of course, it might be carried in every time you stopped work, but it takes more time than it would to just drop it where you worked last. Can't it be made to hold a smoker, fuel, and matches, inside of its voluminous hollowness? You know you could turn it up when you wanted to get them out, and thus do away with the necessity for any such rigging as a door. Who will give us the best one, made of tin?

WHAT IS THE MATTER?

WHY DO QUEENS DIE SUDDENLY, ETC.?

IN August last, I introduced safely a selected tested queen, purchased from you, into a colony of hybrids. She was accepted, and began laying the same day she was introduced. About the middle of March I examined her colony, and found she had then filled 4 American frames with brood and eggs. May 10th she was still laying very freely, but on the 22d day of May I started to transfer her colony from an American to a Simplicity hive, and the first thing I noticed was about 20 queen-cells. Upon looking further, I found plenty of capped brood, and bees just hatching, but no larvae or eggs; and upon carefully searching in front of the hive, I found the queen dead. The comb in this hive was drawn up from foundation, and there was not a drone-cell, or a hatched drone in the hive. Now, why should the bees supersede a young queen, or why should a queen die when apparently in perfect vigor?

The matter is a mystery to me, for she must have been laying profusely, up to the time of her death, for she had filled 7 out of the 9 frames completely full of brood. If any one can give a reason for the above state of things, I should like to have them. I had supposed that queens gave some signs of approaching dissolution, either by laying no eggs at all, or else by laying drone eggs only; but in this case, no warning of any kind was given, and she apparently died in the harness. J. E. POND, JR.

Foxboro, Mass., May 25, 1882.

Although such cases are not very frequent, friend Pond, they do sometimes occur, and I have several times in my experience found queens dead in front of the hive, under just such circumstances. I have wondered if it were not possible they died suddenly from over-exertion in this very matter. While I am about it, I wish to call attention to a general truth right here. Man, as well as animals, is liable to die suddenly. I believe physicians usually find a cause for it, but it is not always apparent to the eyes of average humanity. The best queen in the world is liable to die any day, and at any age of her life; and the best watch in the world is liable to stop at any moment, and perhaps the very first day the purchaser has carried it. If the one of whom you bought it had carried it a year, and it never stopped, it would seem unlikely it should stop very soon after he sold it; still, as there has got to be a first

time for every thing, it is very unreasonable to dispute his word on such grounds. Friend Pond has not complained, I know; but how often we hear purchasers say they believe they have been humbugged with an old worn-out queen, because she lived only a short time! A man bought a Waterbury watch, and was quite indignant because it ran well just thirty days and no more, jumping at the conclusion that the manufacturer made them purposely so they would run that length of time to escape the warrant, and then stop,—as if they *could* be so mean if they *would*. Another buys a dollar queen, and she never lays an egg, and he straight-way condemns all dollar queens; the man who sent her, knowing she laid splendidly in his own apiary, declares the one who received her has falsified, just to get another queen for nothing. Both rush hastily at conclusions, because something has come up contrary to their experience. I tell you, my friends, we all need a more teachable attitude, and a great deal more faith in each other.

THE FIRST QUEEN-CAGE EVER SENT THROUGH THE MAILS.

AN INTERESTING REMINISCENCE.

FROM perusing the bee journals, I take it that the shipping queen-cage is a thing that attracts the attention of bee-keeping philosophers and savants whose faculties are taxed to the utmost in the attempt to improve—perfect—a “shipping-cage.” I can't give you a connected history of queen-cages for mailing, but I will tell you all about the first one that was ever mailed. In 1861, when breeders of Italian queens began to send queens to their patrons, they shipped by express. I received queens from P. J. Malran, of Philadelphia (who was the first to succeed in importing colonies of Italian bees), and I received queens from friend Langstroth, of Oxford, Ohio. At that time there was no express office in my locality. I had to get them from an express office 20 miles distant. This was so inconvenient that it occurred to me that the queens might be transported through the mails. Accordingly, I wrote to Rev. L. L. Langstroth (in July, 1862 or '63), inquiring what he thought of the idea of mailing. He responded with an answer unfavorable to that mode of transportation. But I have a way or will of my own, so I took a paper box from the store, some 2½x1¼x¾ inches, put a bit of honey-comb in one end of it, tacked it with needle and thread. Then I opened a hive, took therefrom a queen with a few workers, shut them in the box, sealed a wrapper around it, punched a few holes through it, and mailed the package to the address of Mr. Langstroth. In due time I received a letter from him, and a package—a cage with a fine Italian queen, and several dead workers. The cage was a “poor stick”—pine, 8-square, some 3 inches long, having a ⅝ hole nearly through its length, and a piece of honey-comb in the bottom, then the bees shut in with a wire web over the open end. The queen arrived in a helpless condition, and died in an hour after. I reported the case to Mr. L., and he forwarded another in a different cage—larger. That came safely.

Now, friends, you men of genius and of sense, I

gave you the idea (necessity is the mother of invention); go on and improve on my original shipping-cage; but remember, my first attempt was a success equal to any of the new-fangled cages of the "latter-day saints."

C. J. ROBINSON.

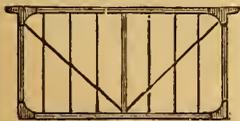
Richford, N. Y., May, 1882.

MAKING WIRED FRAMES WITHOUT ANY PIERCING.

A NOVEL INVENTION.

FIND in your May number an inquiry for a proper machine for piercing wired frames. I wish to say, no such machine will ever be necessary. I have invented what I consider a better way to make wired frames—not use any piercer, but make the top-bar in two pieces, the bottom in one; the bottom-bar is only $\frac{3}{8}$ wide. Where the wires go on I saw in $\frac{1}{8}$ inch or less on the edge of the bottom-bar, and one piece of the top-bar is cut in on one edge the same; the frame is then put together, leaving off one piece of the top-bar, then the wire is run on instantly, as fast as taken from the spool, easily drawn tight and nice, braces and all, then the other piece is bradded on the side of top, and the frame is complete.

The way I put them together: I make a board that will just fit the inside of the frame, nail cleats on the board around the edge so as to let the top and bottom bar rest on them just low enough so the surface of this board will be even all around where the wires go on. You will perceive that the bottom-bar is nailed one side of the center, so as to make the wires come in the center. I like it better than having the bottom in two pieces, or having it as wide as the top. It gives more room for sediment or dead bees to fall to the bottom-board. I use two sheets of wax, one on each side of the wires, and press them together with the Given dies; the wire is then in the center, and the wax is not cut half way off by the wires. I can wire 8 or 10 frames made in this way, and do it better, in the time of wiring one the other way.



To put on the wire, drive a small tack in the upper right-hand corner; leave it up a little; take the spool in your left hand, end of

wire in your right; twist it once or twice around the tack; pull it gently with your left hand; run on the braces, or diagonal wires, then run it up and down till you get back, and finish at the same tack.

J. C. CLARK.

Alden, Erie Co., N. Y., May 10, 1882.

Perhaps our readers will get friend Clark's idea a little plainer, if I say that, instead of drilling holes in the top and bottom bars, he simply cuts in with a saw. Suppose you take a board and make shallow saw-cuts across it, say 2 inches apart; well, if you rip off strips from this board, these cuts will be in each one. Now, instead of putting the wire through a hole, our friend simply drops it into this notch, or saw-cut, and then carries it along to the next, and so on. It can be done very rapidly, without question; but I should not like a bottom-bar half width, nor a split top-bar, I fear. We tried top-bars in two pieces, several years ago, as a

way of putting in fdn., but we found it very hard to make a neat job and get the ends together square so the frame would hang true. I think I should rather have these notched strips tacked inside of an ordinary frame; but then we could not get at it to wire them, with such expedition. As friend Clark has it, the wires can be put on nicely, and with great precision. Reports from the Given press, where two sheets of wax are used, one on each side of the wires, are very favorable. It seems to me that fdn. made in this way should ship with hardly a chance of its working out. Has friend Heddon ever used them that way? Two sheets should give good fair walls on each side; and if the thin end of one sheet matches the thick end of the other, we should have a very even frame of fdn. with the wires exactly in the center, and entirely out of sight.

FRIEND WILSON'S PERPLEXITY.

INTRODUCING A QUEEN WITHOUT FINDING THE OLD ONE.

AS you do not have many questions to answer, I should like to ask one or two. I received from you last July a queen, and was intending to put her into a hive something like a Simplicity. I looked for the old queen, but could not find her, and, after trying several times, and getting stung several times, I gave it up, and, being very much hurried with my business, and also being afraid my queen would die on my hands, I let her go into an old American hive that I had, thinking that she would stand one chance in a thousand of living. Now, that is a very slack way of doing business, I confess. I will only say in excuse, that I was very much hurried at that time. Well, I did not see any thing that indicated her presence in the hive until this spring, when I saw a very few yellow bees, but concluded they came from the other hive, as I had one colony of Italians. Now, I wintered my bees in a dark room in the basement of my barn; and when I took them out for a fly in the winter, I did not set them on their summer stands, and, consequently, the bees got somewhat mixed up, and there were a few yellow bees in almost all of the hives. Well, to return to the hive in question, I watched them closely this spring, and, after a week or two, did not see a yellow bee until the 23d of this month, when I was very much surprised to see yellow bees going in and out, and, looking closely, I found that they were not the same shade of yellow as my other Italians, but had a reddish cast, and they are increasing in quantity every day, nearly every tenth or twelfth one being yellow.

Now for the questions: What was the reason that the yellow queen did not lay last season, and why should she all at once take a notion to raise a family? Of course, there must be two queens in the hive, or else she must have had two husbands. I should like very much to have your opinion on the subject, if you have time to give the subject a thought.

DR. J. A. WILSON.

Hanover, Mich., May 29, 1882.

My explanation would be this, friend W.: The queen you let in at the entrance was killed, and the hive afterward raised a queen that met an Italian drone. Your queen is,

therefore, only one of the kind of hybrids that raise both black, Italian, and one and two banded bees. Or it may be that the queen we sent you proved to be a hybrid, and was received after your novel way of introducing, after all.

WHAT IS DZIERZON, AND WHAT IS BERLEPSCH?

AND WHAT ARE WE ASSAILING?

AS you well say, enough of theory has been advanced in regard to the Dzierzon theory, and I do not propose to discuss the subject, except so far as to set myself right in the matter. That theory is laid down in thirteen distinct and separate propositions, the 9th of which contains the real subject-matter of discussion. The text of that proposition is as follows:—

“All eggs germinated in the ovary of the queen develop as males, unless impregnated by the male sperm, while passing the mouth of the seminal sac, or spermatheca, when descending the oviduct. If they be thus impregnated in the downward passage (which impregnation the queen can effect or not at pleasure), they develop as females.”

Now, I have carefully studied the above proposition, and nowhere can I see that it means more than that partheno-genesis is a quality of the queen-bee. I can nowhere find one word from which it can be assumed that he intended to go one step further than that in his theory. Berlepsch, however, in discussing it, deduces therefrom the *idea* (which it seems to me has heretofore been taken for the theory itself), that the drone progeny of a fertile queen is in no way affected by the fertilization, and I think that any person, after a careful study of the propositions of Dzierzon by themselves, will come to the conclusion that I am correct, and that Berlepsch, and not Dzierzon, should be credited with the idea that copulation does not affect the drone progeny of the queen-mother.

J. E. POND, JR.

Foxboro, Mass., May, 1882.

I dare say you are right, friend Pond, or pretty nearly right, at least. Many there are who have assailed the Dzierzon theory, but so far it has been found to stand like the hills, when the assailants got right down to what our old friend and benefactor did lay down for us. I should go a little slow in deciding against Berlepsch as well.

THE NEW BEE DISEASE, AGAIN.

CAN you give us any light as to disease among bees, where some of them in occasional hives are affected similarly to the one herewith inclosed? Their wings shiver as their hinder part blackens, and the other bees soon cast them out. I have 90 colonies, and have seen them in several—possibly as many as ten. Hayhurst tells me he sees them occasionally, but does not know the ailment.

Bees wintered remarkably well in this locality, and one month ago they were nearly a month more forward than last year. The cold weather since that time has discouraged the queens, and necessitated feeding, so that we now stand just about as last year.

S. W. SALISBURY.

Kansas City, Mo., May 13, 1882.

This is the same disease mentioned on p.

290, June No., but I omitted to state there that it seems to be unaffected by the weather; and, in fact, the approach of warm weather seems sometimes to aggravate it. I believe it usually disappears of itself, after a time, although it has, in two cases, as I have before mentioned, resulted in the destruction of the colony. Whether it belongs distinctively to Italians or not, I can not tell; but I have seen it only on Italians and hybrids.

ARTIFICIAL PASTURAGE.

ALSO A WORD ABOUT “TAKING NOTES” WHILE YOU READ.

THE letter of Mr. N. F. Case, May GLEANINGS, p. 223, calls forth the following from my repository of items. I would say that, during the last two years, I have made it a practice to give the different subjects, arising in connection with bee culture and honey-raising, a thorough and careful investigation, reducing my deductions to paper, and filing them away for future reference. Among the items treated will be found the following:—

LOCATING AN APIARY.

Your success in honey will depend largely upon the natural resources of honey in the surrounding neighborhood. Do not think of establishing a large apiary in a poor locality, bearing in mind that an average locality will give profitable pasturage to only about ten colonies to the square mile. Now, just in proportion to developing the resources, this number may be augmented.

DEVELOPING THE RESOURCES FOR HONEY.

No well-established apiary should think of resting its case entirely upon the natural resources, but should go about the work of developing the resources as though they were a part of the apiary itself; in fact, it must go hand in hand, if you would make success sure. When we look around and see the large area of waste places and roadsides that may be seeded down to good honey-plants, instead of growing up to thistles and other noxious weeds, it certainly ought to be an incentive to all apiarians to employ at least their leisure hours, if they have any, in such labor. I find fully as much happiness and pleasure in this part of the work as I do in taking off the nice filled sections. K. B. R.

Bloomdale, O., May 8, 1882.

So do I, friend R.; but I have never yet felt as sure that my work was a paying investment when raising plants for honey, as when taking off filled sections. I know that apple-trees pay, and buckwheat pays, and locust-trees pay; but if one man were to plant all his bees would need of the above, he would need to be a pretty big man, and to have a good many acres. My four thousand basswoods will probably yield a little crop of honey this year. You see, it is now just ten years since we planted them out. I am sure I did not *dream*, while I was then engaged in setting them out, that the bee business would ever be where it now is. Perhaps when I gave those basswoods a start, they also gave me a start—who knows? And, friend R., if we engage with enthusiasm in developing some such new industry, how do you know it does not give us an impetus that is worth all the experiment costs, even before the trees bud and

blossom sufficiently to pay in dollars and cents? A neighbor wanted to buy that ten acres a few days ago, on which I had, as he thought, "fooled away so much money." The land cost me \$400. I told him he could have it for \$2000 and no less, and I presume he thought I was crazier still.

A STRING OF SUGGESTIONS FROM FRIEND BROOKS.

THE SWARM-CATCHER, AND OTHER MATTERS.

YOU say, that if my swarm-catcher is not complete as it is, some of the bright boys and girls will be sure to discover the "missing link" ere the season passes. I could have made an addition to the model sent you, by inserting a triangular piece of cloth in the gap made when we lay down the side C, when hiving a swarm. I use it just as I sent it, and as shown in the illustration, as the bulk of the swarm generally clusters down on the apron with their caged queen. Those preferring this gap filled out can have it so, using a thin piece of cloth, so it will easily fold inside the catcher while catching the swarm. However, if it can be improved in any way, "let's have it." We can't have things too handy in the apiary. I see you have allowed me \$5.00 for "professional services" rendered the craft. Here's my , friend Root, with many thanks.

Now I should like to make a suggestion, and perhaps you can start another department in GLEANINGS, as you and I believe the majority of bee-keepers are opposed to patenting articles in the apiary. Could there not be an association formed of bee-keepers for the "encouragement of inventors" of non-patented articles for the apiarist's use? Come to think of it, friend Root, you have it nearly started now. You pay for the idea of any thing you find to be new, and think will be a benefit to bee-keepers. Now, could you not think of some plan that would give more encouragement? How would it do to start a list of those who are willing to pay for any thing that, after a trial, proves to be a benefit to them? Of course, there would be nothing compulsory about it, and it would be optional with each one to pay nothing, or whatever he might think the idea worth to him. Subscribers to this list could also make their wants known, if any. For instance,—

JOHN BROWN, Canton, Ohio.

Wanted.—Adjustable Division-board.

We want an exchange of ideas, and something should be done to bring it about. No doubt but there are many useful things being discovered that are kept from the public, simply because of the lack of "money inducement" to bring them out. Men generally, do not care to work for the glory of the thing; but let there be a little pay in it, and see how quickly they fall into line. The idea of patenting hives, etc., is about dead. But let's not bury inventive genius with it, but give it all encouragement possible.

KLOER'S BEE-FEEDER.

I used feeders like it ten years ago, and I know it to be a good feeder. The objections I had to it, as well as many others I have made, is that they must be taken off the hive to be refilled. Who will be first to get up a feeder to be used on top the frames, that will feed from the bottom close to the bees, and can be filled while on the hive, and show when it's empty?

Who will invent a simple division-board for both winter and summer use, one that will adjust itself to fit the hive bee-tight in every direction, and hang on the rabbets; also admit of letting the bees pass under it or not, as the operator desires, without lifting off the rabbets?

THE WEATHER.

Well, you all know how it is yourself. I sent South for a nucleus containing drones, thinking to steal a march on my own bees, but that cold snap put an end to them. The bees killed them all off, almost before I knew it. I could have saved them, perhaps, by making them queenless, but the weather remained cold so long that I was prevented from rearing queens, and did not gain any time after all. I wintered on summer stands this last winter; all came through in good condition except one I found queenless this spring. I gave it a comb of brood and bees, and now they have a laying queen. We are having warmer weather now, with plenty of drones flying, and queen-rearing under way. JOS. M. BROOKS.

Columbus, Ind., May 5, 1882.

I approve your suggestion in regard to a contribution for the encouragement of the friends who have given us valuable inventions, friend B., but I do not at present see how it can be carried out. The principal trouble standing in the way is the fact that inventions which seem to promise a great deal at first glance, often never come into use at all, and those that are in use may be dropped for something better to-morrow,—the Parker machine, for an illustration.

POISONING THE BEES BECAUSE THEY INJURE THE FRUIT.

I WANT to ask a favor of you in regard to bees injuring fruit by working on the blossom. We have some people here who have been putting out poison of some kind to kill the bees, and have accomplished it to some extent. Please answer soon and oblige. MRS. RUTH A. BROWN.

Fostoria, O., May 26, 1882.

My friend, your people need enlightenment. Can you not overcome their prejudices in some way, enough to show them how sadly they are mistaken? In our last number we had a most convincing experiment, showing that fruit can not be raised without the agency of bees, or some similar means. It might be well to quote them the law against injuring a neighbor's stock.

POISONING THE BEES, AGAIN.

Some of our very intelligent citizens have taken a notion that bees injure the fruit by extracting the secretion, or nectar, of the blossoms. Acting upon this idea, and not being troubled by any notions of honesty, they are now poisoning our bees, so that we shall have no surplus honey or bees. There are about 40 colonies that have been destroyed entire. They use some tasteless poison mixed with honey or syrup, and they nearly all die before reaching home. A few return loaded, and die at the mouth of the hive. The young bees within the hive are all healthy and strong. WM. M. CAKE.

Fostoria, O., May 27, 1882.

Friend C., are you sure you are not mistaken in this? There is one feature of the bee disease, or spring dwindling, that operates very much as you describe. If any persons

have really been doing such a foolish thing as this, have them prosecuted to the fullest extent of the law, unless they will at once pay in full for the property they have destroyed. Where ignorance and superstition go so far as this, it is high time they were stopped.

The following item relative to the above matter is clipped from the *Cleveland Herald* of June 2:—

A NEW VARIETY OF MEANNESS.

Dr. William Cake, William Brown, and John C. Springer each has lost within a few days many valuable honey bees, which have died in alarming numbers, as is supposed, from poisoning. The first two gentlemen possess a large number of valuable hives, and their loss has been by no means small. The bees may have been the source of a little annoyance to some, but not sufficient, by any means, to warrant them in taking so decisive action, and if its agents are discovered they will probably suffer the penalty of their mean act.

MAKING FOUNDATION WITH THE GIVEN PRESS.

FILLING THE FRAMES CLEAR UP TO THE WOOD, ETC.

NO, friend Root, I do not think you stubborn, in the least. I never have had any trouble in the way you speak of; but there may be more danger with the L. frame than with the frame I have been using, which is the crosswise L. I have never had any trouble about the bees not fastening the comb to the top-bar and end pieces, but they will leave a vacancy at the bottom. To prevent that, I cut narrow strips of foundation, lay them in the frame against the bottom-bar, make them wide enough so the sheets of wax will lap over the press, or, if you cut your sheets large enough so they will completely fill the frame, the bees will then work them out to the wood every time.

You say the wires in the frame I sent you were not drawn tight, nor even straight, yet three of them were broken, which may all be true, as I was in a hurry when I made them. I received a card from some one asking about putting fdn. in metal-cornered frames with the press. After answering them, I came home from the postoffice, went into the house, and got a few sheets of wax that had been dipped some time before. I warmed them well, it being a cold day, then went into the shop with them, where there was no fire, consequently the dies were cold, which would cool the wax very quickly, which would cause the wires to break much quicker than they would if the wax had been warm. I filled three frames, and sent you the best one of the three. They were the first full-size L. frames that I tried to fill, for, as I have told you before, I never used them in my apiary, but have now made 100 L. hives for my own use.

Now as for my coming out there to help you make fdn., and have my expenses paid in the bargain, that was a grand thought of mine, to teach such men as A. I. Root and Mr. Gray, and a host of others how to make fdn! Well, I declare! just forgive me this one time, and I will try to do better the next time. Yes, I know you could teach me a great many things that might do me good, and I am coming out there to see you when I can get time, and I will pay my own expenses too. I shall not need to come to show you how to work the Given press, because you can do that as well as I can; in fact, last season I had

my brother's boy, 12 years of age, to make my fdn. If the press you have ordered does not suit you after you have tried it, just send it to me, and charge me up with it, as I intend getting another one, at any rate. I have never had any trouble with the dies cutting the wires, or with the wires breaking after the combs were built out. I. R. GOOD.

Nappanee, Ind., March 17, 1882.

Thanks, friend Good; but the Given folks do not seem quite as sanguine as you do, for they have declined making a press according to the requirements I mentioned on p. 180. April No., or, at least, they said they feared the press would not suit me if they sent another. I have no doubt but that they will, in time, give us all we require; but it seems we have not got it quite yet. I hope this will not spoil that contemplated visit, however. Are we to understand you pressed those sheets of wax without putting some lubricant on the plates, such as soapsuds, starch, or something of that kind? You say the shop was cold, but make no mention of putting any liquid on the plates. The reason why I ask, is that friend Heddon has written repeatedly about pressing sheet after sheet, without even brushing over the plates with any thing. If we could get rolls to work without requiring any starch, or substitute, it would be quite an achievement.

NOTES FROM EAST-END APIARY.

AND SOME "BEE STORIES" AMONG THE REST.

I FIND, in GLEANINGS for April and May, several articles, about which I wish to say a few words. The first I will notice is in April No., page 167, where Mr. C. C. Miller speaks of

BARE-HEADED BEES.

He says, "It may be all right, but I am getting suspicious." My experience is, that it is *not all right*, and I decided, two years ago, that these "bare-headed bees" indicate a worthless queen.

VENTILATION.

I see a good deal said in GLEANINGS about ventilation. Here we never trouble ourselves about it; at least, I do not. I use nothing over the frames but a plain board, which often leaves $\frac{1}{8}$ inch open on two sides, and I find that the bees often close this; so I decide they know more about what they need in that respect than I do. I have never heard of foul brood in Georgia, though there may be some.

BUCKWHEAT.

There is none raised here as a regular crop; i. e., in this part of the State. I have had a little growing in patches for several years, but have never planted more than $\frac{1}{4}$ bushel any year, and have never saved any grain but once, and then only a few pounds. I do not know what time to sow it here to procure grain. A friend living near me, who came from Kentucky to this place 18 months ago, says it should be sown about the first of Aug.; but in 1879 I planted some away from the house, out of reach of the fowls, and if it brought forth a single grain, I could not find it. Our representative, Clements, of 7th Georgia, sent me about a quart of silver-hull, from the Agricultural Department, and I should be glad to know just when is the best time to plant to get the greatest yield of grain.

SEX OF EGGS.

Mr. Lane, in April No., page 173, says he does not

understand it. Neither do I. But were it not for the fact that the bees can not raise a queen (as old bee-men say) from an egg laid in a drone-cell, I would be willing to admit that all bee-eggs are of one sex. The bees take a worker egg and raise a queen, and we know that they do frequently raise drones in worker-cells. If the bees can raise a well-developed female from a worker egg (and all bee-men agree that they can and do), why not raise a male also from the same sort of an egg? It seems to me that the one is just as reasonable as the other. May No., page 233, Mr. R. C. Taylor seems to start up a new theory about drones. He may or may not be correct, but I doubt a part of it, as I think the queen does lay some of the drone-eggs. Did you ever see a queen laying in a drone-cell? I never have.

SOUR HONEY.

On page 218, Mr. C. C. Holmes wants to know if any one can tell him if honey will sour in the comb. I have sour honey nearly every fall, but it does not smell like rotten eggs. It simply smells like sour honey.

WATER; DO BEES CARE FOR IT, FRESH AND PURE?

I never trouble myself about watering my bees in winter or summer. There are but few days at a time in winter when our bees can not fly and get plenty of water, as there is always plenty in reach of them, except in a very dry time in the fall, and then our bees trouble us a good deal, for it often happens at such times that we have some difficulty in getting a drink from the well-bucket, as hundreds of bees are ready to take the first sip, when drawn from the well. Some people seem to think that bees prefer stagnant water, but I know ours are very fond of fresh water right from the well.

"BEE STORIES;" A FULL COLONY FROM ONE QUEEN AND "TWO" BEES.

Not all told yet. I have a neighbor, about 200 yds. off, who tells some strange stories. He tells of one man in Kentucky, where he came from, who raised up a colony of bees from a queen and two worker bees. He says, also, that he once captured a runaway swarm, and in hiving them the queen was hurt in some way, and in two or three days he found her dead, at the mouth of the hive, and the bees settled on her. Not being able to supply them with a living queen, he tied a small thread to the dead one, and hung her in the hive. The bees returned to the hive and went to work all right till they cut the thread, and again brought out the remains, and the bees all followed. As often as the bees brought her out, he replaced her (or what was left of her) till there was nothing left of her but her head; still the bees worked all right as long as he could keep the head among them; but when that was lost, they soon quit work and died out. This man is keeping a few stands, but says he does not care to take any bee journal, as he already knows enough about bees.

BALLING QUEENS.

Well, now for my story. May 10th I had a large swarm issue with a young queen which was laying, and had a wing amputated. Yesterday I opened the hive and began to look for the queen, and, to my surprise, I found no fresh eggs, and did not find any queen. But as I was about to give up, and conclude they had no queen, I saw a ball of bees on one corner of a frame, and I raked them off on the ground. On dissecting the ball I found the queen, which was not dead, but died before night. I caged her and put her into a queenless nucleus. Now, why did the bees serve the queen in this way? She was

young (about two months old), and quite prolific. It is something new and strange to me.

THE DRONE QUESTION

seems to be taking a good deal of your space, and not very edifying. Why not conclude, as I have suggested above, that all bee-eggs are alike when deposited in the cell, and let the matter rest until some one *knows* to the contrary?

Cedartown, Ga., June 3, 1882. J. M. HARRIS, 39.

Surely you and friend Miller are mistaken about bare-headed bees, friend H. I have seen them in the very stocks that gave me the largest results in honey; and if their queens were worthless, where are your good ones?—Buckwheat seems to thrive only occasionally, unless in localities especially adapted to it, and I am a little inclined to think it does better in a moderately cool climate, although it is, at the same time, very sensitive to frost.—You would advise dropping the drone question, because it takes a great deal of space, and is not very edifying. Very good; but here you yourself have started a new issue by pointing our attention to the fact that a queen can not be raised from an egg laid in a drone-cell. We all knew that, but we did not think, before, how it demolishes, or seems to, the truth we thought we were getting at on pages 290 and 291, June No.; viz., that the bees have the power of making any worker-egg produce a drone, no matter whether in a drone or worker cell; and friend Peters seemed to give proof that eggs laid in drone-cells can be made to produce workers; but your fact seems to indicate that they can not get a queen from eggs laid by the queen in drone-cells. Or is it that, after they have once fixed an egg for a drone, they have no power to "unfix" it again? I think I shall have to say I don't know, as you do. Neighbor Clark was just in, and I read to him that part of your letter about the man who built up a colony with a queen and two bees. He thinks that is bringing it down to a very fine point. Neighbor C. is a queer genius. Every time he comes in he soberly declares he wants to sell out and give up the bee business, as it takes so much of his attention from his farm, and he has been selling out for the past two years. He concluded the best way to get rid of them would be to sell them to me by the pound, and although he had only about a dozen to dispose of a year ago, I paid him for queens, and bees by the pound, during last summer, over \$200, and he has about a dozen colonies to sell yet. He just now brought in two nice queens he wished to sell so as to "close out," and I suspect he has got hold of that process of building up strong colonies from a queen and "two bees."

It may be a pretty hard matter to explain why bees sometimes ball their own queen, as in the case you have narrated. I have many times suggested it was because bees had got in by mistake, that belonged to some other hive too near them. During a dearth of honey we often have such work, and it seems hard to account for it on other grounds than that the whole hive had got into an abnormal and demoralized condition through robbing, lack of stores, or something of the kind.

DOWNWARD VENTILATION.

HAS THE MATTER RECEIVED SUFFICIENT NOTICE?

I AM interested in the facts recorded in GLEANINGS, and amuse myself by trying to interpret them, and reading the attempts of others. I notice that one class of facts, which bear upon the subject of *downward* ventilation, has been either ignored or misinterpreted. Even Mr. Langstroth, in his book (page 341), seems to use a very striking one in favor of *upward* ventilation. Mr. Sturtevant had 20 stocks in a row; 19 considered in good condition, "the 20 suspended two feet from the ground, and without any bottom-board." After a severe winter, the 19 were found dead, while "the one so much neglected came out strong and hearty." Isn't that something worth thinking about? Similar facts, equally impressive, have appeared in GLEANINGS, even during the past year; yet scarcely a single plea has been offered for that to which they unmistakably point; viz., *downward* ventilation.

In this western country, the health-destroying and death-dealing malaria is found in the *lower* strata of the atmosphere; while the dwellers in the lowlands are shaking with ague, those on the uplands, though in sight, are exempt. After all, may not the little bees have more sense than they are credited with? You know with what pertinacity they labor to shut off all upward ventilation, while they have never been known to utter a single protest against downward ventilation. Of course, bees, like every thing else that has life, will die, and whole colonies will occasionally be swept off, no odds how they have been kept, managed, or doctored.

C. S. CALLIHAN.

Jem, Clark Co., Mo., March 20, 1882.

ANOTHER FEEDER.

WHILE I am writing to you, I want to tell you about a bee-feeder which I made and took over to the New Jersey and Eastern Bee-Keepers' Convention the other day, and how it looked beside one of Gray's, exhibited by our worthy president, Mr. G. W. Thompson! But I think the best way will be to go to the shop and make a little one to send to you, and then you can see for yourself. Recollect, it will be only a model to send by mail, and too small for use. I make them to hold 2 qts. at least. Take off the roof, and you will see the point. Call in brother Gray, and ask him if that isn't, after all, what he, and Shuck too, were trying to make. Does he say he can make his cheaper and faster? Yes; but how much can he make one hold? A teacupful. I tell you, there are a good many times when we want to give the bees "a good square meal," and we want a feeder big enough to hold it; and this is the one to do it, while it answers all the other requirements of a first-class feeder.

J. HASBROUCK.

Bound Brook, N. J., April 15, 1882.

Our readers will understand this feeder, by supposing a Simplicity feeder made of two apartments, and one very much larger than the other. The small one is for the bees, and the large one for the feed. A narrow slit at the lower edge of the partition allows the feed to go in to the bees. You see, if the feeder holds a quart or more the bees will take it slowly from the small apartment, until it is all gone. The idea is hardly

new, and I do not know why it has been abandoned, unless it is the difficulty of making a box of several pieces of wood, that will not leak. I know waxing is often used, but it answers only temporarily. Tin will not answer well, for the bees slip down the sides. Of course, the large apartment is to be covered so no bees can get in.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

I SEND you the inclosed ad. for June No. of GLEANINGS. I send you \$1.00. If this is not enough, please let me know, and I will remit balance. I lost nearly all my bees last winter and this spring (over 100 stocks). I have only 4 left. I think the main cause of my loss was dysentery, caused by wintering in a damp cellar. Spring dwindling used up the rest. My bees went much as yours did a year ago. I dislike to give up bee-keeping, as I have made it my main business for the last 15 years; but as I am now situated, I shall have to give it up for the present. I don't like to be put into Blasted Hopes, but do what is right, and may you and GLEANINGS continue to prosper. If my combs do not sell soon, I may send you some wax after a little.

J. B. R. SHERRICK.

Decatur, Macon Co., Ill., May 20, 1882.

Accompanying the above was the following advertisement:

800 L. FRAMES WITH WORKER COMBS, FOR SALE.

Best, 20c each. Frames about $\frac{3}{4}$ filled, 15c; Frames $\frac{1}{2}$ filled, 10c. Drone combs, full frames, 15c. Write to J. B. R. SHERRICK, DECATUR, ILL.

After reading it, I sent friend S. the following:—

Friend S., you are making a mistake. Trust your old friend to guide you. Our wintering troubles are now almost all over with all of us, and nearly all of our bee-keepers are making money. Don't sell your combs; get at least a few bees, and build up again, and in a few years you will thank me for the advice. We will insert ad. unless you say nay, but I don't believe it will pay you. Everybody is using fdn. now.

And here is his reply:—

Your card is received. On reconsidering the matter, and at your suggestion, I will not advertise my combs for sale, at least at present. Give me credit for \$1.00 on account.

J. B. R. SHERRICK.

Decatur, Ill., May 23, 1882.

I do not wish to have it understood that I would advise everybody who fails, to keep on investing money, for I think that, too many times, the lesson we should learn by failure is to stop investing, or, at least, make very small investments, until the business begins to be self-sustaining again. In the above case, I would keep bees enough to take care of the combs, and then I try pretty hard to make them give a clear balance in cash every year. Some of our most successful bee-men are about the very ones who were about ready to give it up and drop the business a few years ago. With late improvements, and late prices for honey, one could almost do well to buy his bees every spring, and sell out every fall.



A CHEAP FOLDING TENT.

F A. PALMER asks for a folding tent. Let me suggest one; and if you can indorse it, tell him about it. Take a staff about two feet long, shod one end with iron, that it may be easily forced into the ground, and bore a hole in the other to receive the handle of an umbrella. Make a veil of mosquito bar of proper dimensions; put a cord in the upper hem, and a light chain in the lower one; to prevent any drooping of the veil, sew on, at suitable places, eyelet holes in duck or leather, to receive wires in the ends of four light laths. The veil is thrown over the umbrella as the ordinary veil is over the hat, and, I imagine, will keep off both the sun and the bees. This arrangement, without the veil, was adopted by a friend of mine in his nursery while budding peach-trees, using the Jacob's staff of his compass. C. H. SMITH, M. D.

Ellaville, Ga., April 11, 1882.

Your idea is certainly ingenious, friend S., but I fear we could hardly find an umbrella large enough to furnish room inside for the operator and a bee-hive. The tent we use does not need folding up, and it is also very quickly removed from one hive to another, which could not well be with a tent stuck into the ground. While I think of it, the chain around the lower edge is so seldom required that we now dispense with it altogether.

DRONES REARED IN COMBS MADE FROM WORKER FOUNDATION.

The other day I took a walk of a mile and a half to my wife's mother's, to look at her bees, as she had requested me to do. She is a beginner, and wished me to make an artificial swarm for her, she fearing that, if they were left to swarm by themselves, they would go to the woods. So I went to work, opened the hive, a Lang troth, and I never before in my life beheld such a strong swarm of bees in a hive at this time of year; and upon removing the frames, you can judge of my surprise to find that nearly a fourth of the bees were drones and plenty more hatching. I could tell the drones from the worker brood by the cells of the drone brood being raised, or extended out further than the worker. Now, all those drones were actually reared in worker combs, the combs manufactured from worker foundation made on the Dunham machine. Now, where is the man who says we can control the rearing of drones by foundation; that, if we wish to have no drones, to use no drone foundation? There was no drone comb in this hive, I know, as I have had the care of that colony of bees since she had them, over a year. What shall we conclude, now? If I am correct, the Dzierzon theory is mashed all fine. I think it is he who claimed that the queen has to pass her body through just so large a spaced cell, or it, the egg, will produce a worker bee. Now, my theory is, at present, that the

nurse bees are the ones that know how all this is done, about the sex the egg will produce; that, if the egg is taken care of in such a way, it will produce a worker bee, and if neglected to feed at such a time, it will produce a drone. Do you not think I am right? G. PHILLIPS.

Romeo, Wis., May 23, 1882.

Slowly, friend P. "Be sure you are right then go ahead," is a pretty good motto for a bee-keeper. If poor old father Dzierzon were guilty of all he is blamed for lately, he might have a pretty heavy load to bear. The compression theory was simply a suggestion, and it did not come from Dzierzon either, if I am correct. It has long been abandoned. In the case you mention, the queen has become incapable, for some reason or other, of laying other than drone eggs, and of course we shall have to have drones in worker cells, for there are no others. This is always the case with a drone-laying queen, or a fertile worker, and such cases are not counted. If you find, on further examination, that your queen produces worker brood, as usual, you have certainly found something unusual.

THE PIECES THAT "WEREN'T THERE."

Inclosed find one dollar, to pay for parts of frames sent last summer by mail. The original ones have been found, and I consider it my duty to pay for them. If not enough, let me know.

I. W. HUMPHREYS.

Woodstown, N. J., May, 1882.

Many thanks, friend H., for so kindly remembering us when you found out the fault was not ours after all; but I am really afraid some poor clerk was made to pay the postage for leaving them out, in spite of his most earnest protest that he did send them. What shall we do about this matter of mistakes? There have been so many reports like the above, that I have really been afraid to make our boys and girls pay for shortages this year, as I used to do. Will not our friends be very careful in reporting things missing, until they have made a most thorough examination? Please have your box on a clean floor or table, before you unpack, will you not? and when you do, please bear in mind the busy, tired workers, away off here in Medina. Here is another:—

You were right about the sweet corn. The children were in such a glee about the maple sugar that some of them took out the corn and laid it away, and it was overlooked. The other package was received all right. Please charge me with 12 cents. You will excuse me for troubling you so much. J. W. ROSEBERRY.

Kent, Mo., April 28, 1882.

TAKING CARE OF TRUANT SWARMS.

Thanks for JUVENILE GLEANINGS. My eleven-year-old Ernest is greatly tickled with it. My 23 colonies wintered outdoors better than ever, all very strong, no loss. I sold one colony on the 6th day of May for \$12.00, and next day (Sunday, the 7th), some of my friends came to me and told me there was a swarm of bees on the court-house fence, and that I could have it by going after it. I brought along a little nucleus hive, 3 combs, with syrup in them, and smoked them into that. They were rather weak, but very pure Italians, and a very fine queen. By adding a frame of brood with bees, they made me

a fair little colony, and are doing well, bringing in pollen. Nobody knew where they came from, nor saw them till they hung on that iron fence. I believe they starved out some place. Quite a number of bees have been lost since that warm spell the first part of April, by starvation.

GEO. L. HOLLENBACH.

Noblesville, Ind., May 19, 1882.

I have before remarked that there is something strangely fascinating in taking and caring for these truant swarms. You see, friend H. sold a good colony for \$12.00, and then picked up this one, that perhaps no one in his neighborhood would think of taking as a gift, and yet, with a frame of brood and a little feed, they will soon be worth just as much as the one he sold. These truant swarms are found almost everywhere, sooner or later, near where bees are kept, and it will pay to have an extra hive in readiness, to give them a pleasant home whenever they make their appearance.

WITH WHAT MEASURE YOU METE, IT SHALL BE MEASURED TO YOU AGAIN.

Quite often I hear, "Mr. Root, you have more faith in humanity than I have." I have sometimes wondered if there is not a good deal in taking humanity right. We sent an extractor to the friend below, and he replied that it came with the casting broken. As I should not like to get a broken machine myself, I judged he would not, and so I sent him a new piece, saying there would be no charge. See what he says:—

The arm to extractor, and your postal, received all right, with the exception of your not taking pay for the former. I want you to take your pay like a man, and not be afraid to take what rightfully belongs to you. Yours with respect,— OREM DIPES.

Fulton, Owego Co., N. Y., May, 1882.

Is it not a pleasure to have your business transactions turn out that way? and is there not something fair and generous in humanity, when you draw it out by being fair and generous yourself?

LEAVING THE HONEY-BOXES ON ALL WINTER.

I have lost 3 out of 30; one starved, one died with dysentery, and the other, I think, had too much upward ventilation. I left broad frames filled with sections in the upper story for an experiment, but don't care to try it again.

HONEY FROM CORN.

Since reporting last August that my bees were gathering honey from corn, I have noticed quite a controversy on the matter in the bee journals. Now, I do not wish to say whether they do or do not get honey from corn in all latitudes; but for the last two years they certainly have gathered it here, and from the tassels. I have watched them closely, and find that they alight on the tassel, and walk around over it, tonguing the blossoms. The corn I raise is known as the Early Ohio Dent. They also get a large amount of pollen from the tassel. M. D. YORK.

Millington, Mich., April 17, 1882.

MOVING BEES IN WARM WEATHER.

Perhaps it would not be out of place to tell how I moved bees 7 miles the 3d of April. The roads were rough, but my bees arrived all right. I took and put

the double box on the wagon, filled the first box with straw, set my bees on the straw, and then packed them around with straw. They rode as nicely as you please, and they are doing well.

THE GREEN-CORN INDUSTRY.

I see in June GLEANINGS, p. 274, an article headed, "Corn Industry," and "A Cheap Evaporator Wanted." I have planted some corn, and am going to use the Teasdale fruit evaporator, a cut of which I inclose you with this letter. There are a great many used here, and are liked very much. There are different sizes; the one that I have is 18x28 inches, and takes 10 frames; capacity, 1 bushel of apples. It is the largest family size—rather too large for a stove. They make them smaller, and also larger for arches. There was one run in Howell last fall, that kept 10 or 15 hands at work all the time. The price of the one I have is, or was last fall, \$20.00. I think they have them for \$10.00 about one-half as large. They are, and no mistake, the best thing out for a farmer or bee-keeper. If you want further explanations, write to F. N. Monroe & Son, Howell, Mich.

THE SWARMING-BOX.

I have used the swarming-box, and find it to be the "boss" thing.

LYNN ANDREWS.

Howell, Mich., June 5, 1882.

AFFAIRS IN UTAH, AND HOW THEY CURED FOUL BROOD.

Our bees have wintered poorly; many empty hives this spring, but plenty of honey. We have had six months hard winter weather this season, and it has been snowing steadily all day to-day. Many bees have died this spring; on an average our loss has been over one-half of all the bees in the county. I have 102 colonies alive, but if winter continues many months longer I do not know how many will be left alive. I have 48 dead, and no foul brood in the county, to my knowledge. Thanks be to our legislature and county court for appointing a bee inspector, with authority to see it destroyed.

Being the County Bee Inspector, I have visited almost all the apiaries within the last two years. Last season the honey harvest was extra good in most localities; honey being abundant, prices were low, and many bee-keepers did not take as much out of the hives as they should have done, therefore the brood-chamber was crowded with honey, and no empty cells for the queen to use to keep up the strength of the colony; hence weak stocks this spring were one of the causes of our losses with bees.

GEORGE B. BAILEY.

Mill Creek, Salt Lake Co., Utah, April 17, 1882.

HOW NEAR WILL IT BE SAFE TO PERMIT BLACK STOCKS?

I have 13 very powerful stocks of bees, one-half pure Italians from Oliver Foster, and the rest hybrids. Now, I think this a good location for rearing queens for market. There are no bees within $1\frac{1}{4}$ miles, and but 6 or 8 swarms within 3 miles. Now, to make a sure thing of purity of queens, how far from here shall I have to Italianize the neighbors' bees?

A MYSTERY; WHERE DID THE EGGS COME FROM?

This summer I wished to raise a few queens, so I sent to a friend for some larvæ to start queen-cells. It was received in the morning. The day before it came, one of my strongest stocks swarmed. While clustered, I looked the hive over, removed all the

combs, and replaced them with some empty ones and some larvæ; found the old queen in the cluster, and hived her with a part of the bees, and returned about one-half to the old hive. In the morning I removed the larvæ and replaced with the new just received. I kept a close watch of them, but they seemed to be less and less until there was left only a pint or so of a good swarm only a few days before. I removed all but two cells. One of these I removed just as it was hatching. The other was just about ready to hatch, but had not, I am quite sure. The next day I found her out, cell-cover hanging loose, and a lot of eggs, 500 or more; now, where did they come from? There was no other queen, nor any way they could have raised one; no larvæ nor brood, and but two frames, and but about one pint of bees. Could that queen have hatched and begun to lay in less than 24 hours? It was fine and warm.

FRED V. SARGENT.

Hubbardston, Mass., Jan. 12, 1882.

From recent developments, it would seem that bees, if not queens, may fly seven or eight miles, or more. I should advise Italianizing all within 5 miles, if it can be done. — A queen could not begin to lay the same day she was hatched; but another queen must have got in by some accident. It is not uncommon for bees to keep a young queen, when they have a laying queen already in the hive.

SUNSHINE OR SHADOW FOR BEE-HIVES IN WINTER.

Mrs. D. A. Donnelly, Valmont, Col., inquires about bees in shade or sun, etc. I am sure it will not do to have bees out so the sun can shine on them in the middle of the day in the winter in Colorado. The sun shines out very hot oftentimes when there is a light snow on the ground, and the air is too cool for the bees to get back to the hive again, and many would perish. Most bee-keepers here shade their hives if they stand exposed to the sun. Mrs. D.'s bees are all right as they are; and whenever it is warm enough for them to start out it will be safe for them to fly. The best results in wintering bees in Colorado have been attained by covering them with straw all but just room enough for them to get out in front; and when it comes very cold for a day or two, cover them in front. My bees are covered all over with straw, and when a day comes warm enough for them to fly I take it away in front. This is the best country to winter bees in I ever saw.

Denver, Col., Jan. 17, 1882. J. L. PEABODY.

MRS. COTTON; HONEY FROM THE SPANISH NEEDLE, ETC.

Your humble servant was humbugged to the amount of four dollars by sending for one of Mrs. Cotton's "controllable" hives, but I "cut my eye teeth" by so doing. Perhaps it would be somewhat interesting to you to know what our bees gather their honey from down here in Egypt. When the winter is not too severe, for honey we first have peach-blossoms, then apple, then comes the ground ivy, or coltsfoot, which grows on the low land in abundance. This keeps them humming busily until white clover makes it appearance about the middle of May; then honey abounds till the middle or last of July, if no drought, but which we suffered severely from the past season; then perhaps ten or twelve days not doing much, when the stubble fields are made golden with the Spanish needle. This and the

blackheart, or heart-weed, being our dependence for fall honey—to my taste and judgment being the richest and best of the season, and with which my hives are well stored.

R. R. CURTIS.

Albion, Ill., Dec. 30, 1881.

THEY "SWARMED AND SWARMED." AND WHAT TO DO WITH THEM.

In your answer to friend Hutchinson, Oct. GLEANINGS, page 500, you don't say which swarm, No. 1 or No. 2, you wish to put back. I always saved No. 1, but returned all after-swarms. No. 2 I hive in caps 8 inches high, 14 inches square, on a good bottom-board. This cap I set on top of the old swarm. Now if the old swarm is done swarming the third or fourth morning after No. 2 came out, they will kill their surplus queens and bring them out in front of the hive. I look on the ground in front of hive every morning. When I find dead queens I raise up the cap, take out the bottom-board, and set cap to its place: if there is more than No. 2, they are hived in boxes, and shaken out in front of hive at same time No. 2 is returned. I never knew them, when served in that way, to swarm out again. The old swarm and after-swarms will fill such cap, holding 35 to 50 lbs., for home market. It is worth 15 to 20 cents. Of course, the upper story of Simplicity can be used instead of cap.

FRED ZIMMERMAN.

Fayette, Iowa, Feb. 16, 1882.

CELLAR VS. CHAFF HIVES, ETC.

My bees are a cross of the large brown bees and the Italian. My loss last winter was 30 swarms out of 34; were all in chaff hives, on summer stands, well packed in chaff. It was my first experience in wintering outdoors, and I think my last. My 16 stands are all in cellar in chaff hives, all in fine condition. For my part, I don't think it pays for a man to tinker along with a few colonies; he will spend too much time for the income. I want all I can see to or none. I intend to make it a business.

REPORT OF THE "FOUR."

April 1st, 1881,—

To 4 stands of bees, \$5.00 each.....	\$20.00
June 1, to 600 sections.....	3.60
“ “ to 12 hives.....	18.00
“ “ to 120 old combs.....	6.00
Nov. 1, to crates.....	2.40
Total Dr.....	\$50.00
Nov. 1, by 500 lbs. comb honey, @ 16c.....	\$80.00
“ “ by 12 new swarms.....	60.00
“ “ by 4 old swarms.....	20.00
Total Cr.....	\$160.00
	50.00
Net balance.....	\$110.00

My bees had no care from the tenth of July till Nov. 1. I was away in the western part of Iowa, and could have got more honey if they had care, say a third more.

J. J. HURLBERT.

Lyndon, Ill., June, 1882.

No wonder you want all you can see to, friend H., if you can make them all do as those four did. But, hold on! How do you know it was not outdoor wintering that made the four such extra good ones? Why, a good many would have been satisfied with that crop of honey and increase from the whole *thirty-four*, and yet you say that, with care, you could have got *one-third more*! I am sure we will let you winter any way you choose, if you can do so every time.

EXTRA ENERGY OF HYBRIDS, AND THE REASON.

If you remember, I got an Italian queen of your some time last August. As late as it was, I raised drones and three queens from her, and then lost her in introducing to another colony. Two of the queens are purely mated, and the other produces hybrid bees; but, what seems strange to me is, the hybrid colony has more get-up and go-ahead about them than the pure bloods, though they are as cross as hornets. Could it be possible that, by raising the queen and drone by which she was fertilized, from the same mother queen, that the workers would have less energy than those raised from a cross? Or are hybrids generally better honey-gatherers than the pure Italians?

The bees are now gathering honey from huckleberry and turnip bloom. I have 7 colonies, but they are not as strong as they ought to be. In fact, the latter part of last season nearly ruined bees; it was so dry here that they could get nothing, and, of course, raised little or no brood, and, as a natural result, they came out of the winter very weak in numbers.

PERRY HANSFORD.

Troy, W. Va., May 10, 1882.

I think you are very likely right, friend H., and I believe I would rather have a queen mated with a black drone, than from a drone from her own mother. Aside from that, there seems to be an extra amount of energy developed, many times, in crossing those of widely distant relationship.

PATENT BEE-HIVES, ETC.

I was handed a copy of your GLEANINGS, No. 8, 1880. Last spring, I got 4 hives of bees, in odd-looking hives; took an interest in a patent hive, and transferred from old to new; they appeared to do well at first, but I do not like the hive. Last fall a Mitchell agent came along, and I let him swindle me still more, by selling me a hive and Italian queen. I have two left. One neighbor had 17 stands, and let the same fellow in, and now he has three left.

JESSE MOTTER.

LaGro, Wabash Co., Ind., May 8, 1882.

THE CHAFF TENEMENT HIVES, ETC.

I use the chaff tenement hives mainly. With the right management, they are the best hive in use for this locality. Bees seem to require no more honey in them during winter than hives that wintered in the cellar, and they come out much stronger and brighter in spring. Give me tenement hives, with good swarms, and nice capped honey, and I will winter without loss every time. I am sure the bees that I have run in chaff hives have far outstripped others in honey-gathering or increase.

Athens, Me., March 23, 1882. W. H. GREEN.

LOTS OF TROUBLE, BUT "HOPES NOT BLASTED."

I received the Simplicity hive and smoker all right Saturday, and was well pleased with them. I thought I had better transfer my bees at once, as I saw worms in the old hive. I smoked them, and took out one side of the old hive, and took out the frames, and it is hard to ascertain which had the majority (bees or worms). There was no brood, as the worms had destroyed them, so I had nothing to transfer; and, to add to the disaster, a lot of Italian bees came to the old hive and stole a lot of honey, and killed a great many of the old bees; and, to top the climax, I couldn't find a queen, but I found a fertile worker, and I destroyed her, as she was al-

most without wings and legs. I do not expect to glut the markets of this country this year, from the present outlook.

GEO. MITTEN.

Fowler, Ind., May 29, 1882.

It is well you destroyed that fertile worker without wings, friend M., or she might have made a deal of mischief in that hive that had almost as many worms as bees. In such a case, I would make the whole into bees-wax, and put the live bees on a comb of brood from some other hive — not because of the profit there might be in a few old bees, but because I always feel sorry for them. How heartless those greedy Italians are, when a hive is given over to worms and old bees! Joking aside, I presume the worms and Italians have been blamed a great many times for robbing good colonies, when a transfer would reveal the seat of mischief to be the lack of a queen a long time before, just as you found it, friend M.

WHO WANTS A CYPRIAN QUEEN?

The Cyprian queen that I wish to sell is the most prolific of all my bees, and I have 60 swarms. I put 60 swarms into winter quarters, and May 1st had the same number; May 8th I had a large swarm come out — the first I ever had come out so early in the season. The reason of my wanting to sell the Cyprian queen is because smoke has not much effect on them. I wish to introduce an Italian in her place. She is the only Cyprian I have.

I. E. SQUIRE.

Elyria, O., May 15, 1882.

AN A B C SCHOLAR'S EXPERIENCE.

The queen you sent me was put into a queenless colony which had become very much reduced in numbers; so much so, that I concluded to make with her an artificial swarm, which I did according to your method. Robbers soon put in an appearance, and every thing was in an uproar. The next day I took a look for my queen, and found that she had been forced out of her cage, and was nowhere to be found, and robbers were yet in attendance in spite of my efforts. This caused me to look upon Mr. Root's theory of making artificial swarms as a humbug. But I noticed, in a few days thereafter, that my artificial swarm had gone to work, and again I concluded to investigate a little further; when I found my new queen and plenty of sealed brood. I therefore owe you an apology for my denunciations of your theory.

G. A. LEAVITT.

Houston, Mo., May 24, 1882.

Friend L., I would hereby warn you, that, when robbers do abound, ready to poke their noses into every open cell, you need not expect my "theories," or those of anybody else, to work. After the weather changed so there was some honey for the bees to gather, they let your poor queen alone, and every thing worked lovely, as it always does. Now, if we book-writers are to be held responsible for the weather and the honey-flow, why — we shall have to be careful, won't we? Never mind; I forgive you.

WINTER RAPE.

A few years ago we wrote you all we could learn about winter rape; but it is so long ago that we have forgotten just what the facts were, and our informant, who had grown the crop in Germany, is dead. We mention this in order that due allowance may be made for us if we should not get it just the

same. As nearly as we can now remember, 10 to 12 lbs. are sown broadcast, or 7 to 8 if by drills, on good rich ground, about August 1st. The succeeding spring it will bloom, and ripen seed about July. Great care is necessary in cutting the crop as soon as the pods begin to turn yellow; if left until ripe, the seed will shell out. It should then be cured in the shade on canvas, or tight floor. After thrashing, spread and frequently turn, to prevent molding, until seed is quite dry. A fair crop would be 12 to 15 bushels per acre.

A. C. KENDEL.

Cleveland, O., May 11, 1882.

Our winter rape is now in bloom, but a great portion of it was killed by the spring frosts. Very likely we sowed it too late, and it did not get root enough. By the way, it looks to my eyes exactly like seven-top turnip, both in leaf and flower, and I should be glad to have somebody tell me the difference.

SCORCHED HONEY, ETC.

I have some honey slightly scorched. Will it injure the brood to feed it to the bees? Will it make any difference in the flavor of it when they put it in the comb?

JAMES SHORE.

Germantown, Pa., May 19, 1882.

It sometimes happens that honey is slightly scorched in melting it after it has candied, and the query often comes up, as to what to do with it. I have several times found that it was just as good as any to feed to the bees in warm weather; but as sugar that is scorched in the least surely produces dysentery, if they are obliged to use it when the weather is too cold for them to fly, I should be a little afraid of scorched honey in cold weather. In regard to the bees changing the flavor, that is something quite out of their power. I have fed it to them until it was nicely sealed up in the sections, but it was burnt honey still, and so I am obliged to conclude that bees have only the ability to collect and ripen honey, but not to remove any bad flavor or scorched taste from it.

NATURAL QUEENS VERSUS FORCED ONES.

I received a dollar queen two years ago from friend Hayhurst; raised some forced queens from her, which did not look very well; that is, they were quite dark — almost black. Last summer the bees tried to supersede her; 2 or 3 times I found a young queen in the hive with her. These young queens were very fine, large, gold-colored ones. I have two of them now, and also the old queen, which is another proof that natural queens are better than forced ones.

J. L. PEABODY.

Denver, Col., May 16, 1882.

BUYING BEES NEAR HOME, ETC.

Early this spring, I wrote to you about the price of bees; since then, I have purchased six swarms at \$2.00 each, by furnishing the hives. Cheap for even black bees, is it not? But the beauty of it is, they are all yellow ones. The old queen was imported from the North, about four years ago, and cost, with about one-half pound of bees, \$15.00. I had one swarm this spring that I bought last fall, from which I have taken two swarms; consequently I have nine swarms at work for me now, storing up honey at the rate of about 8 lbs. per day (not per hive, but all of them). Horsemint and sunflowers are at their best just at this time. Now, friend

Root, instead of hunting for that cave of which you spoke in the copy of GLEANINGS you sent me, in which to winter your bees, just bring them down to Texas, and you can let them stay out and work all winter; that is, they may not have to stay home 40 or 60 days during the season.

G. K. PAGE.

Corpus Christi, Texas, May, 1882.

That is a sensible way of doing, friend P., and I have no doubt but that a great many might get bees near home at much less prices than we are obliged to charge, to say nothing of the excessive express charges where they are sent long distances.—It might be cheaper for me to spend a good many dollars in building a cave, or some equivalent, than to go away off down there. Who do you suppose would run the bee-hive factory?

HOW TO KEEP A SWARM FROM GOING BACK ON THE TREE.

Shake in the basket, and hold the basket a few minutes in the tree, or near where they clustered, and keep on shaking the limb, and they will soon all cluster in the basket, when you can empty them out in front of the hive, and they will not return to the tree. I learned this way by getting just a little out of patience with a swarm last season. They were determined to stay on the limb of a cherry-tree, and I was bound to shake them off, so I kept up an awful shaking, still holding the basket, but was surprised to soon find them all in the basket. Of course, if you get the queen the first time, all is well; but in a thick bushy top it is sometimes difficult. I almost forgot to say how many bees I have, but will sign,—

D. G. WEBSTER, 113.

Blaine, Boone Co., Ill., May 13, 1882.

HOW SHALL WE PUT UP EXTRACTED HONEY?

I propose to run ten hives for the extractor this year. I should like to know the best way to put up the honey for market, whether in jars, one or two pound, or in tin cans that hold more. I have 70 colonies, most of them in good condition. I saw a few of them hanging out at the entrance yesterday morning. I think that pretty good for this year; they don't like to go out with a rubber coat on, to gather honey, as they have to nowadays.

GEORGE BROCKETT.

Randolph, Ohio, May 15, 1882.

Honey retails best in our lunch-room in our 5-cent covered pails. They hold just about 1½ lbs., and we sell pail and all for 25c. The next best thing, for both honey and maple molasses, is the 1-quart mason fruit-jars, holding 3 lbs. We sell these at an even half-dollar, full of honey, and for 40c. filled with the maple molasses. If sealed up while hot, neither will candy until opened.

WHEN TO PUT ON THE BOXES, ETC.

I am a beginner in this business. I have 39 swarms; and if the ABC book does not give full directions for putting on honey-boxes, and when, please write me a few lines in regard to it. Now one word in favor of the Waterbury I received of you last January. It came to hand in good condition; has run, and tallied time as well as can be asked for. I wind it by drawing the stem-wheel on my pants knee. It can be wound in half a minute this way.

EVERETT LEARY.

Milford, Oakland Co., Mich., May 1, 1882.

Put on the boxes when your hives are full

of bees and honey, or just as soon as they begin to be a little crowded. You must not only keep yourself posted in regard to what is going on inside the hives, but you must also know what plants are soon to yield honey, and get your surplus receptacles over the cluster, just when they are ready for them.—Your plan of winding is novel; but after you wear a hole through your "trowser," what are you going to do then?

HOW MANY FLOWERS DOES IT TAKE TO MAKE A POUND OF HONEY?

[Translated from the French by M. L. Wickersham.]

Have you ever thought how many flowers a bee must visit to load itself with honey, or how much honey one flower gives? The result of patient observations gives the following results:

As the quantity of sugar contained in flowers is very small, the following will show the enormous labor performed by the bees: From 125 heads of clover,* it is impossible to extract more than one gramme (15 grains) of sugar; therefore, to obtain one kilogramme (2.20 pounds English) it is necessary to have 125,000 heads of clover. Each head of clover has 60 flowers; therefore, seven and one-half millions of clover-flowers must be visited by the bee, to obtain one kilogramme of honey.

Ferrara, Italy, May 14, 1882.

I at first doubted about there being sixty flowrets on a head of our clover; but I have to-day counted one, and find it so near that I guess we shall have to call the above estimate at least reasonably correct. Now, with this enormous number of blossoms it takes to furnish even a small amount of honey, we can form some idea of how large an area we must plant to honey-producing flowers, to get honey enough to amount to any thing.

A COLONY KILLING ITS OWN BEES.

My bees commenced swarming yesterday, the earliest I ever knew them to in this locality. I have one swarm of Italians that are killing their own bees; will kill a hundred or more every few days. Is it a common occurrence? ADDISON LAKE.

Charlotte Center, Chau. Co., N. Y., May 2, 1882.

I should say, that what appears to be killing their own bees was really killing the bees from some other hive that stands somewhere so near, and is of so similar an appearance, that its bees get in by mistake. See if you can not find that such is the case. Bees *may* sting their own inmates at times, but it seems to me hardly possible.

KLEPTOMANIA AND BEE CULTURE.

I am in bad luck. Some one abstracted from my counter my A B C, and appropriated it, for what purpose I don't know. I hope it was not the big gilt bee that attracted them and excited their "kleptomania," but that they are lovers of the "gentle little bee," and will derive pleasure and profit from its perusal. C. G. WILSON.

Milledgeville, Ga., June 3, 1882.

Friend W., if he ever gets to be a good bee-keeper he will bring it back, or pay for it; for bee-men, as a rule, are honest. In fact, I do not believe a man who is not honest would like to keep bees, for their habits of industry would be such a constant rebuke

to him. It can't be he stole it, for kleptomaniac would never harmonize with the culture of bees. If the fellow is crazy, the bees will work a cure for that kind of craziness.

THE CYPRIANS, ETC.

I am at home again, and find the bees in good order, every one alive (168 hives). The little one in Florida is left as the starting-point for a larger move some other time perhaps. I had two small colonies of hybrid Cyprians last spring, and I have not had any bees for years that did as fine a job in as satisfactory manner as they did, considering their strength to begin with. E. M. JOHNSON.

Mentor, O., April 1, 1882.

It will be remembered that friend Johnson is the man who would rather have blacks or hybrids, than pure Italians. Well, it may be the "Cyps" have just enough of the hybrid dash about them to please him; and as he is one of the old veterans in the business of honey-raising, his opinion is entitled to something.

PERSIMMON HONEY CANDIED IN THE CELLS.

My honey is so sugared in the cells that I can not extract it. What must I do to get it? All the turning I can do with the extractor does not throw it out. I shall be glad if you can suggest any thing that will benefit us. All that has come in from the persimmon is sugared. I extracted a week ago; it extracted very well then; have taken 750 lbs. extracted honey from 13 colonies; no comb but 50 lbs.

Coronaca, S. C., June 3, 1882.

J. D. FOOSHE.

I know of no remedy, friend F., except to warm it all the combs will bear. If persimmon honey is sure to candy, I would extract it about as fast as it is gathered, and make a specialty of candied persimmon honey. Perhaps it might be pressed into nice little molds, and drained so as to make a nice confectionery.

GOOD FOR CHAFF HIVES.

My chaff hive last year gave me 116 lbs. nice section honey, and 35 more sections partly filled. My expenses last year, including bees, work, lumber, nails, grapevines, sections, fdn., cinders, sawdust, hauling, etc., were \$78.80, and my income from honey \$83.60, leaving me cash \$4.80, and 20 stands of bees, at \$5.00 each, \$100.00; total, \$104.80. So you see that I am not much discouraged yet, although they sting me fearfully. My object this season is honey. I have all the bees I want at present, and as my chaff hive did not swarm last season, I think I can get them all in the large hives I am making now, before swarming time. TIM CALVER.

Portsmouth, Ohio, Feb. 23, 1882.

UPWARD VENTILATION, AND WHEN IT IS NEEDED.

I see much said now about upward ventilation. I am satisfied that a colony fed up in the fall, and induced to raise lots of young bees, making the stock perhaps doubly as strong in bees as it would have been if no feeding had been done, will need upward ventilation; or where two or more colonies are united in the fall until the hive is crowded with bees, having doubly the bees that we usually find in hives where no feeding or uniting had been done, should have upward ventilation; but where bees are not thus unnaturally dealt with, no more upward ventilation is needed than is allowed with a good chaff

* White clover is meant, as the red is almost unknown in Italy or France.

cushion in the upper story. From my experience, I would not unite in the fall any colony that had half a gallon of bees. I have one colony now that is hatching bees, and has wintered as well as any strong stock could. I don't decide from this, however, but from past experience with colder winters.

KEEPING BEES IN THE CELLAR TILL POLLEN COMES.

I had 10 colonies in the cellar. When I found the soft-maple was offering so much pollen and honey, I carried them out, and they were soon as busy as any. I have not, nor do I intend to, put them back. I shall not winter any more bees indoors. With me they winter no better, and are much more trouble, and some of them won't defend their hives from the other bees. I have one colony that can't be induced to make the least effort to defend their hive. It has plenty of bees, queen, and honey.

G. W. WILLIAMSON.

Willow Island, W. Va., Feb. 24, 1882.

MATING BETWEEN THE QUEEN AND DRONE.

Much has been said and written on the subject of fertilization of the queen-bee, and I see, in your valuable paper, you ask the friends of the cause to contribute their mites from actual observation, and here is mine: Many years ago I was walking in the woods in June, and heard a roaring of bees in the vicinity of a tree-top, and at once recognized the coarse hum of the drones. Suspecting the object of the rendezvous, and stimulated by curiosity, I climbed the tree, and soon saw a small swarm of drones closely huddled together, flying and whirling around the tree-top. They appeared much excited, and finally alighted on a rosette of leaves. The ball of drones was as large as an apple, and a savage fight ensued, each one striving for the mastery, and vying with each other. In a very short time I saw a queen-bee creep out of the cluster, tear herself loose from their seductive embrace, and fly away in the direction of my apiary, and all the drones immediately followed her. The above meeting took place not on the wing, but on a cluster of green leaves.

THOMAS BUSHNELL.

Hayesville, Ohio, Feb. 27, 1882.

Thanks, friend B., for this addition to our store of facts in the matter. It would seem, from the above, that the queen is usually pursued by a great number of drones, as we have had frequent evidence before. But you go a little further, and show that they, sometimes at least, alight all together, while a struggle among them ensues. If this is commonly the case, it would seem that a locality with much expanse of water near would be rather bad for queen-rearing.

BEES AND HONEY.

The season is still cool and backward. With abundant tulip and white-clover bloom, and red clover nearly ready to cut, we have little honey yet, the best day thus far indicating 4 lbs. gain to the hive on scales. Fortunately we did not force the season by rapid breeding up, and have saved ourselves the necessity of feeding the idle bees. We are cutting and curing the best hay crop made for years. We are hoping warmer weather will develop honey, and are ready for it.

BEES VEILS; A WORD OF CAUTION.

Black lace of the finest kind should alone be used by those who use any, and value their eyes. Serious injury has been done by continued use of poor material. Having suffered myself because I thought

my sight very strong, and could stand any thing, even white veils, I have had to pay the penalty.

J. W. PORTER.

Charlottesville, Va., June 5, 1882.

BEES IN COLORADO.

It would seem from the following items, which we clip from the *Colorado Farmer* of Dec. 12, that they have a great field for honey in Colorado, besides some very live and enterprising bee-men. Friend Peabody is well known to many of us, and any statement he makes is sound:—

\$200 PROFIT FROM TWO SWARMS OF BEES.

J. L. Peabody, who lives at 306 Wasoola street, reports that, from two swarms of bees the past season, he got 15 new swarms, and over 400 pounds of honey. This makes, at \$10 a swarm, \$150, and the honey, at 20c per pound, \$80; total, \$230. He makes his own hives, and says that \$30 will cover the cost of them. So it seems two hundred dollars clear profit, not counting the labor, which was more nothing, more than amusement. Who says Colorado is no bee country, or bee-keeping does not pay?

The next seems to be a part of a convention report:—

J. L. Peabody spoke on the subject of "artificial swarming," and did not advocate its usage in extensive apiaries where the sole business was honey. He referred to city bee-keeping, and recommended a tight fence, eight feet high, about the hives, as the bees at that height, on leaving, would soar away above the neighbors, and so avoid any ground of complaint being made against them. Two swarms of bees during the last season, by increase and product, have netted this gentleman \$100 each, a success which he ascribes to the fact of his care in preventing waste. Before closing, he dropped many valuable hints which were listened to with attention by his audience.

HOW FAR DO BEES FLY?

Dr. King, of Boulder, was the next speaker, and began by giving his experience from one swarm as a foundation to a collection of about 125 stands. The doctor advocated wintering bees in the cellar, giving them no exercise, and allowing them no ventilation from the top of the hive. He had noticed his Italian bees going fourteen miles for pasture in following up the blossoming raspberries, which mature more slowly toward the range. Since July 7, one hive had produced 400 pounds, which, with the rest, was wholesaled to Boulder merchants at 25 cents per pound.

We thought friend March, p. 182, was getting it pretty large when he suggested that bees might fly 7 or 8 miles; but fourteen almost takes our breath away. I should be much inclined to suggest there were Italians in the woods, that he did not know of—possibly the yellow bees friend Wiltse has been telling us about.

PROGRESS OF BEE CULTURE IN ENGLAND.

You will be pleased to hear that bee-keeping is making great progress here. We have already 18 county associations affiliated to the central society. You will be pleased, also, to know that for some time I have used your metal corners. I have tried to get others to use them. There is a description of them in my book. A large number of frames have been made with them since I wrote it. We are just adopting a standard-sized frame, which I hope will further stimulate bee-keeping. By post I send you one of my books for perusal. It has had a great sale, the first edition being exhausted in little more than two months. I also send you photo of part of my apiary. Last summer I averaged 100 lbs. of section honey per hive. It was a good season. I also extracted a large quantity.

THOS. WM. COWAN.

Compton's Lea, Herts., Eng., Jan. 24, 1882.

THE GOOD AND BAD POINTS OF BOX HIVES.

In the spring I had only 19 swarms; left five of them so weak I put no boxes on them. I increased the 19 to 43, and have wintered all of them. From the 19 swarms and their increase I got about 1400 lbs. of box honey. Is not this pretty well from the old and much-condemned box hive? Last spring, when I had nearly 50 dead swarms of bees, I realized one bad point against the box hive—the combs in them were of no use except for beeswax; whereas, if I had been using hives with frames, the combs from the dead swarms would have enabled me to have increased my 19 swarms to 75 or 80, instead of to 43.

THOS. ROTHWELL.

Austinville, Pa., May 8, 1882.

BEE MARTINS, ETC.

I send you a small parcel, supposed to be bees. I picked it up just as it fell from the mouth of a bee martin, the paper being stained by the moisture, as you will see, before it dried. I have no way of testing, to my satisfaction; and if my supposition proves true, or you desire, I will send you statements of facts connected with the subject. I had a fine swarm last Saturday, May 6, from my dollar queen. She far exceeds my tested queen in business qualities. Will soon have new honey. J. B. DAVENPORT.

Hodgenville, Ky., May 8, 1882.

I have examined the "wad" of crushed insects you send, friend D., with a good magnifying-glass, but have not been able to find any thing belonging to a bee. There were wings, legs, etc., belonging to bugs and insects, especially a sort of cricket, or beetle, but no part of a honey-bee that I can discover. Let us not be in too great haste in condemning these feathered friends of ours.

WHICH ARE THE BEST BEES?

I write you for information regarding bees. I have two colonies of black bees; have had them for two years, and have not had a single pound of surplus honey; fed them about 20 lbs. of sugar last fall, and managed to keep them through. They are now in good condition, strong, and are working on the apple-blossoms. We have no white clover or buckwheat, and but little red clover, and our bees have to make their honey from fruit-blossoms mostly, and wild flowers in the woods. They work on the red raspberries, I think, with greater energy than any thing I have ever noticed. There are several hundred acres of blackberries, and perhaps some 50 or more of red raspberries within a mile and a half of me, and strawberries and grapes. I have taken observations for several years, and the common black bees do not pay more than one year in three or four.

I see in GLEANINGS, advertisements of Holy-Land, Albino, Cyprian, and Italian queens; now, what I would like to know is, *which are the best honey-gatherers?* I want bees that can get honey, whether there is any or not—I may as well be honest about it. There are but few bees kept in this vicinity—30 colonies, and the most of them in the old box hive. I looked the A B C book all through, but could not learn which bees are the best. As I do not want to raise queens from my bees, I made two of Jones's bee-guards to-day, and put them on my hives. They work like a charm. I shall rid myself of drones in short order. My friend Fowler, at Ancora, has two

colonies of Italians. That is all I know of nearer than Egg Harbor City.

Berries are looking well, all kinds. This is one of the largest stations for shipping fruit, on the Camden & Atlantic R. R., and N. J. Southern R. R.

J. P. PATTEN.

Hamontown, N. J., May 26, 1882.

That the Holy-Lands, Cyprians, and Italians, are all far ahead of the common bees, is sufficiently well established; but as to which of the above three is best, all things taken into account, I can not tell. Those who are curious might get some of each kind and try. I think I should place both the others ahead of the Italians, a trifle, if they were not so prone, at times, to act like hybrids, or even worse. The Holy-Lands, it is true, are not bad to handle, and they are great honey-gatherers; but they are, of late, showing a disposition toward fertile workers, quite a good deal more than Italians, which is not a desirable trait. Our apiary is at present almost entirely Italians. With your vast area of berries, it would seem you should do well, at least while they are in bloom.

ANOTHER IMPROVEMENT IN WORKING RUBBER PLATES.

After several trials I have got the small rubber plates you sent me to work finely. I took 2 boards, about 6x15 inches, and fastened them together with 2 spiral springs. With screws I fastened the lower one to the bottom of a tub, and fastened one of the plates to the upper one. Fill with water, so the top of the plates will just be above it when in its natural position. With the left hand, immerse them under the water; and as soon as they rise, dash a tablespoonful of hot wax on the right-hand one, and with the left hand, clap the other down, and the whole under water, and open while under the water. I use no brush, as it needs all the water I can have on the plates. It sticks most on the tin and wood but rub that with paste occasionally. I made 500 pieces in a little more than half a day, and could make about 1000 pieces in a day, and about as fast as another hand can trim them. I would advise every one who has bees, to have one of these small plates, if nothing more extensive, for making up the surplus wax for section boxes.

Denver, Col., May 26, 1882.

J. L. PEABODY.

I should be inclined to think that 1000 sheets, to fill a Simplicity section, a day, rather slow work, friend P.; but for all that, your invention promises to be quite an important one. If I get the idea, it is that the bottom-plate is set on a yielding platform, so that the pressure necessary to make good fdn. forces the whole machine under the water, out of which it raises itself by the force of the springs. The only remaining obstacle now is the trimming, and it does seem as if something might be arranged to have these machines self-trimming. As you say, the hot wax sticks to any thing besides wet wood or rubber. If you can put on just wax enough, and not have it run quite to the outside edges, we can get along by trimming just the edge, where the sheets are fastened to the top-bar of the sections. So far, we have found the rolls much the fastest way of working, but very likely the bees take to the dipped fdn. a little more readily.

QUEEN-REARING, ETC.

If we are always careful to rear our queens from pure queens, I do not see why we can not keep our stock pure without an imported queen; but there seems to be a vim about imported stock that is obtainable in no other way, unless it is by crossing with the black drones. I bought a swarm of bees in 1879, and the first season I divided into five swarms, and lost all but two; and the next season I divided the two into four; and when spring came, my bees were all right. I have 10 swarms now, and I am rearing queens for sale from my imported queen. I tell you, my friends, I believe some of us are paying too much attention to the looks of a queen. I believe we should pay more attention to the bees that she produces, and to what these bees do during the season. I think that chaff packing is the best for wintering, by putting them on 8 frames covered with woolen cloth. Fill the hive with chaff, and have a chaff cushion on top of the bees.

L. S. BEAM.

Middlebury, Elkhart Co., Ind., June 6, 1882.

WIDE FRAMES FOR THE EXTRACTOR.

Please let us know in GLEANINGS if it would not be a good plan for extracting, to use broad frames in the upper story, as it would be no more work to uncap deep combs than thin.

C. E. HAGAMAN.

Rochester, Minn., Feb. 23, 1882.

This matter has been several times suggested, and we have sold wide frames to be filled with drone fdn. for the purpose, but very few have reported. If I am not mistaken, some one has said it takes the bees a great deal longer to ripen the honey in deep cells, than in the ordinary worker brood-combs; but if this is true, it is also an argument in favor of section boxes less than two inches in width. Who has tried it for the extractor?

EGGS THAT WON'T HATCH.

I had taken four queen-cells that were built under the impulse of natural swarming, to queenless colonies. They hatched in a few days, and commenced laying within ten days. The largest and handsomest in the lot was the biggest layer. She commenced on a sheet of foundation which was built out very rapidly, and filled it with eggs; the rest of the hive she filled with eggs in a short time, and one egg on the new foundation was hatched out a perfect worker in shape and size, but so weak that she could scarcely walk on the combs. The bees killed her, and never another egg was hatched. I gave some of the eggs to other bees, but "no hatch." I kept her laying about six weeks, when the eggs began to disappear; then I pinched her head off and gave another laying queen, and brood-rearing went right along. It is something new to me. What was wrong is what I should like to know.

PHILIP MORNINGSTAR.

Wakarusa, Ind., Dec. 19, 1881.

We have several records of such queens, friend M., but yours seems to have been one of the most marked. Those I have seen were not very good layers, as you say this one was. We might notice, in the outset, that this queen was a natural one, and therefore the defect can not be ascribed to artificial processes. As to what internal deformity causes such results, I am unable to give a guess. Perhaps the friends who are

at work on the problem as to whether the queen or worker determines the sex, might find a fact here.

FROM ONE OF OUR FRENCH BEE-KEEPERS.

[Translated by our proof-reader, W. P. Root.]

I am in my twelfth year of apicultural practice. I have had many grievous deceptions, but I am never discouraged. I even continue to take care of my hives, and have been in military service for four years. I travel at night and work by day. We are having at this time in France a splendid winter. We have had no snowstorms, and the cold is moderate. Our bees are doing well, and there is but a slight mortality.

A. FOURNIER.

Ormois, Oise, France, Jan. 26, 1882.

HONEY IN CHILI, ETC.

Please send me a full line of what you have. In regard to information about bees and their culture, and hives, etc., honey is produced in large quantities in Chili. One of the houses I represent in Valparaiso, I saw ship 1000 barrels a short time before I left there.

RICHARD HUGHES.

New York, Feb. 20, 1882.

One thousand barrels is a little more than even our great California bee-keepers have ever had at one time, is it not? If Chili produces honey in such enormous quantities in the old crude way of bee culture, what might be the result with modern means? We have at present just one subscriber in South America, whom you have doubtless all heard from through our pages. I hardly think it probable we need the stingless bee, but I do think somebody ought to do something about opening up and developing the region that produced this 1000 barrels.

NITRATE OF SILVER FOR MARKING QUEENS' WINGS, ETC.

That selected imported Italian queen you expressed to me on the 23d I received on the 26th in tiptop order—only three bees dead; one-third of the candy was eaten, and three-fourths of the water was drunk. I had quite a troublesome time introducing; her bees balled her twice; I then caged her 48 hours, and then they were too saucy. Said I to the bees, "You shall not have this queen to reign over you." So I took her away and placed her in the lamp nursery, and then picked young bees from the hives, taking many hours to do it, till she had a sufficient retinue, and now she feels happy, looks pretty, and lays eggs by the thousand. I use a little solution of nitrate of silver on the imported queen's wings, so you can tell her from the others. It has been a very bad spring for the bees, on account of so much cold wet weather—bees flying out and getting chilled by the thousand; but now the past two days have been warm.

HENRY SMITH.

New Hamburg, Ont., June 9, 1882.

I confess the above looks quite feasible, as nitrate of silver is the base of indelible ink. It would probably stain the thin membrane indelibly; and so long as the wing remained, the queen could readily be identified. By staining one wing when she first began to lay, and the other at one year old, a fair record of her age could be kept. If, however, she should lose her wing, we should be about as badly off as with clipped wings.

DECLINE IN PRICE OF HONEY-JARS; POOR HONEY;
PROSPECT IN CINCINNATI, ETC.

I have made a new contract with our glass-works, and can sell honey-jars at quite a reduction. If you would mention the present price of jars in next number of GLEANINGS, it would be quite an accommodation and a favor.

We have had quite a bee famine this spring. Colonies all strong were kept, by the unfavorable weather, inside of their hives, and consumed their stores in a hurry. I had not looked at my bees for about two weeks, because of the weather, and found them at the point of starvation about the 10th of May. They had but few fresh-laid eggs and young larvae, and most stands had commenced to uncap their brood-cells and drag out their larvae in order to keep down consumers. Since that time I have fed them regularly with over 1000 lbs. of honey. I am still at it, as no honey is coming in yet. Our honey season, if there is one coming, must be a short one. I dare say that, in this neighborhood, as many bees (or more) died of starvation during the month of May this spring than perished during the winter before last.

CHAS. F. MUTH.

Cincinnati, O., June 15, 1882.

I am very glad, friend Muth, to note a decline in prices of any staple article used by bee-keepers, and I am, too, willing to give so much of a free advertisement to those who bring it about.—In speaking of the bees uncapping the brood, I would suggest that it is not because they wish to keep down consumers, but because they are driven by starvation to dig them out, to suck the juices out of their bodies. In cutting out queen-cells, we often see the bees sucking up the juices of the brood that is injured by the knife; and when brought to a starvation state, I have thought it sustained them for a few days, much as honey does. We have had the same state of affairs here, almost right in the middle of June, and I know it is a wasteful thing to let them get so far toward starvation, even though they do not destroy the brood.

FRIEND DUGGER'S PARADISE — FOR BEES.

Twelve months ago I ventured to take a "partner for life," and have settled down on a small farm, which I think, from the surrounding situation, is the bees' paradise. One mile west of here the Cumberland River flows, which is the home of myriads of beautiful fish. Along this river hundreds and hundreds of poplar and linden trees grow, although the poplar bloom, owing to the late cold spring, was nearly a failure. Two miles east, a chain of mountains called the Sulphur Mountains runs parallel with the Cumberland. The summit of these mountains is covered with a beautiful evergreen foliage. Their base and sides are covered with yellow wood, which is now in full bloom. One walking along, not accustomed to the way bees gather honey from these trees, would think that there was a swarm of bees in every tree; and in the valley are found a great many wild persimmon-trees which are also in bloom, which the bees work at considerably. White clover is very, very good this season. I sowed a patch of buckwheat about the 20th of April, which is in bloom, but the bees pass it by. I will sow another patch for fall bloom. So you will see that it was my intention to find a good locality for bees,

which I think I have. I commenced this spring with four colonies; two of them were in the old-fashioned bee-gums, which I transferred to movable-comb hives. They are doing as well at present as I want them to do. I have learned more about bees from the sample of the GLEANINGS which you sent me, than I ever knew before. I have read it time and again. My wife laughs, and tells me that I must have all my bees named, and watch and see if any come up missing.

W. C. DUGGER.

Clio, Ky., June 16, 1882.

Bees will never notice buckwheat, friend D., while they can get honey from other sources, and it is never of any use to sow it for bees until after clover and basswood are gone, or, rather, so as not to come into blossom until honey from these is gone. I presume the reason is, that buckwheat honey is dark and poorly flavored, as a general thing. I wonder if that new "partner for life" has not something to do with making your surroundings all so pleasant, friend D. Thank God for her, and see to it that this first year's experience goes all through life.

Ladies' Department.

USING THE RUBBER PLATES.

I RECEIVED the \$7.00 rubber plates all right, and had but little trouble in getting them to work by the instruction I obtained in the back numbers of GLEANINGS. I used the water just warm in tank. I very soon learned to temper the heat of the wax; if it gets a little too hot it will stick to the plates. I used starch cooked about as thick as I do to starch shirt-bosoms. I made some beautiful foundation; have some nice combs built from it. Our bees have been doing finely; have extracted some very nice honey from the ratun bloom; have increased from 17 to 30 hives, all doing well.

LIZZIE A. ROGERS.

Farmington, Texas, May 9, 1882.

Well, I confess I am a little astonished. Our friend Mrs. Lowe has beaten the men all to pieces in rearing and shipping queens, and now you, my good friend, have succeeded with the rubber plates, and have even got nice combs built out from them, even after a good many men have failed with them, or reported them quite unsatisfactory! I really can not see why you used starch on them. We use nothing at all but soft warm water, and we never have any trouble with the fdn. sticking. While I think of it, 24 nice queens just received from Mrs. Lowe are now calling loudly from the stand near by. Every queen, and, if I am correct, every bee in the lot, came through bright and lively.

BEES IN WASHINGTON TERRITORY, ETC.

Our bees commenced bringing in pollen March 20, and are gathering honey now. I think there will be two swarms out in a few days. I will try to keep a diary of the bees this year, and send you a correct report. I planted the Spider plant last year, and the plants were full of honey, but not a bee could I ever find on it, as we have so many wild honey-plants here; besides, we had two crops of buckwheat and alsike clover, and white clover in bloom from the middle of May till October. This spring we will sow

about one acre of alsike and white clover. I should like to be with Mrs. Lucinda Harrison one season, to learn bee-keeping, for I dearly love to work with the little pets. Honey is 25 cents per lb., and bees \$8.00 per stand. It is a most profitable business here.

MRS. NELSON KELLY.

Ferndale, Wash. Ter., May 1, 1882.

The number of your Spider plants was so small, my friend, and other forage so plenty, I presume the bees did not discover that on the Spider plant. If you have a larger patch of it, or it comes in at a time when there is a dearth of honey from other sources, you will find them on it "with a vengeance."

BLOSSOMS, BUT NOT HONEY.

A lady writes me as follows: "I am entirely discouraged. My bees are nearly all dead—at least, two-thirds of them. I think they have committed suicide—starved themselves in the midst of plenty." What a mistaken idea, that such greedy little fellows, with lively appetites, would "commit suicide"! People are crazy who commit suicide, and we have thought sometimes that bees were crazy when honey was lying around loose. "Starved themselves in the midst of plenty!" This lady is a novice in bee culture, and supposes that, as there are oceans of bloom, there is plenty of honey. We are told to provide pasture for our winged stock; but "Paul may plant and Apollos water, but it is God that giveth the"—honey. We can not make the weather. We may plant and sow; "so far shalt thou go, and no further." And what are you going to do about it? Sit still and repine? No, indeed! Be up and doing; have our dishes right side up, so if it rains porridge we shall catch some.

We have learned something, while feeding our bees such a long time, and one thing is, that newspapers don't always tell the truth. It is all a myth about patent comb being filled with glucose, and sealed up by the bees. We have fed diluted honey, and also syrup made of the best white sugar, and as long as they needed it to preserve life, they carried it down; but as soon as there was a flow of honey, it was left to sour in the feeders. When we have fed, in order to have box honey completed, it was slow work—the bees worked industriously for a few days; but after that, appropriated only what was necessary for their daily wants and feeding their young, thus becoming very strong, but neglecting the boxes.

At the present writing, June 11th, there are thousands of white clover-heads bobbing in the breeze; black locusts and raspberries in bloom, and yet bees are barely making a living. Weather rainy and cool.

MRS. L. HARRISON.

Peoria, Ill., June 11, 1882.

One hive swarmed yesterday about 10 A.M. On examination (after we saved the swarm), we found a queen in the old hive, and three queen-cells. In the afternoon we went to the hive to remove the queen-cells to form a new colony, and found one of the cells open. We have now 9 colonies; had 4 to begin with this spring. For my own pleasure, satisfaction, and profit, and to benefit others if I can, I keep a record of my experience in bee culture.

MRS. CARRIE L. STALLARD.

Russellville, Ind., May 27, 1882.

The queen you found was probably one that had just hatched, and it was a wonder

that your cells were not all torn down when you went after them in the afternoon.

We are beginners in the bee business—just commencing our third season. I have wintered 35 colonies without loss, in chaff hives, on summer stands. They are in what we call splendid condition.

MRS. T. HARRISON.

Grand Lodge, Mich., May 31, 1882.

CYPRIONS.

The Cyprian queen I bought of you last fall was introduced safely, and seems to be very prolific. She has a good colony now.

MRS. JENNIE HOWARD.

Lawsville Center, Pa., May 31, 1882.

Fancy an Ohio woman in Western Texas, with two colonies of bees, and no lumber yard within fifty miles, and you have my reason for writing you, in a nut-shell. I don't expect to use an extractor for a long time yet. I don't want to raise honey to sell, but I *do* want some hives for my bees to make comb honey in, (and how fast they do make it in this land of flowers!) something that I can just go to and take out the surplus honey for my own family use.

MRS. J. A. BONNELL.

Center Point, Texas, March 19, 1882.

Please make a little correction in that letter in April number, as printed in Ladies' Department. I meant to have written you of it before now. It is this: "Our bees did well the past season, especially in the fall, and honey was in good demand, *and* could have sold as much more," instead of "I could have sold as much more." Mr. Axtell sells the honey. I do not sell much, though I try to help him in every way I can. I believe if we want our husbands to succeed as bee-keepers, or in any other business, we must do our part—do all we can.

Our bees average very strong, and are in good condition this spring. All were alive when taken out of cellar, 120 colonies; but on examination, 3 were queenless, and one very weak. We united with a queenless one; the first lot, taken out the 15th of March, began raising drone brood, and none were queenless. The last ones, taken out about 18 days later, were the queenless ones, and the first set out by the time the young queens were ready to fly had drones. I think we kept the last ones in a little too long. One morning we found them in quite an uproar—so much excited we could not carry them out of the cellar, so we poured pails of water all around in the cellar, and left it until next morning, when they were quiet; took them out without difficulty.

At our apiary, $\frac{1}{2}$ miles east of here, we had 93 colonies, most of which are very strong, but have used up nearly all their honey, so they will need from 5 to 10 lbs. more to carry them through to white clover. They have used more honey than any winter since we kept bees, I think; but, fortunately, we had some 225 or 250 combs full of honey set away for emergencies, and now all we have to do is to set them in the hives; it is nearly as cheap for us to give it back as to feed sugar, counting the time of extracting the honey and preparing the sugar, etc. We are deficient also in experienced help to take care of our bees.

The first lot of bees set out of cellar will also have to have from 5 to 10 lbs. of honey, but last ones will have a plenty, I think; but at date there are not more than half as many bees in the hive, but a large

quantity of brood. I never saw such colonies at this time of the year as our first ones are, first out of cellar, and those wintered outdoors literally boiling over full, and we mean they shall have all the honey they can use until white clover. It has been so cool all through apple and cherry bloom, they have gathered but little. SARAH J. W. AXTELL.

Roseville, Ill., May 1, 1882.

Of course, we all know, my good friend, that you do not sell the honey, just as we know that your husband does not write the good letters you give us now and then. But as these letters are, much of them, of him and about him, we have somehow concluded you work together, without any woman's rights or wrongs, or man's rights or wrongs about it, but that you twain are one. Perhaps I was the unlucky one who interposed that "I." We are very glad indeed to know you have so many bees, and we think you are wise in having them in more than one apiary.

Notes and Queries.

DAMP CELLARS NOT ALWAYS DETRIMENTAL.

THE weather has been so warm that I have taken my bees out of the cellar. I find them in good condition, although the cellar had a foot of water in it when I put them there, and it must have been damp all winter. It is a clay cellar.

N. P. ASPINWALL.

Harrison, Kandiyohi Co., Minn., Feb. 15, 1882.

Bees doing well at the foot hills of the mountains; on the plains it is dry, and no flowers. Our 40 colonies have used over 200 lbs. of flour.

R. H. RHODES.

Arvada, Jefferson Co., Col., April 8, 1882.

I commenced the season with 12 colonies; 2 were weak ones; got 895 lbs., all comb honey; brought \$112, for which I feel very thankful.

D. M. STOWITS.

Beaver Dam, Schuyler Co., N. Y., Feb. 26, 1882.

I have 30 colonies of pure Italians. Last season I sold over 100 gallons extracted, and 200 lbs. of section. I had 17 colonies last spring.

MILES S. PRAY.

Delta, Fulton Co., O., March 4, 1882.

WINTERING IN CAVES.

Bees came from their winter quarters in good condition. We winter in a cave, and cover them up tight like potatoes, so they never freeze.

Fort Dodge, Iowa, May 26, 1882. T. W. DALE.

THICK HONEY IN NEW ZEALAND.

I have had a fair crop of honey this year, but it is so thick that it will not extract; in fact, I removed the sides of a cell, and the honey remained in the same shape, like a jelly out of a mold.

C. H. THOMSON.

Opotiki, Whakatane Co., N. Z., April 17, 1882.

READY FOR BUSINESS, AND BUSINESS COMING.

Bees are booming. Since the 4th, my 19 colonies have gathered about 4 lbs. per colony each day, of surplus honey. Well, let them boom. I think I am ready, with 25 empty hives and 10 young queens in nucleus hives, ready for swarms.

S. H. MOSS.

Colchester, Ill., June 8, 1882.

I have been taking GLEANINGS ever since the first number, and find it takes some time to look them all through to find what I could turn right to in A B C.

SAMUEL C. WARE.

Towanda, McLean Co., Ill., May 27, 1882.

Bees are now getting strong fast, though no honey to gather yet. I had several swarms, but must feed them. White clover comes in about twelve days, if weather is warm.

GEO. GRIMM.

Jefferson, Wis., June 1, 1882.

Cold and rainy all through apple-bloom, and now there is nothing to be obtained by the bees. I have just purchased a barrel of sugar, as my honey is equalized so there is only about 3 lbs. to the hive. Next week I shall be obliged to feed, if something don't yield honey.

G. M. DOOLITTLE.

Borodino, N. Y., June 16, 1882.

I have discovered that, for putting fdn. into wired frames, there is nothing equal to a sewing-needle with point end put into a handle and grinding off a portion of the opposite end. By running this creased end along on the wires it may be nicely and firmly imbedded into the foundation.

South Sutton, N. H., May 3, 1882. F. M. CHIENEY.

JONES ENTRANCE-GUARDS—A CAUTION.

The entrance-guards you sent a short time since do not or did not answer the purpose. The queen came out, and the bees swarmed as before. I examined, and found that the holes along the corner where it is bent, became larger by bending. I hammered them a little; think they are all right now.

WM. G. FOLLMER.

Milton, Northumberland Co., Pa., June 5, 1882.

REPORT IN REGARD TO OUR FANCY SECTIONS.

I split the stars, etc., through the middle, and put foundation between, and the bees filled them and capped over one side. The honey-flow then stopped abruptly, and they did not finish them. I put them in the body of hive. I think I should have no trouble in getting the letters built out by putting one below two 5x6 sections.

GEO. E. HILTON.

Fremont Center, Mich., Dec. 26, 1881.

CHAFF HIVES.

I have most of my bees in chaff hives; have not lost any. The other day they had a fly; I noticed in front of the Simplicity hives three dead bees to one in chaff hives. I got 79 lbs. comb honey of the best Italians in chaff hive. I have engaged all my honey at 20 cents per lb. I have 57 strong swarms, and well supplied with honey, the best Levér had.

T. J. ELLIOTT.

Ashland, Ashland Co., O., Feb. 20, 1882.

RUBBER GLOVES.

In your circular you protest against rubber gloves. Five minutes with our bees would satisfy you that gloves are of some use. Bees here have the longest splinters in their terminus of any bees on the map of America. I was stung twice inside of five minutes, and through the rubber gloves too.

D. G. WALDO.

McGraw, Warren Co., Pa., June 15, 1882.

[Very likely, friend W., for the bees would sting you with rubber gloves on, while you would not get stung at all without them. Have you not proven they are of no protection against the "splinters"? Somehow we are doing a pretty heavy trade on them, in spite of the protest however.]

CHAFF HIVES AND CELLAR WINTERING — BOTH GOOD.

I would make a report in regard to wintering my bees. I had 118 colonies last fall in good condition; wintered 94 in cellar, the rest on summer stands, 14 in chaff hives; can see but little difference in the way they were wintered. I have not lost any up to date; all are strong in bees, and have plenty of honey.

GEORGE BRIGGS.

New Sharon, Ia., April 4, 1882.

HOW AN A B C SCHOLAR FEELS WHEN HE SUCCEEDS.

The queen came all right, and there was not a dead bee in the cage. It was a cold and windy day, and I had no straight comb to stick the cage on, so I fixed it the best I could, and let it go. It was the first time for me. I did not know whether they received her or not, so I looked some time ago, and, to make sure, I looked to-day, and found a nice lot of brood, so I was glad. She is all right, and in a "whopping" big swarm.

LOUIS MERTZ.

Williamstown, O., Feb. 11, 1882.

NO MORE BEE JOURNALS WANTED.

Please do not send me any more of your bee journals, as I have no time to spend on them — not being much interested in the raising of bees.

J. W. TOWNSEND.

Coatesville, Pa., May 20, 1882.

[Now just look there, will you? Some of you have got cross because we stopped the journal when the time you had paid for it had expired. We supposed the friend who writes had paid for it, of course; but come to look it up, it seems he hasn't. You surely wouldn't recommend us to send the journal where it might not be wanted?]

THE HONEY-PEA, AGAIN.

I send you by this mail a package of peas. Plant two in a place, 6 inches apart; keep the ground loose for two weeks with a hoe, then let alone. For cow feed they are sown broadcast and let alone. The peas are gathered for seed when the pods are ripe and dry. They make a good table dish. From what I send you, you can get seed in abundance for another year.

T. J. HAPPEL.

Trenton, Tenn., June 14, 1882.

[Thanks, friend H. Our friends will remember that this pea was mentioned on page 303, June No. If it produces honey in such quantities in other localities, it is well worthy of a prominent place among our honey-plants. We shall proceed at once to test them on our grounds.]

Tobacco Column.

HOW THE WORK GOES ON.

WE received the two smokers all right, and would express many thanks for your promptness and confidence in humanity. Now we have received your price list, and hasten to send the money. I hope GLEANINGS still has its Tobacco Column, for I think it will do more good than you will ever know. My husband used tobacco for 35 years, and has left off and started a Band of Hope among the children of the place, which now numbers 73 members who have signed a pledge against alcohol, tobacco, and profanity. He commenced using tobacco at five years of age, and therefore sees the importance of prevention of bad habits with chil-

dren; but it seems to me you can hardly afford to hire people to quit bad habits, and we think it too bad to take advantage of your generosity and take a smoker for doing so.

MRS. JENNIE HOWARD.

Lawsville Centre, Susq. Co., Pa., June 15, 1882.

Why, my friend, I think the smokers given to tobacco-users a tiptop investment. We want money to do good with; but when we can take a short cut, and do good without the intervention of money, why, it is a kind of short cut, like the "rule of three." An old tobacco-user leading a band of hope! Whew! One of our boys asked me this morning if I would guarantee him a steady job until the first of January. I told him I would under these conditions. Do you want to see the conditions? Here is what I wrote out for him: —

I hereby engage John Jones until Jan. 1, 1883, at 12 cents an hour, each hour to be industriously improved. Swearing, drinking, or the use of tobacco, renders this contract null and void.

A. I. ROOT.

After he had read it, another boy wanted a paper just like it, and I gave him one too. Do you not see that God is with us?

The pledge I made to you is good. I have never broken it.

CAPT. W. H. WILL.

Bloomington, Ill., Feb. 8, 1882.

It has been no trouble for me to leave off the use of tobacco. Bees are doing finely.

Howe, Tex., May 20, 1882.

W. R. JACKSON.

I have been a slave to the weed for 25 years. I want a smoker of the largest size, for I have given up the use of tobacco altogether. If I should take to the habit again, the cash will be remitted to you for the smoker.

JOHN SIMPSON.

Stringtown, Ind. Ter., May 27, 1882.

HOLDING ON.

I have not smoked nor chewed a bit of tobacco since I received the April GLEANINGS (the second one I ever received), nor do I ever intend to use it hereafter; if I do, I will pay you for the smoker with interest.

E. M. SIENEMAN.

Pharisburg, Union Co., Ohio.

I saw in GLEANINGS for June that you would present a smoker to those who would stop smoking tobacco. I am one of the number who have stopped that habit, or am trying to, and will hold out. So will you please send me a smoker? I am engaged in the bee-yard of L. C. Root & Bro. at present.

DUNCAN MONROE.

Mohawk, Herkimer Co., N. Y., June 5, 1882.

May I be counted in on the Tobacco Column? I have used the weed for 35 years, until last night one week ago. If you see fit you may add smoker; if not, I shall quit anyhow, or, rather, stay quit.

I. H. DANIEL.

Cumberland, Guernsey Co., O., Feb. 27, 1882.

May God bless you in your determination, friend D.

Inclosed find a pledge which myself and T. J. Fisher went into. I told him if we would quit you would send us a smoker, and he said he would quit, so I drew up the Inclosed pledge, and we signed it. He has been using tobacco about 20 years, and I have been using it about 5. We will quit to-day.

D. A. GARDNER.

Dyer Station, Tenn., March 25, 1882.

I have used tobacco 26 years. I both chew and smoke. Send me a smoker, and I will neither chew nor smoke until I pay you \$2.00 for it.

W. A. OWENS.

Brownings, Smith Co., Tex., March 11, 1882.

I see that you will give any person a smoker if he quits using tobacco. I have quit about two weeks, and have bought 3 scaps of bees. I have used tobacco about six years, and, God helping me, I intend to quit for good, if you will send me a smoker, and if I ever use tobacco any more I will send you five dollars cash the day I put the stuff in my mouth.

HENRY MARLATT.

Beloit, Mah. Co., O., May 23, 1882.

I have been an inveterate user of tobacco for 40 years, but have quit it altogether, and, by the help of the good Lord, I never expect to use it any more. Please send me a smoker to do my smoking for me, and it will let it suffice. May the God whom you serve bless and guide you, friend Root, and give you grace according to your day and trial! May the Lord bless you in all your efforts for the good of your fellow-men, and reward you with everlasting life, is my prayer.

JESSE H. WILLIAMS.

White Sulphur Springs, Ga., Jan., 1882.

I wish Stella all the happiness possible in her new relation to the world, and hope she may cleave to the "Lion" (of the tribe of Juda). Now, friend Root, I think I deserve no credit, nor is there any virtue in my quitting the use of tobacco; it was quit or die, and I thought I would quit, and I feel better. I thank you, though, for feeling an interest in me and all other like depraved mortals.

JOHN H. DANIEL.

Cumberland, Ohio, April 3, 1882.

Well, if it was quit or die, friend D., I do not know that there was very much credit, after all. But come to think of it, I do not know but that it is pretty much the same with all. If it isn't quit or die, in a temporal sense, I am inclined to think it is in a spiritual one, especially with the present march of progress before one's eyes.

I have used tobacco for 30 years out of 42, and on the first day of last September I resolved to stop it, and am "still stopped," as the Dutchman said of the balking horse; and I did not stop to get a smoker, although I have saved enough to get half a dozen smokers. All I ask of you is your prayers, that I may never return to the filthy habit again. Besides, while I did use it, I had, for a long time, the bloody piles, and since I stopped its use I have no piles.

WILLIAM ST. MARTZ.

Martinsville, Ill., Feb. 6, 1882.

The above was quite evidently not intended for publication, but it is of such great importance that our people should understand how large a class of diseases is caused by the use of tobacco alone, I feel I should be doing a wrong by withholding it. To be sure, you shall have my prayers, brother S., as shall every one else who has commenced to battle for the right, and I know you will "stay stopped."

About a year ago I wrote you that I had quit using tobacco; that you should send me a smoker, and I would pay for it in 30 or 90 days (I don't remember which). You sent the smoker, and in a card said you would make no charge. Being a little "hard

up," I have let it run until now. I have not tasted tobacco in any form since, and do not think I ever shall. I wish it understood, that I did not quit tobacco to get a smoker, but because I became convinced that it is wrong in every sense. I think I am physically and mentally better without it. I am very certain that my breath will not intoxicate others, and give them the headache. Here is \$5.00 for the smoker, and other goods below.

Unionville, Iowa, May 6, 1882. G. B. REPLOGLE.

Do you not see, friends, how the bread I cast upon the waters recklessly, as some of you thought, is returning after many days? Surely there is a God above who looks on and brings all these things about in his own infinite wisdom. May he bless you, friend R., for your kind and encouraging words.

The matter of tobacco is just what suits me; for what an awful thing it is getting to be! I will say of a truth, that I never used it, nor any kind of liquors, nor played cards nor checkers, nor any such games. I would much rather work in the garden or with my pets, the bees. How many people there are who will have tobacco and go without eatables; and, too, what a dirty habit! The idea that it is good to keep food from hurting any one! so will any poison. We have men here who can not pay me for filing a saw, who use 10 cents in tobacco each day.

E. P. CHURCHILL.

West Minot, Me., April 15, 1882.

I guess you must be something like myself, friend C. I rarely enjoy any pastime unless it leaves something substantial after, such as a nice-looking garden or apiary. And of late I find I have no relish for entertainments or lectures, where they simply divert, without any sort of a lifting-up of the soul, or some effort to raise humanity. It is sad, friend C., to see them working with dull saws, and using ten cents' worth of tobacco a day. Be of good cheer. I can remember the day when women used to smoke clay pipes. Another generation may remember the time when *men* used to do such things.

I have been loaning GLEANINGS to some of my friends. One of them, Robert P. Rawlins, wants you to send me one of those smokers you keep on hand for those who quit using tobacco. He has been using it for a long time, both chewing and smoking, and has quit both. He wants you to send the smoker to me, for he does not keep bees. If he goes back to his tobacco, I will pay you for the smoker. Bees have been quite lively with us for about three weeks, bringing in some honey and plenty of pollen. They gathered honey from peach about one week; but when red-bud opened they would not notice a peach-bloom. Red-bud lasted 10 days, and started them to building comb and queen-cells, and yesterday I hived the finest first swarm of blacks I ever saw. There was a peek of them.

A. R. NISBET.

Dobyville, Clark Co., Ark., March 28, 1882.

Thank you, friend N. We usually require the abstainer to give us a promise in his own handwriting; but in the case you mention, I do not know but that it is even a better way, for your friend puts himself in your hands, and directs you to hold the pledge. I think I see wisdom in it, and I am sure God will bless you both.

Our Homes.

It is not by might nor by power, but by my Spirit, saith the Lord of hosts.—ZECH. 4: 6.

I MAY have used this text before, friends; but even if I have, it seems to be just the one I want again to-day. It was suggested by a letter I have recently received. This is the letter:—

Do you think it is right, or that a man is doing his Christian duty as a husband and father, who continues (against his wife's entreaties) to use tobacco, and still says he could quit it if he wanted to? Now, I know a gentleman who has four boys (oldest thirteen years old), who insists that he has a right to smoke or chew; and when one of his boys picked up a cigar, that his exemplary father had laid on the mantle, and commenced to smoke, he gave him a downright scolding, and told him he never wanted to see him smoking again. How is that for consistency? Now, I claim that it is more harm for a man to continue in any evil habit, when he knows, as this one does, that it injures his health, and when his wife is so anxious for him to quit, on account of the example to his boys, and especially when he says he can either use it or let it alone. I think him less excusable than one who says he can not give it up. Are parents not to set the example to their children, or has any one a right to correct a child for doing what he himself does? Is a man capable of governing a child, and of "training him up in the way he should go," who can not govern his own appetites or passions? Please give us a little light on this subject. I was much impressed by reading *Our Homes* in June No. Your account of the little boy "Lovey" shows that we can not be too careful in the training of our children. I am of the opinion, that if we permit whisky and tobacco in our homes, and especially if our children have inherited a taste for such, that we are guilty of a great wrong, for which we will surely have to give an account. For, as friend Mercer has said, "the flesh is weak;" and, unless assisted by a higher power, our children will surely fall. And who shall be responsible? MRS. B.

Holliday's Cove, W. Va.

My dear friend, the case you state is a sad one, and I presume it is not so very unlike the trials and conflicts almost every Christian must meet. To our eyes, this man's conduct seems very inconsistent. We want him to do better. He can not well influence his boys very much, unless he sets a better example. No matter how much he talks, or how strongly he reproves, his boys will quite likely smoke and chew, in spite of all he can say. If there were a law against such inconsistency, we might take the law on him; or if he were afraid of his wife, and dared not disobey her, she might just set her foot down and give him to understand that henceforth and for ever no more tobacco was ever to be put between his lips. His wife is a Christian woman, I believe, (did you not say so?) and she must therefore be right and he wrong; and if she had the power in her hands, she might make him a good Christian too. I beg pardon, my friend, if what I say sounds like jesting, for I assure you it is a most serious and a most sad matter. As in our text above, we have

all to learn, I believe, sooner or later, that we can not convert the world to God by might nor by power, but only by the gentle spirit that Christ has taught us; by a spirit of love and kindness. I know how hard it is to stifle and put down all feelings of a desire to *make* people do right, for I have had much sad experience. It has been with this very tobacco matter too. In my case God seems to have put all the power in my hands I could wish for, for he is sending, day after day, men and boys to me for employment. Before commencing work they give me a fair and square promise not to swear, drink, nor use tobacco. It would seem from this that the matter is all in my hands, for a boy's or man's pocket is a pretty sensitive part of his being. They all know by experience that the pay for their daily labor comes every Saturday night in hard cash; and as the greater part of our work is comparatively light, and the company and surroundings pleasant, it places in my hands a pretty long and a pretty strong lever. I need hardly remind you, however, that the God who gave me this power would take it away very quickly if it were not used wisely. If I have a lever that bears directly on their pocket-books, they have also one that bears on mine. If they should all put their heads together some bright morning in June, and declare they would not work another hour unless I would give in on tobacco, or raise their wages, or something else of the kind, the long end of the lever would be in their hands, and they might fetch the other down on my poor—pocket-book in a way that would make me beg for mercy, I tell you. Suppose, during the swarming season, with letters coming in at the rate of over a hundred a day, and customers imploring us to hurry up (some of them, perhaps, throwing it in my teeth that one who professes as much as I do ought to be prompt in business), our whole force should at once stop and refuse to go ahead, unless I complied with some condition of theirs; do you not see how I should be in their power? Well, friends, I am glad it is so. I am glad the power is not all in my hands, and I thank God that I am dependent upon them, in very much the same way they are dependent upon me. Do you not see now what a very foolish thing it would be in me to imagine the power is all in *my* hands, and that I could, if I choose, be harsh and overbearing, or tyrannical? Now, with this in view, suppose I should see one of my boys smoking a cigar—one who had given the promise, if you choose; what should I do? If my sole object were to have my own way, or to avoid being annoyed by the smell of tobacco on my own premises, I might discharge him and hire somebody else in his place. And I might, too, as a parting injunction, sting his young mind with reproaches for having broken his word, and proven untruthful. I might defend myself in such a course by saying that I had told only the truth. I might say, too, that I would gladly try to help boys who were truthful; but with those who were not, I wanted nothing to do.

Well, now, let us suppose my motive in life to be, not to have my own way, nor to

escape disagreeable things, but to serve the Master and do good to these boys because of the love I have for Him who said, Inasmuch as you show kindnesses to the least of one of these, ye show it unto me. Out of love to him, I have love for these boys; and out of love to him, my heart is pained when they do wrong, or waste the precious lives he has given them. Now, what shall be done for the one who has broken over the rules? Perhaps on some Sabbath morning, on my way to church I catch a glimpse of him slipping a cigar behind him, because he saw me coming. As he takes his place in the factory next morning, he glances a little uneasily at me, and may be the rest are looking on to see the "fun." Although he knows as well as I know that he has transgressed the rules, and broken his word, he in his own mind has built up a sort of defense. Perhaps others of our boys were along with him, and it may be quite a number have been smoking. He reasons exactly as men do when they urge the faults of professing Christians as a reason why they should be excused. Although he, when he first accepted my terms of employment, made no objection to the rules, he now decides they are hard and arbitrary, and that it is none of my business what the boys do Sundays, when they are out of the factory. What shall we do with such a spirit and such an attitude? Give up, and decide the thing can't be carried out? God forbid! That is exactly what Satan has been planning and working for, and to give up will not only be ruin to the boys, but ruin to yourself. Giving up would be worse than turning the boys off, as they expect, and perhaps deserve. A hard problem to grapple with is before us—a problem like those before which the laws of our land have proven weak and inefficient. What shall we do with sin and with crime? Hard problems do us good. If they are so hard that they bring us down on our knees before God, they do us more good; and, thank God, they do good to the ones we pray for too. Go down on your knees hungering and thirsting for right, or righteousness, if you choose, and plead before God the promise given by that well-beloved Son, that we shall have the desires of our hearts, or, better still, that we shall be filled, and that hunger for right shall be gratified. How shall we do it? Mueller has said, or some other good man, that God will not make our work plain to us unless we have first consulted his word well. If you have diligently searched your Bible, and it don't touch on the trouble in question at all, you may reasonably expect God to guide you aright in answer to prayer; but unless you first consult well this chart he has given, you may make grievous mistakes. Well, the Bible tells us, as in our opening text, that it is to be done, not by might nor by power, but by his Spirit. His Spirit is love and gentleness; a bruised reed he will not break, and the smoking flax he will not quench. That bad and unreasonable spirit is to be disarmed with kindness. One can be firm, but kind, with Christ's help, and here is where this quality is needed.

The offender had planned to have the matter come up the first thing; he had also, per-

haps, planned to have it come up before others. It is rarely well for a teacher to be in a hurry to show his authority, nor is it wise for him to go out of his way very much to take up cases of disobedience. I would wait a few days, until he had decided no notice was to be taken of the matter. Then I would wait until I could find him alone. The matter should be discussed between us two, and no others, if possible. Only God's eye should see, and only God's ear hear; and if it could be brought about, our young friend should be made to feel it was to God he was accountable, and before him he was standing.

"John, did I not see you with a cigar last Sunday?"

As my manner is kind, and my look a friendly one, he has hardly the courage to raise the objections he had planned; but yet, after a little silence he does attempt a defense.

"But your promise, John; we talked the matter all over, when you commenced work, and I think it was all well understood, and agreed to. Is it right, and is it a manly thing to do, to keep on at work and say nothing?"

"No, sir, it isn't."

"Well, now, John, I do not want to interfere with any boy's rights. He has a perfect right to choose tobacco instead of his situation, if he chooses, and there are doubtless plenty of places where you can get work, if you choose, as well as here; but if you go away, can we not be friends still? Even though we disagree on this tobacco matter, can we not shake hands in parting, and also when we happen to meet at any future time?"

The boy is rapidly becoming disarmed. The weapons he had planned to use are lost; and this unexpected way of putting it is appealing powerfully to his better feelings.

"John, I hate to have it said we have had trouble, or that you have been disgraced. Even though you have decided to use tobacco, I do not insist that you leave right now. Keep at work, if you wish, until you can look up another place, and no one need ever know that we have had this disagreement; and whenever you have reason to think that my stand on tobacco is a good one, and that you would like to stand by me on it, come back; and if I can, I will give you your place again."

In the darkness of my little closet, after the hands have all gone home at night, after such an experience as I have given above, my prayer is usually something like this: "O God my Father, again I thank thee that thou hast enabled me, through weakness, to baffle once more the schemes of the evil one. I thank thee that thou hast enabled me to get out of my own heart all feelings of impatience, and every thing that would tend to hinder in this great work of bringing souls to thee. I thank thee for this, another lesson, that it is not by might nor by power, but by thy Spirit, that evil shall be subdued and made to give place to good."

And now for this Christian wife, whose husband persists in the use of tobacco. Can she make him stop? By herself alone she can not, any more than she can stem Niaga-

ra. If she should tell him that, unless he gave up tobacco she would leave him, he would, very likely, choose to hold to tobacco and let his wife go. I say this from what I know of husbands in general, and from some experience I have had of my own. It can not be done by might nor by power; in fact, might and power would probably tend to harden his heart, and might be the means of making him continue to use it, where he would stop if let alone. Reproaches will not do it, for the most of us know, by our own hearts, that reproaches only make us stubborn. If you will excuse the liberty, my dear friend Mrs. B., I fear there is something in your letter that sounds like reproaches. You use the term "exemplary father." This is not only a reproach, but it tends toward sarcasm. Not only should no word of this kind be used toward the soul we would save, but no such thought should ever enter our hearts. Not by censure, not by sarcasm, for these are Satan's weapons; but by the weapons of kindness and love, for these are the ones, and the only ones, furnished by Jesus for his followers. It would seem very strange to tell that woman she must first love her husband before she can hope to redeem him; but I fear it is a sad fact, that the great element lacking, not only in the world, but in the family, and even in the church, is this same Christian love and forbearance that would no more allow one to think of using reproach or censure toward the one who was to be saved, than he would be caught shouting and throwing bricks at a horse in a ten-acre lot, when he wanted to catch him. If this element of harsh judgment and censure could all be got out of the heart, and kindness and love made to take the place of it, we could almost say with Paul, "I can do all things — through Christ which strengtheneth me."

I do not mean to say that the man is right, by any means, nor do I advise that the wife should take no steps toward reformation in her family; but I do mean to urge the little text that says, "Judge not, and ye shall not be judged: condemn not, and ye shall not be condemned." Remember that even Jesus himself refused to pass judgment on a man when one came to him asking him to make his brother divide the property aright, or something of that sort. "Man, who made me a divider or a ruler over you?" If our Lord and Savior declined to pass judgment, how very far ought we to be from undertaking a similar office! And now, my friend, forgive me if I press this matter home a little further. I will take it myself with you, for I know I need it most sadly. He spoke of taking a mote out of a brother's eye; and then come these words: "First cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye." It has only lately begun to dawn on my understanding, the great truth that lies in this little text. If you and I, my friend, expect to assist in conquering the world by the power of Christ's spirit, I tell you our vision must not be clouded by a disposition to judge harshly and condemn hastily. You see, that the worst trouble is, that the one who condemns in such an inju-

rious way does not see the great beam that is in his own eye, and, very likely, insists he is all right while everybody else is all wrong. Even church-members sometimes get in a way of reproving and rebuking each other when the sin of judging and condemning is a great beam, while the sin of the brother who is rebuked is but a mere mote in comparison. In temperance work, the danger of getting so earnest in the cause as to condemn hastily and judge harshly is very great. We Christians forget that the great key of success consists in doing good to those who hate us. *In doing good to those who hate us.* Over and over again these words have been read in our Bibles, and yet even Christians, when they come face to face with the matter in the affairs of everyday life, blindly imagine they are to conquer by hating back, and doing an unkindness back again. Did you ever see or hear of anybody who, when he was stirred up by unkind and harsh usage, had the grace to stop, right in the midst of his anger, and turn about and do a kindness to the one who misused him? If you did not, how do you suppose it would work? What would be his power to save souls, and — get husbands to stop using tobacco before their boys? Some one remarked in our teachers' meeting, that such a way "goes so terribly against the grain," or across our own feelings and inclinations, and that is why they are called crosses.

Do you not know what David said on this matter? "Create in me a clean heart, O God, and renew a right spirit within me." You see, this was asking God to take the beam out of his own eye, and he realized the need of it, and the power it would give; for he says, right afterward, "Then will I teach transgressors thy ways, and sinners shall be converted unto thee." Truly would he then be able to successfully remove the mote from his brother's eye. Which is it we want most, to have this man stop using tobacco, or to have him become a Christian? How shall this wife proceed? I will tell you how I would advise her to proceed, and I am a man, and know how a man takes such things from his wife. Yes, I remember very well how an *ungodly* man takes such things. Well, wait until some time when he feels pleasant, and the tobacco subject is furthest from his thoughts. If it is a customary thing for you to sit by his side and have hold of his hand, you are ready to proceed. If it is not a customary thing for you to so sit, I should say you are not yet ready to say a word on the subject of tobacco. You are to get ready by winning his love and gratitude by kind acts and kind offices. You won him once, and you can again. You once loved him, and you must love him again, even as your Savior loves you. Pray for yourself, and pray for him. It may take weeks and perhaps months for you to get the beams out of your own eyes or heart, so that you are ready to commence on the tobacco question. We will suppose that the time has come, and you are by his side, and have hold of his hand.

"Husband, may I say a word on tobacco?"
Now, if his looks as well as words show he

will not be displeased or hurt by what you are going to say, go on; if, on the contrary, he looks annoyed, and turns his face away instead of meeting your kindly gaze, do not go on, but assure him that his love and confidence are of far more importance than tobacco, and so let the matter drop, and keep on praying. Be careful now of any beams in your own eye, in the shape of impatience or ill temper, or unpleasant argument or discussion. If any such discussion gets started, stop at once, as you value — not your life, but an immortal soul. The spirit that is to conquer will tell you when you are astray, and, many times, without your really knowing why you are astray either. Listen for its warning voice, and stop promptly. You are a woman, and it will be hard for you to stop without having the last word. You must give up having the last word, or the last of any thing. It is the price of victory. He that ruleth himself is greater than he that taketh a city. Some will say, "And are we to get clear down and let everybody trample us in the mud, and walk over us?" Yes, my friend, we are to get clear down, right down in the dust. God will show you where you can show energy and bravery, but it is not in argument; no, nor in might nor power, but "by my Spirit." The humiliation may be hard, and, if you are unused to it, it may chafe; but hold on bravely, and a great and glorious victory will await you. That husband who now sets a bad example before the boys will soon lead them in prayer, and, possibly, may not only induce them to give up tobacco, but to become soldiers of the cross.

I have, in one part of our talk to-day, alluded to the subject of "strikes" that is now agitating the manufacturers of our country. A while ago we were hindered in getting some glassware from a house of unusual promptness. The reason given, finally, was that the men were "on a strike." We did have a small strike here. A few months ago a new hand came among us who had been a pretty hard boy, as he himself acknowledged. He told me he would like to work where there were just such rules as we had, for he knew it would be better for him to give up tobacco, swearing, and other bad habits. He took hold and did well, and we raised his wages very soon. I can tell pretty well from a boy's eye when he is keeping his pledge on tobacco. It has a bright proud look that is gone when he secretly yields to the demand of the old appetite. After awhile I was told this one was both using tobacco, and swearing. As I do not like to take hearsay, I passed the matter by for the time. I wish to make a point right here. One who has a guilty conscience is never satisfied. He is never happy nor contented, and Satan, who is urging him on to other sins, sooner or later puts it into his head he is not having all he ought to have. It is the law of crime, as you may see from any of our jails or penitentiaries. Well, one noon as the engine was about to start, the boys who worked down in the buzz-saw room did not commence to work. As I passed them in a group, this one requested an advance in

wages. I very pleasantly told him I could not afford to pay more, that if he could do better I was very glad to hear it, and that others were ready to take his place, if he wished to give it up. He made some plea that inexperienced hands could not very well take their place at a moment's notice, to which I replied that I would prefer inexperienced hands with a hearty good will, to old ones who were dissatisfied with their pay. He left, and one more with him, whom we had had but a short time; but this one man had, in a few days, aroused a spirit of unrest in the minds of our boys that it may take months for them to get over. At the noon service I told the hands the next day there were three reasons why there could not be a strike in our establishment. First, too many of my employes are warm personal friends — friends whom I have helped, and who have helped me; and friends, too, whom I have often paid more wages than they asked. Second, I am besieged, almost the year round, by boys and girls wanting something to do. Third and last reason, because I am praying constantly that our relations with each other may be, Not — by — might — not — by — power, — but — by — thy — Spirit.

"Remindery,"

**Or Department for duties to be attended to
this month.**

This department is intended for the purpose of reminding our friends of the duties of each month.

LOOK out that none of the hives lack room for storing honey. All the labor of the year, and the reward of all our care and pains, may be lost now by just a little carelessness. Take a peep into every hive every day. If they have sections to work in, see what they are doing in the sections; if you are going to extract, see that they have empty combs to store the honey in, and see, too, that the honey is removed, or more combs given, before they get full and stop work. If you let them stop work just one day, you may not be able to get them started again during the whole season. If you are hurried for time during the honey season, put in more empty combs, and set on upper stores; let them cap it up solid, and you will get a better quality of honey, and, I am inclined to think, more of it, than in any other way; but you will have to have empty combs, or frames of fdn., enough to hold the whole crop of honey. Always have some empty comb in a hive during a honey yield, either right over the cluster, or at one side. Discourage swarming, by constantly giving room and fdn., or empty combs. If you wish increase, now is the time to divide and rear queens. If a body can ever raise nice queens, he can now. If your bees are not in chaff hives, have them shaded. Be near your bees, and have your eye on them from morning until night. Don't have any clustering out, not even a teacupful. Drive them in with smoke, divide the hive, move it away and put a new hive with a few combs and the queen in its stead, or something

else, to make them go out and gather honey. Sometimes a large new swarm will cluster on the outside instead of going in and going to work. Make them go to work; they will often earn nearly as much as you can, in the first few days they are hived in early part of basswood bloom. Always have one or more hives in readiness, to put unexpected swarms in, and when you put them in give them a comb of unsealed brood containing but little honey. Make every colony grow just as you would make a cabbage-plant or hill of corn grow, by the best care you could give it. If you haven't a queen laying eggs in every hive, give the hive a few eggs or larvæ every three or four days, until they have a queen of their own laying eggs. Never have a good queen without a good lot of bees with her, and never have a good lot of bees without a good queen with them. If some hive has to remain queenless, let it be a weak colony rather than a strong one. I know that some have recommended taking the queen away from a powerful colony while they were storing comb honey; but my experience has been, that it would tend to stop their work, although they might accumulate a good deal of honey, having no brood to feed and care for. You can try it, if you wish, but don't try it on many to commence with.

If you wish increase, take all the after-swarms you can find in the neighborhood. Give them some combs and an Italian queen; feed them when honey stops, and they may be your very best before winter. Be watchful, be busy, be earnest, be true.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, JULY 1, 1882.

For the preaching of the cross is to them that perish, foolishness; but unto us which are saved, it is the power of God.—I. COR. 1:18.

HONEY is now coming from clover moderately.

WE have now, this 27th day of June, 4797 subscribers and 385 colonies of bees.

OUR number of queen-rearing colonies will soon be increased to 500, and we hope to be able to rear the greater part of the queens we send out. As there is not a black or hybrid queen among the whole, we have a reasonable hope that nearly all may prove purely mated.

SHOULD any be disposed to complain that I have, in the Home Papers of the present number, taught that a woman should fear her husband, I reply by saying I would advise the same course for a man who has a wife addicted to any bad habit. Meekness and gentleness are far removed from cowardice.

WHEN you have had a correspondence in regard to certain goods, and then afterward make an order, be sure you refer to this previous correspondence; for unless you do so, we shall know nothing about it. Please bear in mind, that although your whole correspondence is carefully filed away with our multitudes of letters, it is about out of the question to remember any thing unless you in some way allude to it, or call attention to it, that it may be looked up. Many troubles have come up because of a failure to do this.

POUNDS or half-pounds of bees, containing queens, should not be released on old combs, unless there be among them at least one comb containing unsealed brood, or there is quite a danger of their decamping before the queen gets to laying; therefore, if you have no bees of your own, and can get none of near neighbors, you had better buy at least one comb of brood along with your first lot. After this you will always have at least one comb to spare, containing the young larvæ, so necessary to hold any of these little colonies.

LOOK OUT FOR THE RED ANTS.

BE careful how you leave caged queens where ants may get at them. Last season the boys lost quite a number of imported queens by leaving them in a hive containing no bees until they could get ready to introduce them. In just a few hours the little red ants had got at the cages, and the queens were dead. Notwithstanding this experience, two dollar queens were left in a similar place last night, and this morning both were dead. If these ants are in your house, place your caged queens on a stand having its four legs in as many dishes of water, or your queens will "go dead." I do not really understand why ants are so fatal; but there are some postoffices where queens are killed by the ants almost every time they go there.

OUR NEW FOUNDATION MILL.

SINCE our improvement in comb-fdn. mills, we have sold 26 of the 10-inch \$25.00 mills. The cell, although similar to it, is by no means the Dunham cell. While we have trouble almost every day with one of the best Dunham nickel-plated mills, the fdn. comes out of our own, either thick or thin, with hardly a hindrance from morning until night, and the rolls rarely if ever need picking out. The wax rolls so much easier, we have dispensed with the back-gear, and use only a long crank directly on the shaft of the roll. Although friend Hayhurst seldom speaks strongly, he came pretty nearly doing so when he wrote the following:—

I am in receipt of a 1-lb. package of the most beautiful foundation I ever saw. It is almost perfect. As I have ordered no foundation from other parties, I infer that it comes from you.
Kansas City, Mo., May 23, 1882. E. M. HAYHURST.

WE have been trying to get some mills ahead, so as to keep them in stock ready to ship, but haven't succeeded yet.

WE have had a roar of business, I tell you; and of late, some pretty strong complaints have been received; and it is most agreeable to my eyes to see the clerk's blue pencil-mark across each complaint, saying, "Goods gone." I know it would be better to have the goods gone before there could be a time for such complaint; but remember, friends, you do not choose to send orders very much before there is evidence there is going to be a need of them, and why can you blame us so very much for not wishing to invest a great amount of money before we know

anybody will want them? Almost every thing, this season, has been piled up ahead in such quantities that we have found it difficult to climb through some of the rooms; but once in a while we find we have not nearly enough after all, and then there will be delay. A good many complaints have been made because of delays on goods we do not advertise. We try to be prompt on every thing in our catalogue, and, in fact, we do not put an article in the catalogue until it is in stock ready to ship. Bees and queens have all the season gone by return mail or express, and I tell you it is a pleasure to do business in that way. More room would enable us to fill orders much more expeditiously, and we are now thinking of a new building, of the same size as our present one, some time in the dim future, if it be God's pleasure to continue to prosper us.

BECAUSE the queen you receive does not lay, after her trip through the mail-bags, is no good reason for insisting that she was a virgin queen. To send out a queen before she has commenced to lay would be about on a par with passing counterfeit money, and I hardly know of anything you can say more unkind than to accuse one of doing such a thing. Say the queen never laid an egg, if you choose, and also say you think you should have another under the circumstances, if you think so; but please do not add to the trials and disappointments of the one who sent her, by accusing him of dishonesty. Quite a number of old tested queens have this spring refused to lay, after a long trip through the mail.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CHICAGO.—*Honey*.—There is no change in the honey and *Bee-swar* market since my last quotations in June GLEANINGS. ALFRED H. NEWMAN.
Chicago, Ill., June 21, 1882.

BOSTON.—*Honey*.—New honey, 25c. for 1 lb., and 23 for 2 lbs. More new honey is wanted in this market, ½-lb. honey, 30 cts. Good refined *Bee-swar*, 32 cents. CROCKER & BLAKE.
Boston, Mass., June 22, 1882.

CINCINNATI.—*Honey*.—The market for honey is quiet, with no change in prices. But, different from former years, sales are made every day. New arrivals of extracted honey have become more frequent. We pay 7@10c. on arrival. Prices for comb honey nominal. *Bee-swar* is scarce, and brings 20@28c. on arrival. CHAS. F. MUTH.
Cincinnati, O., June 21, 1882.

DETROIT.—*Honey*.—The honey market is very dull; hardly anything doing. Quotations are 15@18c. *Bee-swar* brings 20@22c., and is held in stock at 25@26c. Detroit, Mich., June 25, 1882. A. B. WEED.

NEW YORK.—*Honey*.—Your postal of the 20th at hand; and in reply, allow us to quote: Southern strained honey, 85@90c. per gallon; extracted buckwheat, 7c. per lb.; extracted clover, fancy, 11c. per lb.; comb honey, buckwheat, 11@13c. per lb. Pure *Bee-swar*, prime yellow, 25@26c. per pound. H. K. & F. B. THURBER & Co.
New York, June 22, 1882.

CLEVELAND.—*Honey*.—We regret to say there is nothing to report in honey, there being no comb in market; 1 bbl. of old extracted sold to-day at 10 cts. *Bee-swar* very scarce, none offering. Cleveland, O., June 21, 1882. A. C. KENDEL.

CIRCULARS, ETC., RECEIVED.

Joseph D. Enas, Napa, Cal., sends us a postal-card circular relative to Italian bees and queens.

From T. S. Hall, Kirby's Creek, Ala., we have received a circular, 5 x 16 inches, giving prices of Italian queens and bees.

KIND WORDS FROM OUR CUSTOMERS.

My advertisement in GLEANINGS has paid very well. J. H. REED.
Orleans, Orange Co., Ind., June 13, 1882.

The specs are a marvel of cheapness. Thanks. I shall send another order. G. H. CHILD.
East Killingby, Conn., May 20, 1882.

I am delighted with the "Little Detective" scales bought of you last year. L. A. DARSEY.
Ellaville, Ga., Feb. 15, 1882.

I received your 50-cent smoker all O. K. It works like a steam-engine. R. GRINNELL.
Baden, Mo., June 6, 1882.

The maple sugar came to hand all right, and the friends are greatly pleased. It would have cost at retail \$24.00 more than it did. J. S. HUGHES.
Mt. Zion, Ill., April 22, 1882.

The A B C book is full of information, explained in a pleasant way not to be found in any other book I have read. J. RUTHERFORD.
Strathroy, Ont., May 12, 1882.

I send you 5 names to get a new Waterbury watch. Last year I purchased 13 of you (and now wish this one for myself). All are sold, and give satisfaction. J. W. K. STAW.
Loreauville, Iberia Par., La., Feb. 9, 1882.

I want to write as soon as I can get time, and tell you how well satisfied I am with every thing I have received from you, and how I am getting along with my first lessons in bee-keeping. W. W. TAYLOR.
Lehi City, Utah, May 24, 1882.

The Waterbury watch came duly to hand. I have delayed writing, that I might speak as to its time-keeping qualities. In a word, it gives me *entire satisfaction*; and what more does a body want? Elora, Neb., March 10, 1882. J. F. ADAMS.

THE 50C. SMOKER.

The bee-guards and smoker at hand. It seems that this reaches the acme in the smoker business. J. E. LAY.
Hallettsville, Lavaca Co., Tex., May 16, 1882.

I got one queen and a pound of bees from you one year ago last September; they made a good hive last year. This spring they are working well. It was a dollar queen. RICHARD EDMUNDS.
Grand Crossing, Ill., April 21, 1882.

Send me another of Clark's col-blast smoker. The one you sent mistakes the eye of my friends. I shall have to order one or give up the one you sent and use my old one. A. W. SPRACKLEW.
Cowden, Ill., April 26, 1882.

Inclosed you will please find 75 cents, for which you will please send me one of your Clark smokers. I saw one at Mr. L. A. Fitzgerald's a few days ago, which I was very much pleased with. Linwood, N. C., May 14, 1882. G. F. SMITH, JR.

Last night, while visiting at a neighbor's, he showed me a very beautiful stem-winding Waterbury watch, which he received by mail from you. It just fills my eye. I think I could sell dozens of them. H. E. JUDD.
Kanob, Utah, March 16, 1882.

The 2 lbs. of bees and 2 queens, 1 Holy Land and 1 Cyprian, did finely. I purchased them of you last June; have never bought bees that gave as good satisfaction, especially the Holy-Land queen.

A. D. HAVENHILL.

Fox Station, Ill., April 24, 1882.

THE JONES BEE-GUARD.

Please send me one of the Jones bee-guards. I want to "coop" some hybrid drones. I suppose this is the purpose for which it is used.

G. W. WHITE.

Hickory Grove, Crawford Co., Ga., June 10, 1882.

I received my first number of GLEANINGS the other day, and am well pleased with it. You don't know how JUVENILE GLEANINGS surprised me when I tore off the wrapper and it came tumbling out. Keep it going; don't by any means stop it.

Randolph, Miss., June 3, 1882.

R. C. GAV.

The two queens ordered on the 17th inst. came to hand to-day in as good condition as I have ever seen; not a dead bee in either cage. Your boys certainly understand how to put up queens so as to have them arrive in good condition, at any rate.

Lindsay, Ont., Can., May 24, 1882.

S. CORNELL.

Saturday, June 10th, I received the package in which was contained the goods I ordered, and all were in good shape, and to my entire satisfaction, for which many thanks, as also for the prompt filling of the order. It is a virtue not generally found with manufacturers and dealers in apian supplies, to furnish goods as represented, and in reasonable time.

G. E. T. KYBER.

Green Bay, Wis., June 12, 1882.

A DOUBTFUL COMPLIMENT.

Inclosed find one dollar, for which you will please continue my subscription for GLEANINGS for another year; can't keep house without it. Yes, I can; but then, I won't as long as I can raise a dollar to pay for it. I fear you have made as much of a slave of me to GLEANINGS as I have of myself to tobacco. I don't like to quit either one or the other; in fact, I "don't have to" at present.

J. H. KELLOGG.

Fort Wayne, Ind., Feb. 11, 1882.

A PLEASED A B C SCHOLAR.

I was very much pleased with the hives indeed, they were so much better than I expected. Monday morning, May 8, I commenced making a hive; had just got the brood-chamber nailed up when the sun shone out warm. My wife called out, "The bees are swarming!" I put them into the brood-chamber, finished a hive, and lifted them out and put them in, and they went right to work, and they are doing first rate. It was an extra large swarm. You will get several orders from this neighborhood, as several bee-keepers called to see my hives, which are as fine as chromos, since I have them painted and lettered. Please accept my thanks.

W. P. COLEMAN.

Holmesville, Holmes Co., O., May 12, 1882.

A GRAIN OF MUSTARD SEED.

I want to give you a little report of what we have been doing since I last wrote you, for your own private encouragement. Three years ago we started a little class of 13 here at our schoolhouse, and the majority were females, and now we have a class of 64, and a nice church house in our little town. The house is worth two thousand dollars. I don't tell this to brag, but to show you how God has blessed us. Now, brother, for such I call every one who is trying to serve God, your Home Papers have helped me; it is like our class-meetings; these kind talks help us to bear each other's burdens. I pray God to keep you. I expect to meet you on the banks of Jordan, when I shall have said my last prayer and encouraging word, and you have laid down the pen from writing your last encouraging Homes.

JAMES PARSHALL.

Skidmore, Nod. Co., Mo., April 17, 1882.

HOW TO GET SUBSCRIBERS.

I was so delighted with GLEANINGS! I had some copies in my pocket. When I saw a bee-keeper I offered him one to read, with an invitation to take a copy. In every instance they have done so. Wilkinson did not know that he wanted it at the time I

offered him the copy. I passed his residence yesterday, and asked him how he liked it. He came out to the road and said it was just what he wanted. He would not do without it; said his wife wanted him to take the A B C, but GLEANINGS was just what he wanted. He never had any honey, until he took some out of L. hives, movable frames. They are all in a hurry. Send them along.

FRED ZIMMERMAN.

Fayette, Iowa, Nov. 1, 1882.

THE WATERBURY WATCH IN THREE CHAPTERS.

CHAPTER I.

Having received your illustrated catalogue and price list for June, 1881, I have, on this 6th day of July, registered to you \$5.00 for one of your Waterbury watches, and other articles to that amount. This I have done on your own recommendation of the watch, relying on your domestic occupation more than words on paper. If this small venture proves satisfactory, you will hear from me again.

ALFRED ISAACS.

Turkington Prairie, Tex., July 6, 1881.

CHAPTER II.

The Waterbury watch purchased of you some time since, has now been running about two months, and gives entire satisfaction as a timepiece.

ALFRED ISAACS.

Turkington Prairie, Texas, Sept. 2, 1881.

CHAPTER III.

The 7 Waterbury watches purchased of you give full satisfaction.

A. ISAACS.

Turkington Prairie, May 6, 1882.

FOR SALE!

A farm of 100 acres. Good house and barn, and fine orchard; both living and cistern water. House, barn lots, pasture, and orchard on forty acres; the rest, all smooth prairie. A first-class farm in every respect, and a bargain for any one wanting a nice home. Price \$30.00 per acre. Also joining the above, sixty acres of smooth prairie, one-third in meadow, with small house, young orchard, etc.; price \$25.00 per acre. Either of the above farms will be sold separately or together to suit purchaser. In a good neighborhood; churches and schools; five minutes' walk from R. R. station. Would sell crop, stock, and bees, if desired. Apply at once (must be sold) to

M. N. MORRISON,

Beverly, Macon Co., Mo.

STANLEY'S VANDERVORT FOUNDATION!

We have once more received a supply of wax, and can furnish thin bright yellow fdn. for sections at 60c per pound in lots of 20 lbs. or more. We can also supply a limited amount of heavy fdn. at 45c per lb. Address orders at once to

7d G. W. STANLEY & BRO., Wyoming, N. Y.

FOR SALE!

For sale, by the widow of the late M. Parse, over 40 colonies of bees in L. hives, and a great many empty hives, also a large quantity of section boxes and frames. Also, considerable lumber for hives nicely fixed, all ready to put together, and some dressed lumber, nice pine and cypress. Also 2 or 3 kegs of extracted honey, and a good many things pertaining to the bee business. Would sell all very cheap.

MRS. M. A. PARSE,

Pine Bluff, Jeff. Co., Ark.

2-FRAME NUCLEUS, \$2.00;

2 LANGSTROTH FRAMES WITH DOLLAR QUEEN.

DR. D. R. PORTER, MANHASSET, QUEENS CO., N. Y.

TELL YOUR NEIGHBORS

that VON DORN, 820 S. Ave., Omaha, Neb., will have

FOUNDATION

ALL SUMMER.

SECTIONS & HIVES



We make a specialty of our "Boss" One-Piece Sections. Patented June 28th, 1881. We have not sold any right to manufacture, therefore we caution the public against buying any One-Piece Sections not bearing our stamp. Send for new price list.

JAMES FORNCROOK & CO.
Watertown, Jeff. Co., Wis., May 1, 1882. 5tf

Italian, Cyprian, and Holy-Land Queens, Bred from the D. A. Jones importation; also VANDERVORT COMB FOUNDATION, made on the same mills that made the fdn. that took the prize at the Northeastern Bee-keepers' Association at Utica in 1881 and 1882, over the Van Deusen, Flat-Bottom, and thin Dunham, for surplus boxes; also the thick over all kinds for brood-chamber.

I. L. SCOFIELD,
3-Sd Chenango Bridge, Broome Co., N. Y.

A HANDY FEEDER.

QUEENS FOR BREEDING PURPOSES A SPECIALTY.

Circulars free. JOS. M. BROOKS,
4-9d Columbus, Ind., Box 64.

SMALL FARM AND APIARY FOR SALE CHEAP. Property worth about \$1500. For particulars, address J. B. COLTON, Waverly, Bremer Co., Iowa. 4tf

BY SENDING YOUR NAME AND ADDRESS on postal card I will send you my 16-page circular of Italian, Cyprian, and Holy-Land Bees, Queens, and Apian supplies, etc. H. H. BROWN,
4tf Light Street, Col. Co., Pa.

I. R. GOOD, Nappanee, Elkhart Co., Indiana,
Makes a specialty of rearing

Holy - Land Queens.

All queens bred from D. A. Jones's imported queens. Dollar queens before June 20th, \$1.25 each; after that date, single queen, \$1.00; six queens for \$5.00; twelve or more, 75 cts. each. Tested queens, \$2.50 each. Italian queens, raised in Holy-Land apiaries, same price. Bees by the pound, and nucleus and full colony, as per A. I. Root's price list. 1-9d

BEEES AND QUEENS A SPECIALTY.

I have had 21 years' experience in breeding the Italian bee; have queens, nuclei, and full stocks, from the best strains. Price reasonable. Satisfaction guaranteed. Send your address for price list. 4-7d

I. S. CROWFOOT,
Hartford, Wash. Co., Wis., April 1, 1882.

IN THE FRONT RANK

of Queen-Breeders. Our handsome 24-page

Illustrated Catalogue

of four races of BEEES, QUEENS, and BEE-KEEPERS' SUPPLIES for 1882 is now ready. Secure a copy before you purchase elsewhere. Address

E. A. THOMAS & CO.
(Successors to E. A. Thomas),
2-7d Coleraine, Franklin Co., Mass.

MUTH'S

HONEY EXTRACTOR,
SQUARE GLASS HONEY JARS,
TIN BUCKETS, BEE HIVES,
HONEY SECTIONS, &c., &c.

Apply to CHAS. F. MUTH, CINCINNATI, O.
P. S.—Send Stamp of 10c for "Practical Hints to Bee-keepers." 1tf

QUEENS FROM THE SOUTH:

I fully demonstrated, last season, that queens could be shipped safely from the South as early as March. Dollar queens this month, \$1.00 postpaid. Bees by the pound, \$1.25. Orders promptly filled, or money refunded.

4tf CHAS. S. LARKIN, Lockport, Ia.
ONE-Piece Sections a Specialty. Pound size, \$4.50 per 1000; L. hives, 50c each. Circular free. 3-7d B. WALKER & Co., Capac, St. Clair Co., Mich.

BEE-KEEPERS' SUPPLIES. Every thing used. LEWIS & DETWILER, Manufacturers,
5tf Toledo, Ohio.



FLAT - BOTTOM COMB FOUNDATION.—High side-walls, 4 to 14 square feet to the lb. Circular and samples free. J. VAN DEUSEN & SONS,
4tf Sole Manufacturers, Sprout Brook, Mont. Co., N. Y.

100 Colonies of

ITALIAN BEES FOR SALE IN SIMPLICITY HIVES!

ALBINO, CYPRIAN, AND ITALIAN QUEENS; ROOT, VANDERVORT, DUNHAM, and GIVEN FOUNDATION FOR SALE, with every thing needed for a first-class apiary. Send for a circular, to 3-2d E. T. FLANAGAN, Box 819, Belleville, ROSE HILL APIARY. St. Clair Co., Illinois.

SEE! SEE! SEE!

The Bee-Keeper's Exchange.

A live, progressive monthly, edited by practical bee-keepers, and richly worth the subscription price, which is \$1.00 per annum, postpaid, or three months on trial for 25 cents. Sample copy free, including our price list of Apian Supplies. You will consult your best interests by securing a copy before you order. Address 4tf HOUCK & PEET, Canajoharie, N. Y.

HIVES AND SECTION BOXES,

wide L. frames, tin separators, brood frames with metal corners. All kinds of hives; chaff hives with movable upper story.

Send for price list. A. B. MILLER & SON,
3-7d Wakarusa, Elkhart Co., Ind.

BEEES AND QUEENS FROM MY APIARIES.

3tf QUEENS AND NUCLEI IN SEASON. Circular on application.

J. H. ROBERTSON, PEWAMO, IONIA Co., MICH.

HEADQUARTERS FOR

Italian and Holy-Land QUEENS and BEEES.

I use the very best of Imported and Home-bred queens to breed from; and all queens warranted to be mated with pure yellow drones. If you want bees that are sure to winter, try our Italian queens. No black bees in the vicinity. Dollar queens, before June 20, \$1.25 each; after that date, single queens, \$1.00; six queens for \$5.00; twelve or more, 75 cents each. Tested queens, before June 20, \$2.50; after June 20, \$2.00; bees by the pound, in May and June, \$1.25 per lb.; after June, \$1.00 per lb.

40c per lb. COMB FOUNDATION. 40c per lb. The purest and brightest yellow foundation made. Extra thin and bright for sections, 10 sq. ft. to the lb., 48c per lb. I will work up wax for 10c per lb. Send for sample of our comb foundation before purchasing elsewhere. F. W. HOLMES,
4-9d Coopersville, Ottawa Co., Mich.



Vol. X.

AUG. 1, 1882.

No. 8.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS. \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 33.

ENTHUSIASM IN BEE-KEEPING.

HOW I did enjoy reading friend Doolittle's article on page 332 of July GLEANINGS, and then there is friend Heddon; he, too, wakes up in the night and *thinks*. When a man becomes so interested in his work that he can scarcely sleep nights, we may be pretty certain that something is going to be done. I sometimes think that a thorough, go-ahead bee-keeper, like a poet, is born, not made; he loves his business as the engineer loves his engine, the old sailor his vessel, or the artist his art. But this enthusiasm can not be manufactured to order. Lying on one's back in the shade, reading a bee paper, and now and then giving an upward glance to see the busy little workers whirling away into the vault of heavenly blue, writing platitudes and "gush" for the papers and bee conventions, etc., will never make of one an enthusiastic and successful bee-keeper. The genuine enthusiasm must bubble up spontaneously from the "inside;" and if it takes the shape of working steadily from daylight to dark, disregarding stings and the hot sunshine — yes, and perhaps a rack full of tempting newspapers, then look out for a good report next fall.

HIVES FULL OF BEES AT JUST THE RIGHT TIME.

Friend Doolittle says: "The great secret of success is in getting a full force of workers ready for the field just when they are needed." Now, this is a point that I think needs "stirring up." Down to the convention last spring, at Detroit, Mr. J. H. Robert-

son stood almost alone in saying that he didn't care if his bees were not extra strong early in the spring. He preferred that they should remain quiet, and not commence breeding much until the weather was fine and settled. He did not favor the plan of stimulating them to early brood-rearing, using up honey, and perhaps having brood chilled by a spell of cold weather; or, if this does not happen, having hives full of bees at a time when there was not much honey to gather. Others thought that a colony that was strong early in the spring would also be strong, if not stronger, in the honey harvest. The next morning after the convention, friend Hunt took me out into the yard and showed me different colonies. "Now, then," said he, "which colony would you take, if you were purchasing, and were given your choice? and which one do you think Mr. Robertson would take, this one here where the bees 'boil up' at any corner of the quilt that you choose to lift, or one where the bees occupy only three or four spaces between the combs?" Now, then, brother bee-keepers, which one would *you* take? Of course, if one wishes to sell bees by the pound, or make up nuclei for queen-rearing, early in the season, strong colonies are to be preferred; but how is it when an apiary is to be run for honey? Let's have this question agitated; let's have some *facts* upon the subject.

FUEL FOR SMOKERS.

Friend Heddon, how graphically you can write! Only one who had "been there" would ever have written, "And puff and puff and puff, and see so little smoke issue as to be only just discernible." In reading your article, I watched carefully to see if you had ever tried rags that had been soaked in a solution of saltpeter, and then dried, Friend Hunt

told me about them last spring, and I have used them considerably this season. I don't suppose they are so good as "punk," but it is very difficult for some to obtain punk; and to such I would say, try rags soaked in a solution of saltpeter. They light with a match very readily, burn slowly, don't go out, make a good "smudge," and don't stink while burning, like other rags. I dissolve the saltpeter in water, making quite a strong solution, wet the rags thoroughly, wring them out, and then dry them.

BASSWOOD LATE IN BLOOMING.

To-day is July 18th, and the basswood-honey harvest is usually over by this time; but now the buds have just commenced opening on a few of the trees; basswoods "holding off" so long is giving the bees a "long pull" on white clover.

I am very busy (I had to get up early and dash off these few lines in the morning, before breakfast). I have 34 full colonies, and nearly 100 nuclei; and I am making hives, and starting more nuclei every day.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., July, 1882.

A "MACHINE" TO GET OUT BEE-STINGS.

ALSO A FEW "HINTS" IN REGARD TO BEING STUNG.

I SEND you a Shaker "sting-extractor." It slides below the sack of poison, and takes out the sting, without compressing more of the poison into the wound. The idea originated by being stung, while taking out a tack-nail with the claws on the end of a hammer-handle.



SHAKER STING-EXTRACTOR.

I have used it for a year, and keep it in my pocket. The little sample I send you will convey the simple principle, so you can work it into shape for the benefit of bee-keepers. Use it as you please, and welcome.

JAMES HIGGINS.

Cleveland, O., June 9, 1882.

It will work, without a doubt, friend H.; and if it were illustrated in some of our bee catalogues, no doubt it would meet with a ready sale; but for all that, I hardly believe I should use one, even if it were all the time right in a handy pocket. The last time I was stung, I remember wondering if I should use such a machine if I had one, but concluded I would not care to wait until it could be got out of my pocket, and opened. I usually escape stings by being about as quick as the bee is; and as it usually takes them a fraction of a second to get their "machinery" in place and "start up," I almost always interrupt proceedings about as soon as I feel a slight pricking. I rarely kill the little chaps, however, for we need them all in our apiary to gather honey, or to sell by the pound. I just give them a loving pinch, just enough to make their little "ribs crack," and then lay them down in some place where they can rise up on one "elbow" after a while and look at me, and in a wiser as well as sadder frame of mind, conclude to let me "boss the ranche," instead of trying to do it themselves. I have never known one to sting me, after this kind of disci-

pline, although, to tell the truth, I can't say but that they may have done so. By the way, did you ever know how much of a "masli" a bee will stand, and still get up and fly away, after he gets over it? Well, the bee-sting puller, in cut, is made of a thin strip of German silver, set in a wooden handle. You can make one, or send to friend Higgins for it, if you think you would like one.

BLESSINGS, BEES, AND OTHER THINGS.

The pastures are clothed with flocks; the valleys also are covered over with corn; they shout for joy, they also sing.—Ps. 65:13.

LAST spring opened up very favorably. From the middle of March until the 10th of April the weather was all that could be desired. Early spring-bloom came on profusely. Brood-rearing began early, and by the first of April my hives were full of bees, and every indication pointed to a successful season. I made preparation for extracting on the 10th of April; but the cool, frosty weather set in, and continued so for nearly two months. Breeding stopped. The bees would fly out and fill themselves with honey, and become chilled, and perish. My most vigorous colonies fared the worst. By the 1st of June, colonies that had bees enough to cover a dozen frames of brood, could not cover more than four. The prospects were gloomy enough, indeed. The supply of honey gave out, and I had to go to feeding, to keep my queens from perishing. I had reared half a dozen queens. The bees soon began to kill off their drones, and two of my young queens were a month old before they were fertilized. I tell you, I felt badly enough. The farmers were feeling badly too. It was so cold that corn would not grow. The wheat stood still. The cut-worm cut down whatever grew in the fields and gardens; and along with the cut-worm came the army-worm, threatening to destroy all vegetation. People nearly all began to croak. "A worse failure of crops," they said, "than last year." Seedtime had come, but the harvest would be a failure.

June came in as cool as May had been. But a change came. Bright warm weather set in; a change was soon apparent; vegetation advanced rapidly, and our farmers have harvested the finest crop of small grain ever raised in the country. The earth is just groaning under the load of grain, fruit, and vegetables. I wish you could see the wheat-stacks, from some high building or point of land in Hill Prairie, Southern Illinois. This part of it is one vast wheat-field. The people's fears have not been realized. The great bountiful hand of our heavenly Father has showered down upon us an abundance of temporal blessings. What a grand consolation it is that none of his promises fail! Oh if men everywhere could realize that his gracious promises are more certain, free, and complete, than those that relate to temporal blessings!

My bees have advanced to about the condition they would have been by the middle of April, if it had not turned cold. I am enabled to increase my stock enough to supply orders for bees. I make a specialty of 5-frame colonies with young fertile Italian queen. My bees will be in good condition for fall work. We have a splendid prospect for fall bloom.

MISTAKES.

I made two of them this spring that I know of. The first was removing winter protection too soon, and the second was in not beginning to feed soon enough and in large enough quantities. If I had expended twenty dollars more for feed, I am satisfied that it would have been one hundred dollars in my pocket. It pays to feed bees when they can not gather food. The much-condemned grape sugar helped me greatly, so far as I used it.

WATER FOR BEES IN WARM WEATHER.

During the hot period last summer I was very much surprised at the amount of water consumed by bees in warm weather. I made a shallow box 10 feet long, 1 foot wide, and $1\frac{1}{2}$ inches deep, with two strips as high as the sides of the box, running lengthwise of the box; this I set close to the pump, under the shade of a box-elder. I filled it whenever it was empty. It held something over three gallons when full. The bees would alight on the edges of the box and strips, and fill themselves. It was a pretty sight to see the nice large Italian bees ranged along in rows as close as they could stand. When the water needed replenishing, I would dash in a pail full right on top of them. They would swim out to the edges, climb out, and shake their wings as though they enjoyed the bath.

On the 25th of July last, I put in the box 45 gallons of water. Of course, a large quantity of this evaporated—probably not more than one-third, as the box sat in a very close shade. I had then about 25 colonies. The box with the water in it served a double purpose. It furnished pure water, which they always prefer, and kept them from my neighbors' pumps and watering-troughs, which is often an annoyance to the people. I do not think that bees will ever starve if they have plenty of water and pollen accessible.

WM. LITTLE.

Marissa, Ill., July 11, 1882.

I thank you for the spirit of your letter, friend L., for it is what I need, and what we all need, to have a bright, vivid sense of God's care and love, and a loving faith and trust in him when we have done all we can, and feel ourselves dependent upon him.—I agree with you in regard to feeding, and I am sure that our little friends suffer for both food and water, a great many times, when we could very easily give it, in a way that would give them comfort and ourselves profit. I can not quite agree, that water and pollen would keep them, with nothing more; but it may be so, after all. I believe in pure water; and if we had a feeder that would give the bees pure sugar and pure water, and let them mix it only so fast as they use it, I believe I should like it better than any we now have. Syrup should contain a good deal of water, to do the most good; and with this large quantity of water, it soon sours in warm weather. The thin basswood honey, that they seem to thrive so wonderfully on just at this writing, is, if I am correct, mixed during the night, and gathered and carried into their hives with the first daylight in the morning. Can we not fix their sugar and water in something the same way, or let them mix it themselves at their own pleasure? Sour or brackish syrup may not do them any harm, but I do not believe it answers as well as the fresh nectar from the basswood-blossoms.

HOLY-LAND BEES.

SOME OF THE WAYS IN WHICH WE MAKE USE OF THEIR DISTINCTIVE PECULIARITIES.

IT may seem strange to some, that I, occupying so favorable surroundings, should hold aloof from the general contribution in common with our many bee friends; but deeming it better to "go slow," and give our older and wiser heads the field, I have thus far stood back, thereby correcting a few of my hasty conclusions and immature opinions.

Lately my attention has been so greatly drawn toward the Holy-Land bees that I can not refrain from saying a few things in their favor, although they are surrounded by some prejudices. That they are very prolific, all who have handled them will admit; from whence it would naturally follow that their generative qualities would tend especially toward raising cells; this, in our experience, has been decidedly the case. I will mention one or two instances, not because they are remarkable in themselves, but to show that this is one of the characteristics of the race. On the 5th of July we were somewhat short of cells; and in taking my usual rounds through the apiary, I came to a Holy-Land colony from which the queen had been sold. The slate indicated that the bees had killed a dollar queen caged there, and had served two just hatched in the same manner. In consequence of this determination to build cells, the colony had been queenless about ten or twelve days. On picking up one of the frames I found a young hatched queen; and on another, I counted upward of 25 cells. As we were at this date short, and the queen a very fine tested Holy-Land, I determined to avail myself of this fine lot of cells. After cutting out perhaps half a dozen, and laying them on the side of the hive, I was about to proceed further, when, looking down, I discovered that three of the six had hatched. I immediately set back the frame, and disposed of my young queens wherever most needed. I again commenced at the cells, and after having cut out three or four, found two more queens hatched, and another fast gnawing out. I placed my ear near the comb containing the cells, and could distinctly hear the nibbling of the queens within. This indicated very plainly that they would soon all be out. I therefore hastened to put the remaining cells along with the two hatched queens, into the nursery; soon after, another lot was in turn brought there, as I feared they, too, would hatch on my hands, as did the others. Nor was I mistaken in this. After resuming my work, John told me that the queens were running loose in the lamp nursery in every direction. I hastily cut out the cells yet remaining in the hive, and once more started for the nursery. Sure enough, on arriving there my eyes were greeted with a sight that really made me feel happy for once, as they were just in time to supply the demand of the colonies. These queens, with a single exception, all hatched within thirty minutes; and were so remarkably strong and healthy that some attempted to fly, and one *did* succeed partially. No time was lost in giving them to queenless colonies; but, unfortunately, we were not as successful in rearing them all. This date (5th of July) in our locality was about the intermission of the flow of honey between clover and basswood; in consequence of which, the bees, not having much else to do but mischief, killed a part of them. Out of the number that were accepted, a few,

could be introduced only by vigorously smoking their colonies at the entrance. The queens are now laying, and are so exceedingly large and fertile that my honored *pater* pronounced them to be some of the finest queens he ever saw.

At another time, John and I counted in four Holy-Land colonies, 82 cells: this number is only their fair average yield. Whenever we are in need of a "raft of cells," as we term it, the brood of a Holy-Land colony is exchanged for that of an imported stock. By that means we can obtain as many cells as we need; whereas the imported stock, left to itself, probably would not raise over 6 or 8 cells, and it is not uncommon for them to have only three or four.

Now, in summing up a few of the good features of the Holy-Lands, we find, from the above facts, first, they raise a great abundance of cells at one rearing; secondly, the cells are started so that they hatch at or nearly the same time; lastly, if the cells are not too much disturbed, the queen will hatch out strong and healthy.

Now, a word in regard to the Holy-Lands as honey-gatherers: My experience has led me to think that they are equally as good as the Italians, and some say a little superior. Being originally reared in a hot dry country, they have necessarily been obliged to gather honey at every opportunity available, or the race could never have existed. In this country, they of course manifest the same energetic disposition; and hence, as far as my observation goes, gather some honey after the basswood flow, even when the other bees are apparently inactive.

After what has been said, I would not have it understood that I have any the less regard for the Italians than before; but, on the contrary, all things considered, I think they possess many qualities far superior to other races of bees, and will probably always retain the front rank.

My object in writing this is not to give the Holy-Lands undue praise, to the exclusion of the Italians, but to bring forth a few of the good qualities which are justly their due. I do not deny, that the Holy-Lands have a few bad features; but these, I think, have been fully discussed before. E. R. ROOT.

Medina, O., July 24, 1882.

The queens hatched from the lot of cells Ernest has mentioned, pleased me because they were so exceedingly large and strong, and because of the conical ringed appearance they presented as they passed over the combs, with long strides. The groundwork of their bodies is a fine yellow; but at every section they have a dark, or almost black band. This queer marking is probably because the Holy-Land queen was fertilized by an Italian drone. I made the expression, that I would give a hundred dollars for 100 just such queens, and I haven't changed my mind in regard to the matter either. The best honey-gatherers in our whole apiary of over four hundred colonies are the bees from a nice queen of just this cross. After all the rest of the bees have stopped work, these bees come into the hive in great numbers, and drop on the white sand, and then crawl in, panting; and they are getting honey, and building fdn., while many of the others are rather losing. We have been watching the colony some time, and have now decided to rear queens from her. The price will be the same as our others. If you want one, just say from our "honey" queen. Lest you

may not all have got a clear idea of the invention the boys have made for getting large quantities of queen-cells, I will explain that it is to furnish brood from any queen you choose, but to let Holy-Land bees raise the cells. That queens are not as good where the bees build a great number of cells, does not accord with my experience at all, where the colony is strong, and the hive well supplied with plenty of new honey and pollen.

SEVEN HUNDRED POUNDS OF HONEY FROM A SINGLE COLONY IN 77 DAYS.

ALL FROM A DAUGHTER OF A DOLLAR QUEEN, IN A SIMPLICITY HIVE.

HURRAH for D. A. Jones and our noble Frank Benton! Hurrah for the Cyprians! Hurrah for Texas, the land that flows with milk and honey! The Lone-Star Apiary takes the lead. A barrel of honey from one hive! Never, since the war-hoop of the savage Indians ceased to reverberate across our boundless prairies, has there been such a flow of honey and such an increase of bees. It was impossible to keep them from swarming; I have taken as high as 48 lbs. of honey from a three-frame nucleus hive in 10 days. It was impossible for me to get over one-fourth of the honey, as I did not have hives and fixtures, and I had my wheat and oat crop to see to. But I was determined to get as much as friend Atchley, of Dallas, Texas, did last year. I had a Cyprian queen that was raised in December, 1880, in my yard, a regular dollar queen, and the daughter of that dollar Cyprian I bought of you in August, 1880. I saw she was extra prolific, and I thought I would run this colony for extracted honey. In March, I put on a 2d story with ten frames of empty combs; April 20 I extracted 6 lbs., and put on 3d story, with five frames of fdn. and five frames of empty combs. These were soon filled with eggs. May 10 I added the 4th story, with wired fdn. The following table shows the amount extracted:—

Apr. 20 and 30,	- - - - -	12 lbs.
May 10,	- - - - -	10 "
June 1, extracted 3 upper stories,	- - - - -	75 "
June 7, extracted 3 upper stories,	- - - - -	75 "
June 14, extracted 4 stories,	- - - - -	112½ "
June 21, extracted 4 stories,	- - - - -	129½ "
June 26, extracted 4 stories,	- - - - -	123½ "
June 30, extracted 4 stories,	- - - - -	115½ "
July 7, extracted 2 upper stories,	- - - - -	49½ "

Making a grand total of— 681½ "

This is the greatest amount of honey ever produced from one colony of bees — not a particle of brood or help from other hives; no extra care, more than to furnish room and empty combs; no feed in the spring. I think I am entitled to a grand gift premium from every bee-keeper in the land, as the greatest honey-producer in the country, from a single colony; \$2.50, \$2.00, or even \$1.00, will do; and whenever you beat it I will be ready to return the gift. I presume friend D. A. Jones will give us a pure imported Cyprian queen for his part of the premium; but the noble fellow has had such bad luck in importing queens, that we bee-keepers should help him all we can. The Cyprian bee is THE BEE, and don't you forget it.

By examining my report you will see the daily yield from June 1st to the 7th was 10 5-7 lbs.; from 7th to 14th, 16 lbs.; from 14th to 21st, a trifle over 18 lbs.; from 21st to 26th, a little over 24 lbs.; from 26th to 30th, nearly 29 lbs. This makes an average of 20

lbs. per day for 30 days; and of honey received from my 36 colonies in the spring to date, is not quite 5000 lbs. I have many hives to go through yet.

Now, my friends, I give you a big honey-yield, and some may doubt it; but I am ready to produce witnesses, or to be qualified to the above statement. This honey is all from the horsemint, which has been in bloom 50 days. I began operations last spring with 36 colonies, weak and strong, and have to-day 111 colonies, weak and strong. Don't you think I am entitled to a grand premium? and don't you think every bee journal ought to give me a copy a year free? The harvest is about over for this year.

B. F. CARROLL.

Dresden, Navarro Co., Texas, July, 1882.

P. S.—Since writing the above, I see friend Acheley's report, and will have to give in that I expect him to wear the "blue ribbon;" we'll see. After reading his report we took out the 18½ lbs. to make ours even 700, and think we may be able to get more. The queen is doing good work — has 18 frames full of brood. Who wants this queen at \$50.00? She is worth \$100; she has made me \$105 worth of honey this season. Thank God, dear friends, for this enormous yield. If I had extracted all the stories the 1st and 7th of June, I could have got 100 lbs. more. And again: if I had taken the honey every five days instead of seven, I could have got 200 lbs. more — a clear loss of 300 lbs., by not being able to watch the hive as I should. I was overrun; and so, friends, you see this hive could have given half a ton of honey, instead of 700 lbs. I may yet get the 300.

B. F. C.

Why, friend C., with your great yield of honey it hardly seems to me you need a present. We have noticed your achievement in another column.

H. A. BURCH & CO.

THE LAST CHAPTER (PROBABLY).

OUR friends will all remember that Mr. Burch complains bitterly of the course the bee journals have taken in regard to his affairs; and although he may not have said so, there seems to be no other apparent reason that he should call on me to pay his debts, than that I damaged his business most by being first to make it known that he had no bees of that superior strain, to fill the orders that might be sent him. By so doing, I stopped money from going to him any more. If I did wrong, I did what I honestly supposed to be right, and I would do the same thing again now. Further, I *shall* do the same thing again, if I have good reason to think any of you are advertising that which you have not got and can not get. Mr. Burch, as you know, turned all his creditors to me, saying he had made arrangements with me to pay his debts. The "arrangement" was simply the fact, that I had guaranteed my advertisers to be good men. Only a few weeks ago I received a letter from an entire stranger, asking me to remit him over a hundred dollars that he had sent to Burch. Mr. B. had written him this present season that he could not fill the order, but that if he would send his claim to me I would pay it. Well, the friends who were to get their pay of me, naturally wished to

know if Mr. Burch was to make me good, if I paid their claims. Several of them, as you see, refuse to take any thing from me, unless I am to be made good in some way. Mr. Burch has never even intimated to me that he would make me good, if I paid these claims. I presume he thinks I should do it for damaging his business.

Well, friends, there is a bright side to all this. I have prayed many times that God would guide me and bring me safely through it all, and he has done so. A few may censure me, and say I do not live up to what I profess; but they are very few, compared with the number who have, not only by words, but deeds, shown their friendship, yes, and even love, for your poor awkward friend who has been trying to tell you, in his own way, the "old, old story." The bright side is, that nearly all have refused to take a copper of my money under the circumstances, but insist it is Burch who owes them, and not I. The following friends think I honestly owe them the amounts mentioned, and I have paid them:—

With regard to the amount that I am willing to take in settlement of the Burch claim, I will say that my claim against him amounts to \$117.50. Burch claims there should be deducted from this, \$2.00 freight charges which he paid on the wax I sent him; this would leave \$115.50 as the amount my due, and which I am willing to take in settlement of my claim. It seems a large amount for you to pay out without receiving any equivalent, but I have spent or lost about as much, counting the extra price I have paid for bees, after failing to get them of him; the expense I incurred in my trips to South Haven, and the interest on the money invested, to say nothing of the loss caused by delay in getting my bees.

Capac, Mich., June 6, 1882.

BYRON WALKER.

Now in regard to H. A. Burch & Co. According to your request in July GLEANINGS, I will report the amount sent him. June, 1881, \$14.00, for which I have not received any thing, except a few postal cards that contained fair promises. I will say that I would not have sent him a dollar, but for the reason that you vouched for the payment of the same in case he failed to send the articles purchased of him, or any one else who advertised in your columns; therefore I will expect payment of you; but don't understand that I intend to sue you, for I have no such intention; but what I mean is this: that, if you don't refund it, it is lost for ever, and that you are better able to lose it, I mean the whole \$2000.00, than I am to lose \$14.00; therefore, if you feel willing to refund the amount sent H. A. Burch, please send 3 lbs. of comb foundation for brood-chamber, worker comb of the Given make, if you have it; if not, send such as you have. I am needing it now. If the proposition does not suit you, send it, and I will send you the amount of same as soon as I have it to spare. I don't think, friend Root, that you will lose any thing in the end by paying H. A. Burch's indebtedness. I will do what I can for you, by swelling the number of subscribers for GLEANINGS, also the sale of any thing that you have advertised. It is true, it is hard to pay another man's debts.

W. DICKERSON.

Ladoga, Montgomery Co., Ind., July 5, 1882.

You want all the Burch claims in before the Aug. No. of GLEANINGS is out. My claim is \$3.50 for bees

ordered for a neighbor, not for myself. If you feel like sending me an A B C book I will furnish the neighbor the bees free, and call it settled all round, as I have 6 colonies from 1 lb. from Hayhurst, 1881.

Webster, Ind., July 7, 1882. I. P. C. STEDDOM.

Most gladly will I send the A B C, friend S., and may God bless you for letting me off so easily. It will be remembered that I asked, last month, to know just what amount I must pay, to have the whole matter dropped pleasantly. The three above have told, and I have paid their claims. The three following have written, but have not stated what amount they would be willing to take.

May 8, 1881, I sent H. A. Burch & Co. \$35 00; some weeks before, I had sent an order for 12 nuclei, and inclosed \$5.00, which I agreed to forfeit if I did not send the rest. When they acknowledged the receipt of draft of \$35.00, they proposed to fill my order for 12 more at the same price, which shows that they intended to defraud, as they knew the condition of their bees at that date.

R. JOHNSON.

Tiffin, Johnson Co., Iowa, July 20, 1882.

I sent to H. A. Burch & Co., \$10.50 May 9th, 1881, for bees, on the strength of their advertisement in GLEANINGS, for which I was a subscriber, and am now, supposing they were honest. I do not like to lose my money. I lost all my bees, 13 colonies, and had bad luck with what I had left, and got through with 2; and if you are willing to stand a part of the loss, it will be thankfully received by one not able to begin anew in the world, being 72 years old the 12th of July. I would make an order on H. A. Burch & Co. for \$10.50, and if you could get it in time it would be a satisfaction to me. I think that they are dishonest, and meant to be, for they wrote me that they could fill my order if I sent the money April 25, 1881, and they received it May 9, 1881, and you know how it stands now, and why I sent it, and let us have no ill will toward each other by my taking you at your offer. My circumstances are such that I am not able to lose it.

R. H. GAYER.

White's Valley, Wayne Co., Pa., July 5, 1881.

The July number of GLEANINGS is at hand, and I have just read your article on Burch. I am unable to decide what is right. I sent the money to H. A. Burch because you said you would be responsible for your advertisers. I did not trust the man ever since he charged you \$50.00 for damages on that foundation; but having lost my bees, I wrote to Mr. Burch and others for prices and time of sending. Mr. Burch was lower in price, and could send bees sooner than any of the others, and consequently got my money, against the wishes of my brother, who said Burch would surely not send the bees as per contract. Now, I will make affidavit to the following facts, and also have witnesses to the same: That I sent money to Burch on your guarantee, and that I would not have sent it without that guarantee. But now comes the point: Shall I receive the money from you, without you getting value received? It does not seem right; neither does it seem right for me to lose it under the circumstances. I don't know what to say, and will leave the whole matter for you to decide whichever way you think is right, and I will be satisfied. But I think Mr. Burch should be reached somehow and punished.

Sterling, Ill., July 6, 1882. A. F. STAUFFER.

I hope you will excuse me, friends, for preferring you should decide yourselves

what amount of money I owe you. Will you not name the amount, and let us have it ended?

Now when you read the kind letters below, dear friends, let us have a broad charity for those who may think differently. Every man has a right to his own opinion, you know.

My loss by Burch was \$6.65; and although GLEANINGS was the cause, I don't want you to pay it. I think your magnanimous heart swerved your judgment, and I hope that those, at least with such small accounts as mine, will be charitable enough not to take advantage of your mistake.

LaGrange, Ind., July 5, 1882. G. K. HUBBARD.

In July GLEANINGS you have renewed the Burch subject again; and as I wrote you once before on the matter, I thought. I want to say I think you are in no way responsible for any loss I may have sustained in my deal with Burch. His advertisement in GLEANINGS had nothing to do in the matter, but his circular *did* the work. I wrote him the other day, asking him to send me 2 queens and one pound of bees, and I would drop the subject. No answer yet; not time yet; if he responds favorably, will let you know.

J. R. M. ALLEN.

Greencastle, Ind., July 18, 1882.

In July No. of GLEANINGS you wished to hear from as many as you could, how the matter stands on the (goose) or, rather, Burch question. Now, honestly, I was led to send to H. A. B. & Co., by seeing his glowing advertisement in GLEANINGS. After losing all my bees, and reading how *wonderful*, hardy, docile, and prolific his strain of bees were, I fell in love with them at once. The result was and is, no bees nor money as yet; \$11.50, borrowed at that. Now, understand me, I do not ask you to pay any of B.'s liabilities; after I decided that his bees were "boss," I sent for his circular. I have been waiting and hoping to hear from the justice to whom I gave the account last fall. A few weeks since I offered to sell out to him; have not yet heard. I am "spilling" to write my experience with apiarian supply dealers.

Clio, Mich., July 19, 1882. JAS. A. SHELDEN.

Good-morning, Brother Root! It rained last night. Come to tell you, we got too much Burch. You have whitewashed him till it won't stick on, even in your own eyes. The best thing you can do is to drop Burch from GLEANINGS; next, pay those you know will never quit grumbling. In '81 I had no bees; sent him \$12.00 so as to get them early for a start; said he would do it; ain't started yet; have to eat sorghum and glucose. Boses says Burch had 243 stands. Drop him, drop him. J. E. J.

West Point, Iowa, July 18, 1882.

It is letters like these from my fellow-men that give me faith in humanity, and it is the thought of the good, kind, and fair spirit that we shall always find in humanity, wherever we go, that makes me feel that I shall never suffer very much, so long as I am trying to do right. I guess the advice given by our last brother, to drop friend Burch for the present, is about the best thing that we can do. May be he will feel uncomfortable about it, if we don't say any more, and perhaps we shall all get it all back. Is that too much faith in humanity again? It surely is not too much faith in God; and if he is looking to God for guidance, it will surely be all made right.

BLISTER - BEETLE LARVÆ ATTACKING BEES.

DESCRIBED AND DRAWN BY PROF. COOK.

ENCLOSED I send you a few insects that infest the bees about this time of the year. I have found as many as seven on one bee, but mostly not more than one. I have never found them on queens or drones, and have therefore concluded that they come from the flowers when the bees are at work, though I have never found any on the flowers, after diligent search. If you can inform me in regard to them, you will greatly oblige.

Fall Brook, Cal., May 1, 1882. J. P. M. RAINBOW.

Answer, by Prof. Cook:—

The insects (Fig. 1) from J. P. M. Rainbow, Fall Brook, Cal., are the larvæ of some species of blister beetle, possibly of *Meloe barbarus*, Læc., which is a common species in California. These blister beetles are quite curious and interesting. The famous Spanish fly, which is commercially of so much importance, and which, when dried, forms the cantharides of the shops, belongs to this family. We have several species of these blister beetles, all of which are as capable of producing blisters as are the green flies of Spain. Some of our species are very destructive, and when common do great damage. The old potato beetle, *Epicauta vittata*, used to be much dreaded in Ohio. I have seen our asters fairly covered with *E. atrata*, which is equally destructive to rape. These beetles have very soft bodies and long necks. Some of the species, those of the genera *Meloe* (Fig. 2), and *Hornia*, have very short wings. I often receive specimens of *Meloe angusticollis*, which is common in all of the Northern States, and is readily distinguished, especially if a female, by the very short wings and the enormous abdomen, which fairly drags with its weight of eggs.

by Mr. R. on one bee, is a serious burden, and must often overcome the bees. But this is not all. The larvæ leave the bees in the hives, and take to an egg diet, which they vary by eating honey, jelly, and pollen. In this way they become a serious injury to the bees. As neither the drones nor the queens visit the flowers, these vesicant larvæ will be found on the workers only.

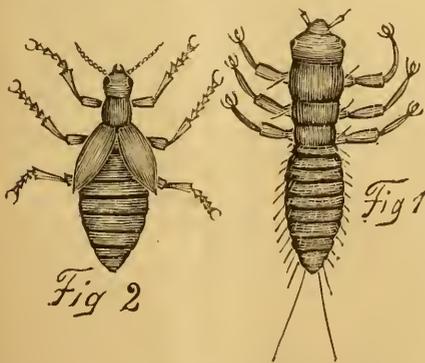
The other curious feature of these insects is their anomalous transformations, which were styled by M. Fabre, hypermetamorphosis. In most insects the metamorphosis is like that of our bees. We first have the egg, then the larva, then the pupa, and last the imago, or winged insect. In these blister beetles, we have the egg, then a degraded form, the one carried by the bees from the flowers, which is known as the triungulin (Fig. 1), then the second larval form, which has nearly the same shape as before, but the legs are much shorter, and now it is feeding on eggs, and the other good things of the hive. The next larval form is called pseudopupa, as it looks some like a pupa as it rests in the mutilated skin of the previous stage. The next stage is much like the usual beetle larvæ, or grubs, and then we have the pupa, and last the imago. Surely such a long development is worthy of a long name, and why not hypermetamorphosis? Some of the larvæ feed on the eggs, etc., of some of the wild bees, and others, as shown by Prof. C. V. Riley, in a most excellent paper on these insects, feed on the eggs of the Rocky-Mountain locust.

That any of the larvæ feed on the roots of grass, as stated by Harris Packard and many others, is very doubtful. A. J. COOK.

Lansing, Mich., July, 1882.

WHICH BEES GO WITH THE SWARM, IN NATURAL SWARMING?

SEEING an account, lately, that a prime, or first swarm of bees, is composed of all the old bees and the old queen, given in one of our bee journals, led me to think that perhaps the swarming of bees is not fully understood. If all bees in the land were allowed to swarm naturally, the knowledge of just which bees go with the swarm would be of little importance, save from a scientific point of view; but when we realize that the majority of our bee-keepers make their swarms artificially, then we see the importance of a practical knowledge of how swarming is conducted. The Creator of all things pronounced his work good, and thus we see that the natural swarming of bees is a sure and safe way of increase. Many have been the plans devised to make excellent artificial swarms, but I have yet to hear the claim made, that such artificial swarms are superior to natural ones, while many do believe that the natural ones work with more energy, and to a better advantage, than the artificial, myself being one of that number. Thus it will be seen, that in making artificial swarms we should copy natural swarming as far as possible, in order to have our swarms of the highest type. Hence a knowledge of which bees go with a swarm is practically necessary if we would succeed. That all old bees, as above quoted, should compose the whole of the swarm, would seem a strange *perfection of goodness*; for in that case, where would the nurse-bees and the wax-workers come from? That old bees do not nurse the larvæ, or build comb, any one can prove by introducing an Italian queen into a black swarm of



Meloe, female, showing short elytra, or wing-covers, and large abdomen.

Triungulin, or first larva, the one carried by bee to hive. Length, 2 m. m.

But the strangest feature of these curious insects, and the one which more directly interests bee-keepers, is connected with the habits and transformations of the immature insects, or larvæ. These alone among beetles are, in a manner, parasitic. As Mr. Rainbow suggests, the larvæ (Fig. 1), when they escape from the eggs, thousands of which are deposited in the earth by each female, at once crawl up on some flowering plant, like the *composite*, and as these latter are visited by bees, the active larvæ crawl upon the legs and bodies of the bees, and so are borne off to the hives. Seven of these, as seen

bees the middle of May, and watching operations after the Italians hatch. Hence the swarm needs bees of all ages, in order to make it capable of carrying on all the labors necessary to the establishing of a new colony. And this is as I find it after closely watching natural swarms issue for years. That old bees go with the swarm, is easily proven by the numbers in the swarm having their wings well worn by hard work, as well as seeing many bees with pollen in their baskets, which were so eager to go with the swarm that they did not stop to unload. That young bees go with the swarm, is proven by seeing hundreds of bees, so young as to be unable to fly, on the ground in front of the hive just after a swarm has issued, and the few that are finally able to rise and fly, after a series of strokes on their wings with their feet, soar off to find the swarm, rather than to return to the hive. That the wax-workers go with the swarm, is proven by the numbers having wax-scales on their abdomens, which is not found on any of the bees of the ages given above. Thus the swarm is complete with bees of all ages; and if we wish to make swarms complete, like a natural swarm, we should have it composed of bees of all ages, as above.

"But," says one, "all the old bees go with the swarm, except those in the fields at the time the swarm issues." Again I beg to differ; and as proof, I would say that I have often shut up a hive as soon as the swarm was out, so no bees could get out or in; and upon leaving it shut ten minutes I found a pint or more of old field-bees trying to get in. Now, drive all these bees into the air with smoke, open the entrance, and a squad of old bees will rush out and go to the fields. Again, bees frequently swarm as soon as the sun breaks out after a shower when the bees are all at home, yet we find plenty of field-bees at work from this hive as soon as it dries off so the flowers secrete nectar.

Once more, as proof that bees of all ages go with a swarm, as well as that bees of all ages stay at home, I will give an experiment I once tried. Early in May I gave a black colony an Italian queen, and before any of the Italian bees had gone into the field to work, they swarmed; yet I found the swarm composed of nearly half Italian bees. Upon going to the parent hive I found black bees quite plentiful. This hive was allowed to swarm the second time, and the second swarm was found to contain many black bees, while there still remained at the parent hive quite a number of black bees. Thus I had ample proof that nature designed that bees of all ages should compose the swarm, in order that it should be perfect in all its workings; and when I read statements like the one at the beginning of this article, I think that, if the writer would give the subject under consideration a thorough investigation he might have reason to change his mind.

Borodino, N. Y., July 6, 1882. G. M. DOOLITTLE.

Thanks, friend D. While it may be true that old bees alone are not profitable to start nuclei, we have found, in selling bees by the pound, that all young and middle-aged bees answer nicely. For several seasons we have bought natural swarms (brought in by the farmers) by the pound, but we soon discovered they were not worth nearly as much as bees shaken from the combs in the middle of the day, while the honey-gatherers were in the fields. I should say the greater part of a natural swarm consisted of bees capable of field work.

THE WESTERN HONEY-BEE; LUCERNE, SWEET CLOVER, BUCKWHEAT, ETC.

ALSO SOME GENERAL THOUGHTS IN REGARD TO HONEY-PLANTS.

WHO but Mr. Root has spoken of the Western honey-bee as an Italian? I inclose a statement about bees, made by a woman in a journal printed by a woman. It is cut from the first issue of the *National Bee Journal*, edited by Mrs. Ellen S. Tupper, in January, 1874, and I also send a statement by Mr. Charles A. Jones.

EXTRACT FROM BEE-KEEPERS' MAGAZINE.

There are plenty of wild bees in our vast forests, and wild honey is often brought to sell. The small black bees are most common. There is a larger bee with a yellow ring, more amiable than the black bee. If I can do any thing with bees, I hope to be able to get the Italian, in time, of which I have read a good deal. Are they worth the money charged?
Talladega Co., Ala. MRS. LUCY WILSON.

MR. JONES'S STATEMENT.

I was living in Decatur Co., Neb., in 1857, above the Omaha Reservation. I found a swarm of bees entering a tree at the ground. We cut the tree down and carried the bees home in the log, and kept them over winter. There was a linn-tree close to the oak-tree which they were in, filled full of honey wherever there was room. We found the tree of honey first, and no bees. This was in the spring of the year. After getting the honey out of the linn, we found the bees in the base of the oak-tree. The bees were marked with yellow, very much as the hybrids of the present day are. I have found several swarms of bees like them, marked with yellow. We then lived at the very front of civilization. Bees were natives of the country, so far as we could learn. I always found more honey with the yellow bees than with the blacks. They cleaned the opening of the trees where they lived, better than the blacks do. There were about as many pure black swarms, as there were of those marked with yellow. Three of us made our living two years by trapping, and sales of honey and bees that we found in the woods. These facts are known to my father and the rest of my family, four in number. I found a swarm of bees in the spring of 1861, near Rulo, Neb., marked with yellow, but some were entirely black, as the hybrids between the blacks and Italians are. In Texas I have found bees, but do not recollect any yellow ones. In Oregon there were no bees when I lived there. I have always been in the habit of bee-hunting, and have found as many as six bee-trees in a day since we have lived here. I have kept bees the most of the time. I know it was the body of the bee that was marked yellow, and not the hair.

CHAS. A. JONES.

These statements show that like conditions produce like results, subject, however, to variations. The circumstance related by Mr. Jones, of bees leaving a tree full of honey, and going into one near by, is only an extreme case, as is the one related by Mr. Capps, of those that sucked the watery part of the blood of the deer. "Bees do nothing invariably," said Mrs. Tupper, and experience confirms what she said. I stick to this position worse than a woman.

LUCERNE AND SWEET CLOVER.

A Mr. Johnson, of Utah, in the June number of *GLEANINGS*, has recommended lucerne and sweet clover, both for hay and honey; and your comments on the subject are calculated to encourage people to test their value by experiment. In Utah, the merits of these plants are understood to vary with the climate, and lucerne is not considered a good honey-plant, except in the warmer parts of the Territory, and then only when irrigated. For a full discussion of the subject, see *Bee-keepers' Magazine*, July and November numbers, 1874. Every few years some person re-discovers a plant that has been

rejected as worthless, except in some few favorable localities, and recommends it highly. The inexperienced again test it and reject it. Time and money are lost in these experiments, and a poor opinion is formed of those who recommend them.

In the fall of 1874, our State was invaded by myriads of grasshoppers. They deposited their eggs and died. In the spring these eggs hatched, and devastated the country until the 20th of June, when, their wings having grown sufficiently to enable them to fly, they left the country. To restock the earth with something that would mature, upon which the inhabitants of the country could subsist, and upon which their cattle could be fed during the winter, was the all-absorbing question of the day. The North was searched for the earlier kinds of corn and buckwheat, and California for lucerne. We then had bees, and lucerne, the famed honey and hay plant, was to be had by purchasing and sowing the seed. This we did, and like us, many others purchased seed and sowed it. Not only did we expect big things of this plant the first season, but, as it is a perennial, the roots of which penetrate the earth to a great depth, we expected it to survive the ravages of the grasshopper, should they return and destroy the crops again, and to remain a permanent source of honey and hay supply. The seed sprouted and grew, attaining a height of about 15 inches. It blossomed, but not a bee was ever seen to alight on it. The leaves dried up and dropped off, and a bare stem, composed mostly of woody fiber, was all that remained. We left it another year, with the same results. It was not worth cutting for hay, and was worthless for honey. We plowed it under, and so did the others. In our county to-day, we do not know of a single plant. The name is not mentioned among the forage plants of the country.

Sweet clover is indigenous to Utah. It is the plant known to freighters of the middle of the century as Buffalo clover. Some cattle feed upon it in the absence of any thing better. For five years we have pastured the same field. It is seeded to timothy, and clover. Around this field of grass we sowed a strip of sweet clover, six or eight feet in width, close to the fence, which is Osage-orange hedge. Horses, cattle, sheep, and hogs feed upon these grasses at pleasure during the growing season; and, though the timothy and red clover are cropped close to the ground, the sweet clover blossoms and ripens its seed, making a growth of two or three feet. Stock browse upon it about as they do on the tender shoots of the hedge, or on the twigs of trees. Though valuable for honey, it is worthless for hay.

BUCKWHEAT AS A HONEY-PLANT.

Two varieties of buckwheat were shipped here and sown broadcast over the country, at the rate of 16 to 20 quarts to the acre. First the land was harrowed, then the seed was sown, when it was again harrowed and rolled. This process leaves the ground in remarkably fine condition to use the mowing-machine for cutting the crop, which is the practice here. Four men with forks lay the buckwheat back in piles out of the way of the team. It is left to cure for several days, and then run through the thrashing-machine. Twenty bushels to the acre is an average yield. The two varieties mentioned above, and silverhull buckwheat, are all the kinds known here. The larger variety, when sown early, makes a growth of four to five feet; the other, three

to four. Silverhull, 20 inches to two feet growth, however, is controlled by the degree of heat and amount of moisture and fertility of soil. The three varieties rank as honey-plants about as they rank in size; for grain, the medium variety is the best. Here silverhull buckwheat yields eight to ten bushels to the acre. It is not a desirable variety. When the temperature is high and the growth rapid, and there is moisture enough to make the juices of the plant abundant, then it is that the flow of honey is abundant, and buckwheat is a profitable plant for honey. This rule holds with all honey-producing plants, each varying as the conditions vary, and buckwheat ranks second to none but basswood as a honey-plant.

JEROME WILTSE.

Falls City, Neb., July, 1882.

I beg pardon, friend Wiltse, for using the term *Italian* where I only meant *yellow*.—I remember the extract you give from the magazine, and was aware that such statements had been made. You do not give the date or address of Jones's, but we presume his statement is one recently made, and we are very much obliged for it. One of our neighbors had a hive filled with solid honey, by simply letting it stand by the side of a powerful colony. They were crowded for room, and, thinking this preferable to building combs on the outside of the hives, they used it much as they use an upper story. I presume this adjacent hollow tree was filled in the same way.—We are very much obliged for the valuable facts given on lucerne and sweet clover. I know old things are being re-discovered almost all the time, and it is on this account that it behooves us to not only read all the bee journals, but to keep them on file, where we can look back when these things come up again. It seems to me the reports in regard to lucerne, or alfalfa, as it is more commonly called, coming up constantly in our agricultural papers, indicate that there are a good many localities where it is profitably grown. It is hard and wiry, I know, if allowed to mature seed; but if cut constantly when it just commences to bloom, it gives an enormous amount of fodder, even here on our Medina clay. All I intended to say in favor of sweet clover as a forage plant, was that horses and cattle eat it when it is young and tender, as I have proven. I shall still hold, until shown the contrary, that it would be an excellent plant to plow under, as it loosens a hard soil to such a great depth.—I have long feared that silverhull buckwheat is not in all localities so much superior to the common; but as we have excellent reports from it, and a great demand for the seed, we continue to furnish it.

A FEW CALIFORNIA BEE-KEEPERS INTERVIEWED,

AND AFTERWARD REVIEWED, BY GALLUP.

I HAVE been visiting among the bee-keepers of the south part of Los Angeles Co., and I find a large proportion of the bees in a deplorable condition, with no care or attention from their owners, except to rob them of their stores whenever there is any thing to take. However, I have found honorable exceptions to this rule. In my travels I

first went up Saint Iago Canyon, and passed Mr. Hall, 150 stands; Brainard & Smith, 150; McKelvy, 75; Julian, 50; Alford, 50; Alward Bros., 190. Those I did not see: Small & Phelps, 140 at the mouth of the canyon, Small & Phelps, postoffice Orange; Williams, 175; Carpenter, 125; Shrewsbury, 150; Harding, 70. The postoffice address of all the above, except Small & Phelps, is Carbondale. J. E. Pleasants, 70; postoffice, Anaheim. Mr. J. Hickey, 100; Mr. Sprouse, 50; A. Staples, 200; Crane, 15; Lyons, 100; Strane, 80; R. R. Staples, 75. The above are in Live Oak Canyon. Now comes Trabuco Canyon: Wm. Robinson, 60; Martin, 30; Wilson, 75; Wood, 30; Frazier, 60; Rowell, 180; Clark, 35; postoffice, Santa Ana. Fifteen to twenty-five miles away, Brown, 100; J. Joplin, 125; Miller, 225; postoffice, Tustin. McNight, 110; Menson Camp, 225; Morse, 125; Robertson, 180; Fox, 125, Hot Springs Canyon; postoffice, San Juan. Capistrano Thurstin, 60; Alisa Canyon, postoffice, Santa Ana. Thompson, 60; French, 250; Laguna Canyon, postoffice, Tustin. Now we have left out Mr. Welch, 70, Trabuco Canyon; postoffice, Santa Ana—all together, representing 4020 stands. Now, there are probably 500 stands in the valley. Take Anaheim, Westminster, Gospel Swamp, Orange, Tustin, and Santa Ana. But very few of these take any bee journal, consequently we find but very few comparatively posted; and when asked why they do not, the almost universal reply is, "We are not able—can not afford it," etc. Whenever we find one reading up, they think it pays. We found one live bee-keeper; he has never moved his bees to the valley. He has never failed to get from a fair to a good crop of honey, even in the worst season. He has already taken out 6 tons, and will get 2000 lbs. or two tons more this season, while many of his immediate neighbors have not taken any. Certainly the bee-keeper has something to do with this result. He has never lost any bees by wholesale; of course, you understand that the best of us lose a few by queenlessness, or one mishap and another, in spite of all we can do; but the percentage is very small. Hundreds of stands died in this locality the past winter. The increase has been small, and all on account of feebleness in the spring, from bad management. We can not get those men out to our conventions to post them, and the consequence is, tons of honey are going to waste. Those men occupy the territory, and keep out, to a certain extent, a better posted class that would occupy the territory; but they have either to post up or starve out; which will it be? They are waiting for one of the old-fashioned California honey seasons.

Those canyons are usually small, narrow valleys, containing a small stream of beautiful clear water, in many places only wide enough for a road, occasionally widening out, so the bee-ranch contains 2 or 3 acres, which the enterprising ones cultivate to fruit and vegetables. The streams are bordered with live oak and sycamore, and walled in on each side with mountains, and frequently the rocks are perpendicular. Good pasturage for cattle, horses, mules, and goats, the entire year. For any one who likes a retired life, many of the bee-ranches are perfect little paradises. Some keep stock and hens. They are bound to live; eggs are now 30 cents per dozen; cows, \$75.00 each; butter from 30 to 40 cents. Now, don't any of you eastern bee-keepers come unless you wish to.

E. GALLUP.

Santa Ana, Cal., July, 1882.

GIVEN WIRED FRAMES.

SHIPPING FRAMES FILLED WITH FDN.

YOU ask, "Has Heddon ever tried two thin sheets, one on each side of the wire?" Yes, time and again. Two sheets thus pressed together do nicely, but don't forget that, whether you press on two thin sheets (one each side of the wires), or one thick one, the press brings the septum down as thin as the wire will allow, showing the wire on either side of the sheet of fdn. in either case. Most of the shipments I have made this year, of wired fdn. frames, have gone in good order. Two or three have been seriously damaged; but I sent one hand-pressed order, that was taken great pains with, and that one brought forth complaint also. Another hand-pressed order went perfectly satisfactory. Both hand-pressed orders had every sheet tacked to the top-bar with a strip of wood, and every cell the wire ran over had been pricked with a nail; that is, the wire had been set down firmly into the base by pricking it down in every cell it ran over.

My own opinion is, that there is no safety in the transportation of this class of goods; but that put on the wires by the press is the safest to ship. I find no fault with the wires breaking; but with those lots that fall into careless hands, enroute, are thrown about till the sheets are jarred loose from the wires. I think the best way is for each buyer to buy in the flat, and hand-press on his own.

SMOKE-WOOD.

By this mail I send you samples ranging from the softest to the hardest that we use. The softest, we use to kindle; the middle grade and hardest are mixed in to make a good fire of duration, according to circumstances. I spoke to the woodman, and showed him your note about prices, and he says that, had he no family to support, and plenty of money at interest, he thinks he might furnish the "peck basket full of wood at 10 cents," and possibly throw in a chromo as well as the basket. No, friend Row, I was mistaken; this is not a good place to get the wood. A man could not clear 50 cents per day at that price. I do not wonder that you failed to supply the demand. I will buy all of mine at that price. I doubt if 25 cents for such a basket filled would pay the \$1.50 per day, *net*. It would do no more, to say the least. We gladly yield to some one better prepared to supply this blessing to the apiarist.

JAMES HEDDON.

Dowagiac, Mich., July 6, 1882.

The specimens of rotten wood are about such as we have been using, only they are what we term "dry rot," a kind of rot that takes place inside of the tree or log. It is not caused by wet or dampness, and the wood does not, therefore, give out any tarry sap when burning. A nice article may command 25 cents a peck, but I can hardly think it will. What is wanted now is for some one to start it at a fixed regular price, and keep up the standard and quality, so customers will not be disappointed. Samples have been sent us from other parties, nearly if not quite as good; but no one seems to be able to furnish a quantity of it. It seems to me the right man for the business must turn up soon, and I hardly think he will want 25 cents a peck for it either. Peck baskets by the quantity are worth about 4 cents each.—As we succeed most of the time in shipping

frames filled with fdn., I think we shall get the upper hand of the matter before very long.

WHAT KIND OF BEES DO WE WANT ?

ALSO SOMETHING ABOUT AN APIARY OF NINE HIVES.

“**S**HALL we not roll up our sleeves, shake hands, and then pitch into the work that is to be done?” The foregoing is one of the most apt sentences that I have found in GLEANINGS during our short acquaintance. It matters little of what color bees are, if they possess the requisite substantial business qualities; viz., industry, hardiness, and fecundity, sufficient to maintain a good strong working force, and not exhaust the most profitable part of the season every year, in swarming. Gentleness is an admirable trait, if there is not too much of it. I find, generally, my smartest workers to be the smartest fighters when their combativeness is thoroughly aroused. Beauty is not objectionable. If there are any who think otherwise, let them hold a frame of comb, covered with young Italians, in a position to receive the full rays of the sun, and observe their movements a few moments. If they are not convinced that an insect “of beauty is a joy for ever,” they must lack the faculty of perception. Although not favoring the declaration that “there are no two-handed” bees among Italians (if mine are pure), my reading and observation will not warrant a settled conviction that they are a “fixed race of primitive origin.”

WHAT WE ARE DOING.

Well, early spring found us with nine strong healthy colonies, and, with the exception of a little mold on some of the combs (the consequence of our overcare), in perfect condition. We wintered without loss. With the exception of two very late last year's swarms, all had honey enough to last them until the season of bloom. Those that were deficient in stores, we gave combs of sealed honey from last year's surplus, and from the hives of those having more than was necessary to carry them through. At the same time, we fed all with sugar candy, and supplied them with all the rye meal they would use. This treatment carried them through the cold, stormy period, from the middle of April till the first of June, when we found ourselves with hives full of bees, and combs well stocked with brood—very little honey, no sections adjusted, apple-blossoms about two weeks late, and one colony preparing to swarm. During the first week in June, the apple-trees began to bloom, and the 6th found us hiving our first swarm for the season, a fine large one of blacks—large both in workers and queens, as no less than seven of their majesties accompanied the would-be-fly-aways. Having obtained sight of one good-looking queen, and “seen her home,” we felt content, as did our new family, to all appearances. I went out next morning to look after them, and found a perfect bedlam, with a dead queen on the alighting-board. Some of the bees were standing about the entrance of the hive, with their backs up; some were clustered in small squads on its front, as though discussing the condition of things, while others were busy at work. I concluded we had injured the queen while hiving the swarm; went to the old hive, found a young queen, eight empty queen-cells, and one containing a queen.

This gave us a clew to the cause of the trouble, and, deciding that no harm could result from the operation, we took the frame of comb containing the queen-cell, and gave it to the new swarm.

On visiting them the second morning, we found another dead queen that had been ligged out during the night. I opened the hive and found the queen-cell, that we had put in the day previous, torn open, and a young queen in the hive; I then concluded to let them work out their destiny without further interference. In the afternoon, two more dead queens were brought out. During the third day, two others were removed, and the dynasty apparently established. On the fifth day we found them doing their “level best,” with a young queen installed; apple-trees in full bloom, but no eggs in the combs. On the 19th I opened the hive and found five full frames of foundation nearly worked out and well stocked with eggs, and every thing prosperous.

Perhaps my proceedings may not be considered orthodox by veterans in the pursuit; but, keeping “an eye to the main chance,” I let the bees manage their affairs to their satisfaction, believing their knowledge of the “survival of the fittest” to be superior to any other.

June 22.—White clover, blackberry, raspberry, and locust are beginning to yield honey, and the way the bees rush out and in and crowd the sections does not, at present, portend an application for a berth in Blasted Hopes. Comb-building in the boxes is kept back by the cold nights; as the bees go down into the brood-chamber, very few are found in the sections early in the morning.

July 6.—It is getting warmer, and one hive has 24 1-lb. sections nearly ready to take off, while three others have not done any thing in the upper sections, and very little in the side ones; though strong in bees, they are inclined to store in the brood-combs. The flow of white-clover and alsike honey continues good, and the bees are making the most of it; but they are behind hand in swarming, as but one colony, the one before mentioned, has cast a swarm.

POISONING BEES.

It is to be hoped that the two instances of bees being poisoned, mentioned on page 339 of the July number of GLEANINGS, may prove a mistake, although I have had the same argument forced on me by my neighbors, i. e., that bees must injure the fruit crop by extracting the nectar from the blossoms, and even going to the ridiculous extreme of maintaining that the potato crop is injured in the same manner. I have noticed quite a large number of dead bees in front of my hives, in the morning, more than usual, but attributed it to the large honey-flows exhausting the old bees; and I hope the supposition is correct.

JAS. F. LATHAM.

Cumberland, Me., July 10, 1882.

Friend L., I am a believer, to a certain extent, in the doctrine of the survival of the fittest, but I also believe God intended man should have a part to play in the matter. If I am correct, you saved only one queen out of a lot of nine, reared, too, under the swarming impulse, and you indirectly intimate that the one you saved was as good, or the best, of the whole lot. My experience is, that she was just as it happened to be, and probably no better nor worse. Had you divided the swarm into nine parts, and given each one a comb, some bees, and one of the queens, you might have builded up quite a little apiary

from so early a swarm, and out of the lot you might have had one or two extra queens. Nature and man were made to work together; and nature, without man to manipulate, would be a poor standard to go by or to look up to.— You will find chaff hives quite effective in keeping the surplus boxes so the bees can stay in them and work during cool nights.

QUEENS BY MAIL, AND OTHER MATTERS.

JAMES HEDDON.

I HAVE sent out a considerable number of queens by mail in several different kinds of cages during the past six years. I have always had some reported dead on arrival, in all sorts of cages. I am now using Peet cages purchased of you, friend Root, and the same losses as before are realized. I am beginning to think that mail-bags (air-tight) that are thrown about in the sun, are not just the best place in the world for bees. Take all the pains I may with these model cages, and queens by mail are not a success with any certainty. I use a larger and heavier cage of my own get-up that takes queens by express with perfect safety, where no unreasonable delays are met with. I am almost sorry that the mails readmitted bees.

My way of getting at the right and wrong of any problem is to put myself on both sides of it. Now, if I were going to order one queen I should order a tested one. If 6 or 25, I should probably order dollar queens. Now, in either case I would rather pay the 25 or 30 cts. expressage than to have my queens subjected to a mail-bag, if going any distance worthy of note. I think I would rather have a dollar queen sent me by express (if over 100 miles), at a cost of \$1.25, than by mail postage free, at \$1.00. I think, as you do, that a great many disputes and accusations of dishonesty grow out of difference in experiences regarding the same thing. For instance, Jones sends Smith a selected tested queen. Jones has known her to produce bees of best qualities, and lots of them. Smith pays \$3.00 for her, and then orders her by mail; and when he tests her, he pronounces Jones a big fraud. She is not "prolific," her workers are not "industrious," neither are they "quiet in disposition." Now, I believe both these gentlemen are honest, and that the change has been made by the mail-bags.

I have read and been told of tricks played by several of our supply dealers who stand high, in this very queen business. I bring to mind two noted dealers, of whom I have heard of queen swindles. Now, I am personally acquainted with these men; and if I know that any one is honest, I know these two men are. Not one word of complaint of dishonesty has ever been muttered regarding their vending any of the dozens of other styles of goods; "but, sir, that man sent me a tested queen that produced bees, some of which were black, and not good bees in minor qualifications," such as honey-gathering, good nature, etc.

Were the tests to be made, I am sure that the shipping of queens by mail will rob their workers of not only some of these "minor qualities," but of some of the gold rings they wear about their abdomens, that are so highly prized by some. Whether abnormal condition endured during transit causes them

to lose their fertility, so that they seek it again by flying out in the new field for another fertilization or not, I do not know; but that this change does take place, I do know.

I have no theories regarding the disputed question of parthenogenesis; I have only a few facts bearing slightly upon the subject. I am not sure but that, in some instances, sending queens by express, in large and best cages, produces some of these changes. Owing to these facts, the "bees-by-the-pound" traffic will assist to protect queens ordered with $\frac{1}{2}$ or 1 or 2 lbs. of bees. If I am correct, I believe the greatly experienced Didants do not warrant the safe arrival of queens, and I shall never do so by those ordered by mail. No goods should be shipped in a manner that incurs irresponsible risk; and when the transportation companies smash them they are holden to the consignee, and *not* the shipper; and the guaranteeing of safe arrival is a bad and should be a needless practice. It opens a hole for dishonest customers to crawl into. Bees (full colonies) can now be sent with as much surety of safe arrival as a box of oranges. We can put them up so they are *sure* to reach their destination in perfect order, if the transportation company don't blow up, or slam them about. If they do, they are holden to the receiver; and in some cases this receiver, rather than sue for just damages, seeks to sear it out of the dealer by threatening his reputation. He is sure to go by the railroad company, who owe him the damages, and demand it of the shipper, if he has been foolish enough to "warrant safe arrival." When the shipper talks to the railroad company they tell him whatever damages there may be, it is none of his business; the goods were not his, and they were not the moment he took his receipt; and if at that moment he had learned that the one to whom he had trusted them for pay was a dead beat, and worthless, it requires a process of law to stop the shipment. The shipper has this advantage: he has caught the dead beat's goods away from home, and can attach them for debt. I have looked at this subject from both sides, as I buy many orders of goods during the year.

This puts me in mind, friend Root, that of the two shipments you have made me, I can bitterly complain of loose and careless packing of the first; with mistakes in the invoice, and queen-cages full of sawdust; and of the last one, two weeks' delay in sending; mistakes in two or three articles got down so cheap that they are *too* cheap to suit me. Get out of that "square list" of fellows who just suit everybody in every particular and at all times. Now that you are out among the folks who are finite and human, I will say that, on the whole, I am pleased with my purchases of you. Most of the counter goods are marvels for the money. The traffic is a blessing to the consumers. It seems wonderful how such blessed conveniences can be made, and so well made, for such a small sum of money, or, I may say, with so little labor. Thanks to the brain of man — to science.

I thank Mother Nature that she endowed me with brains enough to know that you did the best you knew how, to give me all I ordered in the best possible shape, and as soon as you could.

I got these orders to use, and I shall realize three times the profits upon them, in their use, that you have in their sale.

Let it not be forgotten, that judicious purchases

pay thrice the profits of wise sales. It is only a question of purchasing the right thing, at a reasonable price, at the right time. Don't try to stay in the Square Lot because I am pleased *on the whole*, because, were I a little less reasonable, I would take all the good things of the shipments as a matter of course, and "howl" for the lack of perfection.

Dowagiac, Mich., July 5, 1882. JAMES HEDDON.

Friend Heddon, our experience a few years ago in sending queens by mail was something like yours; but, as in almost everything else, hands who make it their everyday business, and do almost nothing else, acquire a faculty of succeeding, and yet one can hardly see why they succeed either. We now ship queens by the thousands, and send them safely almost everywhere. With the very same cages and candy we sent you, we have hardly a failure. It is true, our cages are filled with candy almost the day they are sent out, for we have one hand filling cages a great part of the time. Are you sure the little bottles were *filled* with water? We now, instead of using the oil-can, have a reservoir, holding a gallon or two, placed on a shelf, with a tin tube leading down to it. This tube ends in a nozzle taken from an oil-can, and the pressure gives a jet of water that fills the bottles very quickly. For all moderate distances, especially during damp weather, we omit the water-bottles, and yet we have very few losses. There is something in having just the right number of bees. I think we put in from a dozen to twenty. We can not agree, that queens go safer by express. Express companies are not nearly as prompt as mails in delivering, and I can not find that they handle goods with very much greater care than the mails do. Perhaps I'd better apologize for so much that seems like contradicting; but our Express Company, a few years ago, declined being responsible for damages to bees, and do decline now. We have for years stood all losses from bad handling, and do so yet. I am not really sure they are far wrong. It is our business to put up such goods so they can not easily come to harm; and since we have used wired frames for our combs, a breakdown has not been heard of. The express company, at the time I mention, paid us \$15.00 for breaking down the combs of a lot of hives. Well, when we found they declined being responsible for honey-combs any more, we were driven to the necessity of making some combs that could not break down, and we have done it. We have also had quite a little experience in collecting of the railroad companies, when they damaged goods sent by freight, but we don't find it the easiest thing in the world.

I know that good fertile queens sometimes refuse to lay, after being shipped, but I do not think it makes much difference whether she goes by mail or express. Neighbor H. carried one of his best queens down to his River Apiary, and although she was out of the hive not more than an hour, perhaps, she never laid any more. It might be, that riding five miles after his fast "hoss" did it; but as the cage was in his pocket, it don't seem as if it should have been worse than the mails. It seems to me that it requires a little stretch of the imagination to see how

the yellow bands could be "jarred off" from future generations, but it may be so. Quite a number of facts seem to declare that a queen *may* go out and get fertilized again, after being some time deprived of laying by being shut up in a cage; but it may be a mistake. Our packing has been praised so much, it seems a little singular that our hands should have got careless with yours, and I can not blame you a bit for being disgusted with sawdust in queen-cages. It don't seem as if anybody could be so thoughtless. Your orders came in May and June, friend H.; and I tell you, if our friends all get orders sent in these busy months inside of two weeks, I think they do pretty well, especially where the order is a large and varied one like yours — not complaining, of course, because an order is a large one. It is quite a different thing from having clerks waiting, as they now are, for something to do, and taking every order almost the minute the letter is opened. Your order for cages reads thus: "Twenty mailing-cages, just right to send 20 queens to California." For this purpose we sent 40 cages, intending you to fasten two together. We did not put them together ourselves, because the water-bottles are not easily filled after being nailed together, and very likely we failed to explain the matter. Queens sent to California in single cages, would be apt to bring disappointment. I would suggest, friend H., that the goods you do not think worth the money might have exactly suited some other person; for I do not intend to offer a single article that is not useful in the place it is designed for. I thank you for the philosophy you embody in your concluding compliment, and apologize for the space I have occupied, on the ground that one of the main things to make life pleasant is to meet fairly, and grapple with philosophically, the cause of these little disappointments and vexations. I tell you, our business was not builded up without my knowing something of vexations.

CLOVER HONEY, OR STORES OF GRANULATED SUGAR.

WHICH IS SAFEST FOR WINTER?

I WISH to ask you a question or two, which please answer. I have 28 colonies of bees; am running most of them for extracted honey. I had come to the conclusion that I would lay away, during the white-clover season, a certain number of old combs, full of white-clover honey, to give to colonies short of stores in the fall, at time of preparing them for winter, and also a reserve for spring feeding, should any colonies need the same. Now, what I wish to know is this: Suppose in the fall I take old empty tough combs (they being better for wintering bees on than new combs), make good thick sugar syrup, fill these combs by laying them on their sides, and running the syrup into them through a sprinkler, give these combs thus prepared, sufficient for each colony, in time for them to cap the same, or finish filling, and then cap, will not this plan be as good for the bees as the combs of white-clover honey? If so, it would pay for all trouble, and the difference in price between the honey and sugar. I

think the plan good, so the frames of syrup are given in time to enable the bees to cap it before cold weather sets in. Please give me your views of this matter, as it goes mightily against the grain to lay away so many frames of this choice honey. I have wintered my bees the two last winters without any loss, entirely on sugar syrup, and not A sugar, either.

W. T. CLARY.

Claryville, Ky., July 6, 1882.

Why, friend C., it seems to me your experiments have answered the question already. It has been demonstrated over and over again, that pure sugar is better for bees than any honey, and I do not now remember of ever hearing of a single case where natural stores were found better than sugar properly and timely fed. D. A. Jones, when here, made the remark, that there was one of my hobbies that would bear riding just as hard as I or anybody else had a mind to. It was the idea, that sugar stores are better for bees than their natural food. This last winter has still further corroborated it. Neighbor H. thought he was ahead of us, because his bees had stores of their own, without feeding, or, at least, a great part of them did. Those that required no feeding died badly with the dysentery, and left whole combs of solid honey, while all that had to be fed, almost without exception, came through strong and healthy. My advice would be, to get all your white honey in marketable shape, and sell it; then feed the superior, less expensive sugar.

AN ENTHUSIASTIC A B C SCHOLAR.

ALSO SOMETHING ABOUT GETTING BEES OUT OF A TREE.

AFTER reading your A B C book, and looking at yours and the little girl's portrait, I am convinced that you are a friend to all of God's creatures. I have started in bee-keeping in this way while at work in the woods. Last winter I went to chop a tree, a large oak, and found that some one else had chopped into it years before, and there was a hollow in it. I thought there might be a log in the top of it, and struck it with my ax to see. It was a warm day, and I soon had a swarm of bees around my ears. They had gone in at the root, near the ground. I left them there till the 15th of May, and, prepared with a Simplicity hive, and friends Gill and Wilson for company, took them out by taking one side of the tree out, which was done without breaking or marring the combs. We then cut the comb to fit the frames, and filled the hive of 12 frames with full combs of brood and bees, and it was full. The 19th of June I divided them, giving the new part 3 frames of brood and one frame of honey, and 6 frames full of fdn. To-day they are booming. I bought a tested queen of M. A. Gill, and put with one part the same day all right, and they filled every comb they could find empty, and drew the fdn. out, and the queen has laid one frame of fdn. full of eggs. I then bought your A B C book, and went to thinking. In a few days I was down to Wilson's, and he had a queen that he bought of you, and she had the largest swarm of bees I ever saw, and, Mr. W. said, the largest in the county. I asked him what he would take for them; he said \$14.00, and I bought them. He has offered me \$16.00 for them since, but I have none to sell. I divided them, gave them full

frames of fdn. all around, four frames of brood and bees, and bought another swarm of Italians of Mr. Wilson's father, and the five swarms are doing well.

This is my start. I shall not keep bees for profit for one or two years yet. I shall follow your instructions as nearly as I can, even to the planing and painting of my posts for my vines. I have 30 three-year-old grapevines started, and shall place them as directed by you.

L. C. GATES.

Viola, Wis., July 3, 1882.

I am always glad to hear from my pupils, friend G., and especially from the wide-awake, enthusiastic ones like yourself. Your first work now is to make *all* of them worth \$16.00.

WHY SWARMS COME TO OUR APIARIES.

AN INTERESTING SUBJECT.

I THINK I have solved the problem. Apiaries have certain pasturing grounds, where the bees seem to congregate, and from which, to the apiary and back, they seem to have a well-defined path or route. My bees are in my orchard, from whence they have three distinct courses to their pasturing grounds, and on those lines they can be seen going and coming in large numbers, at quite a distance from the apiary. Now, the point is here: A swarm of bees flying over, and coming in contact with these returning lines, follow them in. Bees going home are usually loaded, and fly more slowly than a bee going out, and consequently make better guides. Now for the evidence:

About a year ago a swarm came from the south, across my place, going about due north. I followed, and at or about the north line of my farm they changed their course to about N. N. W., and, after going about one hundred rods, clustered on the top of an oak-tree in which was a swarm that had been in there some two or three years.

On the first day of July, this year, Mr. Collier, who is a partner with me in the tile business, and who lives east of me about three-quarters of a mile, was sitting in the east door of his house, about 3 o'clock in the afternoon, and saw a swarm of bees over in the field east of his house, low down, just at the top of the grass, which, when he first saw, were going north, and continued to go in that direction some distance across the field, when they changed their course to due west, and came direct to my apiary, and clustered on an apple-tree. Now, friend R., you have my theory, and the reasons therefor.

Jerome, O., July 14, 1882.

R. McCORRY.

I am quite inclined to agree with the above. I have noticed these lines of flight, and I have for years been puzzled to know why runaway swarms should so often come into the vicinity of large apiaries, and cluster. We know how prone bees are to unite, or to fall in with any moving body of bees; and that they should naturally join in with the slow-moving, heavy-laden bees, as they follow each other slowly in the homeward route, seems extremely probable, and we tender you our thanks, friend M., for having given the matter the attention you have. The flight of bees has always been a most interesting matter to me, and I hope others may follow up the suggestion here thrown out.

SOME HONEY-PLANTS OF THE SOUTH.

WHILE I frequently see articles describing honey-plants, and but few of them are from the South, that land of flowers, I wish here to call attention to three that I consider of more than ordinary importance, and respectfully ask for the experience of others in regard to them.

THE BLACKBERRY.

Of this I have had experience only with the wild variety, which grows spontaneously in all waste places. My bees work on it from about the middle of April to the middle of May. I suppose the cultivated varieties are equally good.

THE PERSIMMON.

This is a medium-sized tree that grows best in the fields, and blooms through May; bees work on it in great numbers, and seem to prefer it to almost all other trees. It could be cultivated, and I think the fruit might be used for various purposes.

THE SOUTHERN COW PEA.

Mr. White, in his "Gardening for the South," gives this as a *Dolichos*, but I think that I have noticed that this was a mistake. We have many varieties, the best of which I think are the speckled; they are earlier, more compact in growth, free to bloom, and do not shed the leaves until maturity. They seem to secrete honey both in the flower and on the flower-stalk; commence to bloom in from 30 to 40 days from germination; time of sowing can be varied 2 or 3 months; will grow on almost any soil; is but little damaged by drought, and last, but not least, as the peas are equal to grain, and the vine makes excellent hay, it will more than pay its way aside from honey. I recommend their culture.

Paris, Tenn., June 3, 1882.

W. H. GREER.

Our friend has kindly sent, with the above letter, a box of peas, and a sprig of the persimmon, with blossoms. The latter has been several times mentioned as a honey-plant, and of late we have had attention called once or twice to peas. We will plant them, and report.

WHAT TO DO WITH THE DRONES WE DON'T WANT.

AN AUTOMATIC DRONE-TRAP.

IN Italianizing where you have had a drone-laying queen, how do you get rid of the surplus black drones? I inquired of several large beekeepers near me, and all the satisfaction I got was, "Pinch their heads off; that is all the way I know of." That would not take very long if a person only had them caught; but pinching drones with the fingers, out of a colony of bees that is just booming, while a lot of the bees are speaking right to the point — of their stinger — saying, "Put that comb back," is more of a job than a new hand like myself wishes to undertake.

I made a trap and set it in the entrance so that all bees passing either way would have to go through it, with the meshes large enough to admit a worker only. The side nearest the hive, in place of the screening, has tin trap-doors, so arranged as to allow a drone to pass into the trap, and prevent his return. When they are done flying for the day, they can be destroyed. The trap is 9 inches long, 2 high, and 3 wide. The bottom and ends are wood; the sides and top are wire screen, 3 meshes to the

inch one way, and 5½ the other. I would prefer the screening to be made of No. 20 wire, as the finer wire is not so easily kept in place. If you think this will be of any use to bee-keepers, you are at liberty to publish it. If you wish to make some, I will send you a trap-door, such as I use. The other parts, any one can make without further description. By the use of it I caught my black drones, and put them where they will not fertilize my Italian queens. Would not such a trap be a handy thing for any bee-keeper to have?

I am a bee-keeper of only one season before this, and am under many obligations to such writers as J. Heddon, C. C. Miller, and many others.

C. A. NEWTON.

North Benton, Mahoning Co., O., June 18, 1882.

Your plan is not new, friend N., and, if I am not mistaken, the simple device given us by friend Jones answers every purpose. By placing it before the entrance, and then shaking every live bee outside, you have every drone outside; and if it is done toward night, you have them where they can easily be killed. Until this season, we have always been annoyed more or less by black and hybrid drones; but now we have toward four hundred colonies, and not even a black or hybrid colony on the grounds, and none that we know of very near. The consequence is, that our young queens are, almost without an exception, pure.

HONEY-PLANTS, TO KEEP THE BEES AWAY FROM GRAPES.

HOW TO DO IT.

HAVING been a subscriber to GLEANINGS for the past three years, and knowing that you are trying to advance the science of bee culture, I have a question to ask,—a question that may be of much importance, not only to myself, but to many others engaged in bee culture; it is this: What can we sow or plant to most successfully keep the bees from grapes? Every year we have the story of "Bees and Grapes." Now, if we as beekeepers can furnish the bees with something else at that season of the year, to keep them out of mischief, we shall have that question settled, and it is the only way it can be satisfactorily accomplished; and also, what amount should be sown or planted for, say, every ten colonies? I know the season may have much to do with our success, but we may, sometimes at least, be successful.

A. T. KEELEY.

Royersford, Mont. Co., Pa., June 20, 1882.

Your idea is an excellent one, friend K., and I think I know of at least one plant that will do it. There may be others, but I have not had experience with any I feel sure of, except the Simpson plant. An acre would surely keep ten colonies busy, and it might do more, on good soil, and with good cultivation. The worst drawback I know of is the fact that a new plantation must be made about every third year. If the plants are started under glass, you will get quite a yield of honey the first season, and it will come just about the time grapes ripen. The next will be the principal yield, and the third will about equal the first. The fourth year you may about as well plow them up and

take a new piece of ground. The Simpson has the advantage over Spider plant, buck-wheat, and almost all others, in keeping the bees busy every hour in the day that they can fly. The period of bloom will also cover entirely the grape season. The next point will be the item of expense. The cost the first year will be about the same as for an acre of cabbages. The two succeeding years, all that will be needed is cultivating just as we do corn, say two or three times. I should say \$10.00 per year would cover all expenses, on an average, for the three years. There is no crop to gather, you know, unless you gather the seed; and with a demand of 25 cents per lb. for the seed, the seed should pay all expenses. This estimate is for good thorough care, such as would produce a good crop of corn. If the work is done in a slipshod or negligent manner, it will be a failure, like all other work with bees—crops either.

LETTER FROM A PLEASANT A B C SCHOLAR,

TELLING ALSO WHAT ONE SWARM OF BEES DID IN OREGON.

THE goods you sent me came in due time. I received full compensation for the ten dollars. The 50-cent plane could not be bought from me now for \$5.00 if I knew it could not be replaced for less money. The whole bill of goods gave perfect satisfaction.

By the way, I will tell you what a swarm of bees did in 48 hours. June 1st, at 11 o'clock, a swarm of bees came out. It was a big one. I put it into one of my new hives; gave it 11 empty combs, also 32 1-lb. sections, 16 2-lb. sections, all weighing 40 lbs. June 3, at 11 o'clock, I weighed again, 88 lbs., a gain of 48 lbs. in 48 hours. June 10, at 11 o'clock, I weighed again, 131½ lbs. I have now taken out 23 well-filled pound sections, and gave them the same number of empty ones.

I almost forgot to tell you that I set the new swarm in the old one's place, and moved the old one about 40 feet away. My brood-rack is 10½x10¼, inside measurement. I work from 10 to 16 brood-racks in each hive. Now, you can growl about the size of my racks, if you wish. I think they are just the right size.

I suppose I am progressing about upon an average with the A B C class. I learned to spell saleratus, lye, and wear my socks outside of my pants before I got out of my A B C class.

The smoker you sent me to quit smoking is a nice one. Before it reached me I sent for a Quinby double-draft. Now the boys use the one you sent me for smoking out minks, rats, and rabbits. My black bees do not know me unless the pipe is in my mouth; so, what is the price of the little smoker you sent me?

I am making a collection of honey-plants and flowers, and will send them to you; the upland alsike and white-clover meadow were in full bloom May 25th, and will last till August; the bottom-land meadow is just getting in bloom, and will last till October.

W. E. McWILLI.

Collins, Benton Co., Oregon, June 10, 1882.

Perhaps I should apologize for giving the above entire in the reading columns, but

friend M. seems to have such a quaint fashion of telling a story, it seems a pity to spoil it by marking any thing out. Perhaps he would not have been so extravagant in his praises of the iron plane, without that booming report of 48 lbs. of honey in 48 hours.

ABSCONDING IN SPITE OF UNSEALED BROOD.

"A PESKY LOT OF STUBBORN CRITTERS."

ON the first page of A B C, under the head of "Absconding Swarms," there is a sentence which reads thus: "We never feel satisfied unless we have given the new swarm at least one comb containing unsealed brood, and we have never had a swarm desert a hive when thus furnished, nor have we ever heard of one's doing so."

Now I am going to tell you of one's doing so. A few evenings ago I found a swarm clustered on one of our pear-trees. It had doubtless hung there for some time, and had taken a shower while clustered. They were "powerful" cross, and as they were slow about getting into the swarming-box, and as it was getting dark, I threw a sheet over them, and left them for the night.

Next morning, bright and early, I hived them, putting in a frame of unsealed brood, according to the most approved plan of A B C, and filling up the hive with frames of fdn. I also placed the hive in a shady place. About ten o'clock they swarmed out and clustered. I hived them again, but had not time to get the cover on the hive before most of them were in the air. A third time I hived them, giving them a fresh frame of brood with plenty of stores. I placed the swarming-box quietly on the frames, covering hive and all with a sheet. But they seemed possessed with the spirit of contrariness, for they soon came pouring out from under the sheet, and clustered again. The fourth time, I hived them in a three-story hive. I closed the entrance of the lower story, which contained the brood, and, clapping the cover on before they had a chance to get away, kept them prisoners for the rest of the day. In the evening I found them clustered on the top of the hive as far from the brood as possible. I brushed them down into the lower story, took off the other two hives, put on the mat and cover, opened the entrance, and gave up the contest, telling them, a "pesky lot of stubborn critters," to go or stay, just as they saw fit. The next morning I found them all clustered at one side of the hive on the frames of fdn., which they had partially drawn out. My frame of brood was stripped of its honey, and the brood was dead.

Supposing, from such unusual conduct, that they must be in need of a mother's directing care, I gave them a queen-cell about to hatch; but behold, the next morning they had accepted the situation, and their queen was filling the despised and ill-treated frame of comb with eggs.

JAMES McNEIL.

Hudson, N. Y., June 24, 1882.

But the sentence don't read "thus" now, friend M. It did when the A B C was first written, but I soon had to change it. Once in a while we find a stubborn colony, like the one you mention, but I have always succeeded in making them stay by breaking them up and giving unsealed brood to each

part or nucleus. During the swarming season, I would give them the brood without any honey, if I could readily find a comb of such. The new honey often seems to awaken the swarming-out mania anew. Some frames of fdn. that the queen has just laid in long enough to have a few of the eggs hatched, and no honey, is just about what you want. If they do swarm out after being so divided, you will lose only the part that contains the queen. On the same principle, taking away their queen and giving them unsealed brood will be almost a sure preventive against swarming out.

POWER OF THE WORKER-BEES TO CHANGE THE SEX OF WORKER-EGGS.

A SOUND REPROOF FROM FRIEND PETERS, FOR OUR BOLDNESS AND PRESUMPTION.

IN your June issue, on page 291, commenting on "The Queen Determines the Sex of Her Ova," you say, "It seems to me the bees have, after all, the power of making worker eggs produce drones when they wish, as the recent facts brought to light seem to show."

What facts, I ask, sustain such a wild and visionary theory? The opinions deduced from observations by all the apiculturists with whom I am familiar, when scrutinized, go to establish the very reverse idea you desire to inculcate. Even in the June number, on page 290, Mr. Morgan says he had drone brood reared in worker-cells. Of course, he may, and vice versa, if he is a close observer, and from that fact he assumes that "the eggs would have produced workers if the comb had been left in the hive from which I [he] took it." To show the fallacy of such a conclusion, I need only refer to the fact of many apiculturists filling whole hives with worker foundation alone, and yet the instinct of the queen to produce both workers and drones is such that, in every case, without exception, more or less drone brood is reared in colonies having a fully matured queen. Young queens do not generally deposit drone ova until the colony is made strong and vigorous with workers. In order to make room for drone brood in worker-cells, these latter are elongated beyond the level of the worker brood, and hence sometimes they protrude so as to slightly resemble queen-cells, but there is always a line of demarcation between the drone brood and the adjacent worker brood, and thus his 25 drone-cells exemplify only what may be seen in any healthy colony during any season suitable for rearing brood. I don't suppose there is a colony of bees in existence in a normal condition with all worker comb in every frame that has not more or less drone brood in it.

Now, friend Root, what became of your powers of recollection when you wrote that item quoted above? Most assuredly, you knew a drone-laying queen could not propagate a brood of workers. You also knew, that in such hives the bees always vainly endeavor to rear queens from drone-eggs. That abortive effort, however, has a good-looking queen-cell, but the inmate is male. You can no doubt call to mind a thousand such instances. You say the food manipulated by the bees constitutes the great factor of sex. If it were possible for bees to change the female ova into male larvae by compounding

food, why not, by the same process,—presto change!—the male ova into worker-nymphs? Now, you know there is drone ova, as proven by the progeny of an unfertile queen, yet you have admitted there were none but female ova, if I correctly understand you. Oh! I imagine you say, those ova are from an unfertile queen, which makes a different case altogether. But the stubborn fact stares us in the face, that queen deposited male ova only, and one positive fact can not be dethroned by a thousand negatives, we are told. The drone brood is developed in spite of the many efforts to rear queens by the bees from them. The worker nurse-bees have nothing to do with the sex of the future individual—feeding and nursing is their office. The ova will develop that sex in which they were cast by nature.

It was said of Lord Bacon, or Lord Somebody else, a man of rare genius, that occasionally, during his greatest efforts, there would occur a momentary suspension of mental phenomena—an ellipsis—gap, as it were; the faculties of the mind seemed to slumber an instant, then he would resume the thread of his discourse without ever being conscious of that skip in his mental existence. May not this tangent off from your stock of better knowledge have resulted from such an ellipsis or suspension of mental action, and forced you to skip over your former better and sounder views, similar to the mental inertia of the noble lord?

GEO. B. PETERS.

Council Bend, Ark., June 13, 1882.

I forgive you, friend Peters, even for your doubtful compliment of likening me to that great Lord Somebody; but instead of taking space for a reply, I would simply ask you and others to get a comb of nice worker brood, and cut out pieces for queenless colonies. Insert them exactly as you insert brood for queen-rearing, and see if you do not find drones from some of the cells. If you do, go and see if you find any drones in the original comb the brood came out of. Let others try the same experiment, and if it transpires we have nothing to talk about, we won't talk. Meanwhile, let us have as many facts as can be brought forward. I did not intend to adduce the facts you gave, friend P., to prove the point. You only showed that the queen could adapt herself to drone comb, and that only, when there was not worker comb to be had.

CAN THE BEES FROM A QUEENLESS HIVE STEAL AN EGG FROM ANOTHER HIVE?

SOME INTERESTING FACTS IN THE MATTER.

WHAT do you mean when you say, "Can I prove that a bee stole an egg and raised a queen"? Do you mean to ask if I can bring witnesses to that effect? If so, I say no, not of any account. I will give it in detail if it will interest you.

The swarm was queenless long before February, as there was no brood of any kind, to the best of my knowledge; and about the middle of March I gave them three frames of brood, in all stages; and of course they went about raising a queen, which was a failure, but which I think was my fault, from opening the hive in too cold weather; however,

they cut the cell about half down and began again; but, of course, the brood was too old to raise a queen. They capped the cell one day and cut it down the next, and they had been playing this way some time when, to my surprise, on looking in, what should I see but a cell nicely cleaned up, with the jelly and a new-laid egg, just as any queen would have laid five minutes before, and in a few days the cell was capped, etc., and thus we have a laying queen with capped worker brood, not drone brood. I have not for sure seen the young bees yet, but every thing seems to be all right. There were no eggs nor larvae of any kind in the hive at the time — only some capped brood, and very little of that — *no fertile worker about it.*

Now, just what I want to know is, how did that solitary egg come in that hive, if it was not carried in by a bee? and where did this bee get the egg, if he did not steal it? or do you think a queen took compassion on them, and visited them and laid an egg for them?

I also had another queenless stock, into the center of which I put a frame of brood, and in about six days they had queen-cells on *five frames*, so this proves that the bees can carry eggs about in their own hive, and why not carry from one hive to the other in a like manner? I am almost afraid to send this, but I have summoned up courage and done so, just as the facts appear to me.

C. H. BEELER, JR.

Philadelphia, Pa., June 3, 1882.

Why, my friend, instead of being ashamed to send your article, you ought to be glad of the opportunity you have for giving us such very valuable facts. Although we have great quantities of matter sent in for publication, we have comparatively few facts from real experience like yours. It is true, we have had reports before, tending to show that bees do sometimes steal an egg from another hive, but I have been incredulous, until now, although it has been long known that they would carry eggs from one comb to another.

DOES A FERTILE QUEEN EVER LEAVE THE HIVE, EXCEPT WITH A SWARM?

I AM fully satisfied that a fertile queen does sometimes leave her hive when she does not go with a new swarm. Last Thursday night, when I arrived home about half-past 5 P. M., I went to my apiary, and there found a bunch of bees on the alighting-board. I at once opened them and found a queen. Not knowing where she came from, I caged her and proceeded to examine to find out where she belonged, if possible. The first hive I opened was one next to the one where this queen was found, about $3\frac{1}{2}$ feet distant from it, and precisely the same color (white, with wide red alighting-board). Upon looking it over carefully I could find no queen. I examined it very thoroughly 3 or 4 times, but no queen could be seen. On becoming satisfied that no queen was there, where I saw her the morning before, I concluded that the queen I had in the cage must belong there; so I at once let her in among the bees. They received her with evident manifestations of joy, proving that she belonged there. My wife and little boy had watched thoroughly, and no swarm had issued, so the queen

must have gone out on an excursion of her own. Now, why did she do this? I have come to the conclusion that our queens go out oftener than we suppose, and perhaps many cases where breeders have been accused of selling hybrids for tested queens are susceptible of the above as a solution and explanation. At any rate, the above story is a fact; and if one queen goes out occasionally, why not another? and why is it not probable that our queens go out often on excursions? I have often opened a hive, and carefully examined it, and found no queen; but thinking I had not looked carefully enough, or perhaps queen was lost, I would look the hive over next day, and find the queen readily. Has not every bee-keeper had the same experience? and is it not fair to presume that he did look the hive over, and the queen had really "gone a visiting"?

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., June, 1882.

The matter of fertile queens going a visiting was pretty thoroughly gone over some years ago, and I believe the conclusion was that it occurs so seldom we might say that they don't, as a rule. I know there is something a little strange about the fact that we so often fail to find a queen, and then again find her so easily; but after such searches, I have sometimes found her, away from the bees, off on a comb by herself, almost alone; and in one case I found her away from the cluster, up in an upper story. If I am not mistaken, I think I have, in one or two cases, seen fertile queens show themselves at the entrance, or venture a little way out on the alighting-board. Granting this, it behooves us to keep in mind that these are rare exceptions, and that, while one queen shows a sort of sport, as it were, like this, thousands stay in their hives for their whole term of life, never manifesting any disposition to wander from their regular allotted sphere of egg-laying. From the fact of your queen having a little cluster of bees with her, I should be inclined to think a little swarm must have slipped out unobserved. These irregularities are much more frequent during a dearth of honey, and I have known the bees to chase a queen out of the hives at such times. Old strong stocks, with plenty of stores, seldom show any such irregularities.

SUB-EARTH VENTILATION, AND 200 DAYS WITHOUT A FLY.

ALSO SOMETHING ABOUT WATER FOR BEES, AND THE "DRY POWDER."

I ARRANGED a room in my cellar within all the walls, leaving an air space to avoid uneven temperature and what moisture might arise from the walls: then a small stovepipe was connected with the chimney, and an underground tile pipe, 40 ft. long, to lead in the air as fast as the stovepipe would take it out, which gave pure air at about 41°. With the temperature 60° outside, the thermometer showed 41°; with the temperature 20° below zero, outside, or a variation of 80°, the temperature at the inner end of the ventilator was 41°, showing that a little longer tile would not vary it to any great extent, or prove of much greater value.

About the 7th of November the bees were put in

to this repository, and the weather being fine on the 14th of April, they were removed, all but one swarm, which was left to test the plan, and thus remained until the 2d of June, making over 200 days with no fly. May 4th I received a visit from Mr. G. F. Wheeler, of Mexico (to whom much credit should be given as inventor of the prize box), and we went for the experimental hive, which was brought to the door in bright daylight, and after giving a whiff of smoke, the frames (three of them containing brood) were examined and set into another hive, and the bottom-board closely examined under the microscope, which would, it seems to me, convince any observer of the truth of the dry-powder theory. A frame of sweetened water was given them, and they were put back for two weeks, when they were again overhauled, with no sign of dysentery. They were again set back until June 2, when they were set out for a jubilee, and in about 2 hours they commence bringing in pollen. As there were not more than one pint of dead bees in all, it shows pretty well that bees sometimes live at least 7 or 8 months. During the winter they were entirely open at top, and entrance also open, showing the bees at all times, when going into the cellar, which was about every week, which exposure they scarcely noticed.

For the ventilation idea I am much indebted to Mr. Dines, of Fulton, N. Y., who has been extremely successful in wintering for some years past. Has he not kept his light under a bushel?

WATER FOR BEES.

About the middle of March, some hives showed signs of uneasiness, and were given water with gratifying results; and when removed to summer stands, as the weather was unfavorable, combs were filled with honey and water, and placed beside the brood. They were very soon empty, and were refilled, and placed in the center of the brood-nest, and the first we knew they were filled with brood, and the process repeated as often as they could take care of them until nearly fruit-bloom, when my honey was all gone; but as the *well* did not fail, I would fill my sprinkler with water and fill the combs, putting a frame of water into every hive, and in the strong ones I put it in the center of the brood-nest, and in every case, with strong swarms, the water would be gone in *two days*, and then thousands could be seen loading with water at a stream near the bee yard. These I knew were our own bees, as there are no other Italians around here.

I think I have given 80 hives at least *two barrels* of water, and still they go for the creek. Who knows how much bees suffer for water? In one large swarm a frame was placed outside the division-board, filled with water, having access under the division-board.

F. H. CYRENIUS.

Scriba, New York, June, 1882.

Friend C., your communication is a most valuable one, especially that part of it pertaining to the sub-earth ventilation matter. I feel sure the time is not far off when we shall have a summer temperature all winter long, and save fuel, too, by bringing our fresh air under ground before it comes into the house. I am a little surprised at the good results you obtained from a tile only 40 feet long. Will you please tell us the diameter of this tile? — Your account of giving the bees so much water makes me feel as if I should like a running brook that I could conduct right through a bee-hive, and

then I would place a barrel of granulated sugar where it would run down as fast as used, right by the side of the water-trough, leaving the bees to combine the two at their pleasure, and in just such proportions as they saw fit. In the winter time we should need a barrel of flour on the side of the trough opposite the sugar, and then, with the sub-earth pipe, we should have an automatic bee-raising machine. I am not really sure we should need any greenhouse for them to fly in, for you have proved they can live, do well, and raise brood, for at least 200 days without any fly at all. Now in sober earnest, dear friends, I feel the time is fast coming when, instead of this great trouble to get bees to start with in the spring, it will be only a question as to the price of flour and granulated sugar. Water and air are free, thanks to our kind heavenly Father.

A WORD AGAINST CLIPPING QUEENS' WINGS.

WILL IT ENDANGER THE STRENGTH OF THE WORKERS' WINGS?

I AM in the A B C class in bee culture, and feel that I am hardly entitled to a place in that; at least, not far from the foot; and in about the same position in regard to writing any thing for the public eye. Yet I feel constrained to say something on the above heading.

It is a well and, I thought, generally known fact, that there is a principle that like produces like, running through all organized creation, both animal and vegetable; and it is by the recognition of this fact, and the judicious use of it, that our domestic animals and farm and garden products have been brought to their present high standard of excellence, the most perfect of its kind being always selected for propagation. Yet in this matter of mutilating the wings of the queen-bees, this principle seems to be entirely ignored. In the town of Wytheville, Va., where I lived many years, was a breed of tailless dogs, and this was produced by a custom which prevailed there of bobbing the tails of that variety of dogs. I have seen whole litters of puppies, eight or ten in number, with hardly any more sign of a tail than a guinea pig. One writer goes so far as to say that persistent practice of planting only the middle grains of ears of corn will result in ears without grains on the ends. Certain it is, that I have seen many such ears. I can almost hear some one say, "But bees are not dogs or corn." If the principle is correct, it will produce the same effect on queens as on dogs' tails. Already we hear ominous reports, such and such per cent of queens hatching with imperfect wings, or without any wings.

I have only three purchased Italian queens of the most reputable breeders in the country. They have all the good points generally claimed for them, except power of wing. Wife and I were looking at a very strong colony of them one day in May, when they were driven in by a coming storm. Wife, who is enthusiastic for the Italians, exclaimed, as they fell in myriads in the grass, some as far as eight or ten feet from the hive, "Oh what loads of honey they are bringing in! They can't get to the hive with it till they rest." Well, now, the condition of things inside did not warrant any such praise or in-

ference; for other stands of both blacks and hybrids (a misnomer), with a great many less bees could show equally as good a stock account, and they would make the alighting-board almost every time. The best honey-gatherers I have are queens raised from these same queens. The blacks come next, and these purely mated bought queens are last, although they make up that deficiency by their great breeding capacity.

A. WILLIAMSON.

Osceola, Washington Co., Va., June 19, 1882.

Friend W., you have struck on the position held by D. L. Adair, and discussed at considerable length in the first volume of GLEANINGS, ten years ago. The only objection I know of, to your reasoning, is that the time is too short for any such results. If the wings of all queens were clipped for several centuries, it would seem that nature might cease to develop an organ that was never used; but that the cutting-off of queens' wings and dogs' tails in one man's lifetime should give wingless queens and bees, and tailless dogs, would hardly be in accordance with the facts collected on this strange subject. Should we, however, select dogs and queens, tailless and wingless from birth, and breed from them for several generations, no doubt we might in a few seasons get a breed having this peculiarity pretty well established. Do you not see the difference? Well, if we notice that the workers from a certain queen seem to have weak wings, as in the case you have just stated, by all means avoid breeding from her. If I am correct, the point that Prof. Cook urges so strongly is, that we take more heed to points like these. It is, without doubt, of vast moment that something should be done in this matter. At present there is, undoubtedly, too much of a saving of everything that produces bees with three yellow bands, thus cutting off all chance for nature to weed out the poorest as she has been doing for ages; and as a result, we are obliged to send over to barren Italy, every now and then, to get stock that has been weeded out by this process. When Italy learns to raise queens as we do, and to feed up with sugar all that do not get enough natural stores, what are we going to do? Very likely we shall have to depend on friend Cook, or some other good friend of humanity, to save us from the evil that even now begins to loom up in the distance.

FRIEND ATCHLEY IN TROUBLE.

A STORY WITH A MORAL.

I AM almost ruined in business. I don't know what to do. I sold a good lot of honey and collected \$500.00 to buy wax with, and to pay \$200.00 I owe, and night before last myself and family were nearly killed by chloroform, and my money all stolen; my drawer torn out by the roots, and every thing, including my watch and some other jewelry, was also taken, and I can not get any trace at all of who did it. I owe it. Wilkin \$113.00, and James Marvin \$100.00, which is about all the money I owe. Money can hardly be borrowed here at all, at this season; business is dull and I don't know where to get it.

I was also indicted about a month ago for selling

honey that the people pronounced glucose. It was the honey I bought of friend Wilkin, and it was so much whiter than Texas honey they at once called it manufactured stuff, when it was nothing but the finest California honey, and the trial comes off in July, and that will cost me something, although I am satisfied they can not make any thing out of it. I am going to write my creditors and see if they will not wait on me 90 days; and if they won't, I don't know what I shall do. I have got more money due me at about that time, and you may be sure I will never again have more than \$5.00 in my house at a time. If these men will not wait on me I will advertise in GLEANINGS and sell some bees and honey at a sacrifice, and pay them. Please tell what you would do in the matter. I had rather give up all my bees (99 stands), to pay the \$200.00, than be called dishonest, or not coming up to my promise, and I can not get the money now, otherwise.

Yours in sorrow,—

E. J. ATCHLEY.

Lancaster, Texas, June 26, 1882.

Your resolution not to keep over \$5.00 in the house again, friend A., is a pretty good one, unless you put the amount rather small, for it is a fact, that keeping money in the house, or in one's pocket, in sums like you mention, is one of the incentives to crime. When money is paid you, either pay it out again or put it in the bank. Of course, you received this sum in various small amounts. Well, if so, why did you not send it, as fast as you got it, to those you were owing, or buy wax with it, and thus have it out of your hands, instead of letting it accumulate? It is an excellent idea, in several ways, to keep money moving; for while it is lying still in your pocket or drawer, it is doing no good to anybody. Money was made to be used, and the more we use, judiciously, of course, the more good it does. It is a loss every way, for a strong able man to be standing around when there is so much work to do, and it is, in the same way, a loss for good money to be standing or lying still. Keep it moving and "working."

So much for good resolutions; but what is to be done now? Tell the full facts in the case to your creditors, and, without wasting very much time in talking over the matter, get to work again. If there is a reasonable chance of convicting the thieves, by all means improve it; but don't waste much time or money, unless the case is a pretty plain one. A cousin of mine recently lost his life in pursuing a thief who had stolen his horse. He exposed himself to a cold storm, because he was pretty close on his track, and lost his life and—the thief too. Coolness and wisdom are needed in coping with Satan. The fact that you have in your community, men who would want the hard earnings of a brother, and risk their lives for it, would seem to me to indicate that the cause of religion must be at a rather low ebb near you. Have you plenty of strong churches, and are their members real live Christians who carry their religion into their daily business? If you are a man well known and trusted and beloved in your vicinity, I should expect the people would rise up in a remonstrance in this honey matter, and declare it to be impossible that you had done such a thing. I have purchased

and sold quite a quantity of friend Wilkin's California honey, and we know it to be both good and wholesome. I feel pretty well satisfied the honey matter has all righted itself by this time, without costing you any money; and if your trust is in God, friend A., and you are striving, day by day, to have your life right in his sight, the loss of the money will come out all right too, for he has given us the promise, all things shall work together for good to those who love him, and that, too, in spite of all that evil men can do.

HOW MANY BEES THERE ARE IN HALF A POUND, ETC.

ALSO SOMETHING ABOUT OUR TRIALS.

FROM the post-mark on your card, I infer that you shipped my bees the first day of June. I received the card on the sixth day, and the bees at 4 o'clock on the 8th. The bees were all dead except two workers. The cages were all in good order, with plenty of food and water. The bees showed signs of having been smothered. I live two miles from town. Thinking I might possibly find a live queen, I hurried home and emptied a cage on a cloth; but all were dead, and apparently much reduced in size. Then I wanted to see the queen. I took a feather and shifted the bees repeatedly, but failed to find her. Well, I must find the queens, and here is a good chance of knowing how many bees there are in half a pound; and by counting them, I shall be certain to find the queens.

The first cage, instead of 1600, counted out 1938; the other three cages each counted over 2000. But the weight of bees depends much upon the amount of honey they have in their sacks. Perhaps you caged them before they ate their breakfast. I found all the queens, but they were so drawn up, or reduced in length, that they were hard to distinguish. I found but very few drones—not more than ten. The express bill to Asheville was \$1.20; from Asheville to Waynesville, 25 cents.

Well, I am a little blue, and have been hesitating. You know nothing about me, whether I am square or crooked. But as you replace damages that occur in transit, you will please duplicate my order. That is, send me by express four selected tested queens, with half-pound of bees with each queen. Be sure you get them in cages large enough to avoid smothering, or else send fewer bees. In my business transactions my rule is to try to keep square with every man.

WM. FRANCIS, SR.

Waynesville, N. C., June 14, 1882.

It will be observed, that we estimate 1600 bees for a half-pound in our price list. Instead of reducing our price list this season because bees were so plentiful, I have instructed the boys to give pretty good weight, and this is likely why our friend found over 2000 to a cage on an average. It may be, too, that this lot was sent out before they had had their "breakfast," as he so pleasantly terms it. I am glad to know they overran my estimate, any way; for even if they should be pretty well filled with honey when sent out, there would likely be the 1600 any way. In the above lot of four half-pound packages, each one contained one of our select tested queens. It seems we had got

the food and water part all right, but they died, as conjectured, for want of air. Such a loss is enough to make one feel "blue," true enough. It may help some of the friends who think our prices high, to see why they must necessarily be so. If the next lot, which we sent right after them, in cages double the size, get through all right, I presume the money originally received will pretty nearly cover cost of both. How do I know whether you are "square" or "crooked," friend F.? Well, I know pretty well by your kind letter. Besides, I do not believe we have a man in our midst so heartless as to wish to have us send another lot for nothing, after seeing to how much pains and expense we have been to in order to have them go safely.

NEW CANDIED HONEY.

THE bee-keepers all seem disposed to make a sort of god father (or mother) of you, and, like children out at play, whenever they find a new flower, or get a sliver in their finger, they run right to mother as a matter of course. As you seem destined to share all the "new flowers" and "slivers" with your many readers and followers, why shouldn't I trot in with mine? We have not lost a swarm of bees in two years. We have 20 stands—are cutting out all queen-cells, to prevent swarming; go through once a week, and have had only one swarm. They are all working nicely in sections, and promise a big crop. But a thing happened lately, which, to us, is strange. We would go through and cut out queen cells, and then in a week do the same thing again; and for two or three weeks we would find new comb filled with candied honey. This is my "new flower." Do you allow your bees to act so, or is it common? One hive, where we could not get sections in top so soon as we ought, had in six days built up a pyramid as white as snow on the honey-board. It was beautiful, and all the central part of the combs was filled with candied honey, and the outer portions were fast becoming so. We found candied honey in new comb in many of the hives.

STICKS AND WIRES FOR TRANSFERRING.

Last year we did a good deal of transferring from box hives to frames, and I think we found a better way than any I have seen mentioned in GLEANINGS; viz., to fasten the comb into the frames. We got our split sticks all ready—right length, etc., as you direct for tying with strings. But we use fine annealed wire. Before going to work we cut the wire into three-inch pieces; then we take half the sticks and fasten a wire to each end of the sticks. Then we go to work laying the wired sticks under the frames, slip in the combs, lay on the unwired stick, take the loose end of wire, and just give a turn or two around the top stick, and the work is done. No knots, no trouble. In a few days you unwind the wire from the top sticks and take all off, leaving the sticks all wired and ready to be used again. The same wires, being soft and pliable, can be used a number of times without being taken from bottom sticks.

THE RUBBER PLATES FOR STARTERS.

The little rubber plates we got of you to make our foundation, work first rate; but we were nearly discouraged before we learned how to manage it. I

think a person should have two pair, so as to be filling one while the other is cooling.

F. S. FULMER.

Spring Mills, Campbell Co., Va., June 20, 1882.

Thanks for your very kind words, friend F., and I earnestly pray that I may always be able to give efficient help to all who see fit to come to me. Your "sliver" about the candied honey is something I have never seen. Honey that candies almost as soon as stored, like pure grape sugar, has been several times reported; but I believe its source is not known definitely. The reason you found it only where you had cut out queen-cells, was because it was a recent yield, and I think you will find the same kind of candied honey all through your apiary, in the honey just brought in. I know of no help for it, except to explain it to your customers; and if they do not know you personally, you may find it pretty hard work to convince them you have not been feeding sugar.—Your plan of using sticks with wires on them is very old, but it sometimes does good to revive old things.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

DO not send any more of your trash to me. I am satisfied that you are an arrant hypocrite, and not an honorable opponent, but, like a little whiffet, always barking behind.

GEORGE K. WRIGHT.

Cambria, N. Y., June 29, 1882.

Why, friend W., one might almost think you were mad about something. If it is all because I felt obliged to decline publishing some communication you sent, which I did not deem as profitable and important as other matter I had on hand, I am very sorry; but inasmuch as it is my duty to select matter to the best of my judgment, I do not see how I can do differently. If enemies are a blessing to us because they tell us of our faults without fear or favor, I certainly have got a blessing this time, and I shall try to have your words do me good. If I am in the least disposed to be hypocritical, I will strive for the opposite; and if I have ever, even unconsciously, had a way of "barking behind," I will try henceforth to do all my barking right squarely before people's faces. Your first request is, however, not so easily complied with. Your name is likely somewhere in our long printed list of those to whom we send price lists once a year. We printed fifty copies of these lists, and it would be quite a task to have a clerk hunt out your name fifty times, and cut it out. I fear, in spite of all I can do, that a price list will go to you once a year for the next fifty years. Before that time, however, it is quite likely my son may send them out, and your son may get them. I presume, under the existing state of affairs, you wouldn't shake hands if we should meet? Probably not; but as far as I am concerned, I do not know

that I would have any objection, even though you did call me those ugly names.

THE LOCUST AS A HONEY-TREE;

AND SOMETHING ABOUT STARTING LOCUST GROVES.

THE locust-trees are now in bloom, and from my window I see the bees working industriously among the fragrant blossoms. The flow of honey seems to be greatest toward evening, as then there is a cloud of bees among these trees, and it is my impression that the yield of honey from them is quite considerable and of good flavor. These trees belong to the *Leguminosae* order, which embraces a host of plants, trees, shrubs, and herbs. There are about 7000 species. Peas and beans belong to the same order.

THE HONEY-LOCUST.

Most of us have been accustomed to call the locust with pink or white flowers, honey-locust; but if the readers should see a real honey-locust, they would say, "No such trees on my farm."

All along the trunk are horrid masses of branching thorns 6 inches to 1½ feet long—an excellent tree for birds to build in, for I am sure their nests would not be disturbed by bad boys. It attains a height of from 30 to 70 feet, has beautiful foliage, and is now covered with small bunches of greenish flowers. I found some few trees in the woods here, the contented hum of many bees showing that it may rightly be called honey-locust (*Gleditsia*).

But the most valuable of all the locusts is the *Robinia l.* This is the common locust found everywhere in our country. It is a native of the Western and Middle States, and has been naturalized in New England. It grows readily and vigorously on permeable soils, as sand and gravel, or loam; and now let me show you its great value:

1. It is a good honey-tree.
2. It is a beautiful tree for the lawn or park, having exquisitely beautiful foliage both in color and form.
3. Unlike other shade trees, the locust improves the sod or grass where it is planted. The soil here is very light and sandy, and it is a difficult matter to make grass grow on the lawn; but if locusts are planted, we soon have a good compact growth.
4. The chief value of the locust is the durability of the wood. As fence-posts it will outlast oak of any kind four to one.

We are told by a friend that near the battlefield of Monmouth stood an old fence built during the Revolutionary War. Four years ago this fence was repaired, and to the astonishment of the children who now occupy the old homestead, the posts which their father had placed there were still sound. They were the yellow locust, which abounds here, but is not such a rapid grower as the common black locust.

All farmers know that one of the greatest nuisances about the farm is bad fences, and the keeping of them in repair. There is some waste land to every farm, and if this were planted with young locust-trees there would soon be a continual supply of posts, enough to keep all fences in good repair. In our yard are trees 15 years old. Each one will make at least a dozen posts. In this vicinity farmers begin to know the value of such timber, and posts 4 in. by 3 in. by 6 feet sell for 75 cents apiece. Ten years' growth will make good fence-posts that

will last 40 or 50 years at the least. We contemplate buying a few acres of land and planting it with young locust-trees. Land here can be had for \$10.00 per acre, and 15 years' growth ought to make it worth \$2000 per acre. Every farmer ought to reserve the most inconvenient and barren spot on his farm for a locust grove. In Monmouth Co., N. J., we see just such groves on farms. Locust seed, I presume, can be obtained from seedsmen. S. J. H. Spotswood, N. J., June 17, 1882.

We have before pretty well discussed this matter of honey and fence-posts from a locust grove, and the facts brought out fully justify, I believe, the investment. The honey usually comes a little before white clover, and the yield is about as certain as most other sources, while the honey, when well ripened, is fully equal to clover, although it may be a shade darker in color. As our 4000 basswoods were not planted as closely together as they might have been, I have thought of putting locusts between them. Will somebody tell us when is the proper time to sow the seeds, etc.? With the facts that have been brought forward, an advertisement of seeds or small trees, if anybody has them, would, I think, now be in order. A great deal of wire fence is now being put up, and serviceable posts are soon going to be in great demand. Small trees, like the little basswoods friend Morris has been sending out by mail, are about what the most of our bee-keepers need.

WASHINGTON TERRITORY, ETC.

ALSO SOMETHING ABOUT SENDING BEES TO OREGON.

I SAW in GLEANINGS your kind offer to give any one a free ad. who would raise queens for the friends in Oregon. Now, what is the use of advertising? they would send to you any way. "Far brought and dear bought" is the best, always, and everybody knows A. I. Root to be square and punctual in his dealings, and, of course, will send their orders to him in preference to an advertiser here in Washington, or in Oregon. I have corresponded with several parties in Oregon in reference to queens. I have offered to furnish tested queens raised from *natural* cells, under the swarming impulse, for \$2.00 each, and I have not a doubt but that each party sent to you, and paid very near that price in expressage for their queens. So much for being popular.

And now, friend Root, I want to tell you what GLEANINGS has done for me. You have nearly 5000 subscribers, and probably 10,000 readers; they stretch from the north pole to the jumping-off place in Australia. Well, they haven't all written to me, but by the looks of the pile of letters *unanswered* that I have, one would think the most of them had sent a letter or postal card. I have received as many as 17 letters in one day. It would take all my time and two clerks to begin to answer them; they all found my address in GLEANINGS, and all ask about the same questions. Now, as GLEANINGS got me into the scrape, I think it's no more than fair that you answer a few of the questions. They can see by the answers what the questions were.

1. Washington Territory is as healthful a country as mankind ever lived in.

2. Water is very good—none better. Speckled trout in all the streams.

3. Plenty of government land untaken yet, mostly timbered.

4. All fruits do well, except peaches and grapes.

5. Bees do fairly, especially the Italians; the country is rather new yet; not clover enough.

6. Climate No. 1. The coldest day at noon last winter was 30° above. The coldest morning at daylight was 16° above. I had 3000 cabbages winter in the ground without hurt. Cabbage-plants sown in September winter out of doors without any protection. Our summers average from 70° to 80° in the shade; 81° is the highest that I ever saw it in the shade.

Now, friends, come one, come all, and bring your families, and we will make you welcome.

H. A. MARCH.

Fidalgo, Wash. Ter., June 19, 1882.

Friend March, you are a good friend of mine, and therefore do not see my faults, or perhaps wouldn't tell them if you did; but I am sorry to tell you, all do not agree with you in the high compliments you pay me, and, as an illustration, I would refer you to the Growlery of this present number. If it were not for a sprinkling of such letters, I do not know but that I might be tempted to get vain. There has been so much trouble about promptness in the queen and bee business, I have tried hard to set a good example for the brethren, and I decided that high prices, with prompt shipments, would be better than low prices and delays; but it seems, as you say, that we hold the trade, at least a portion of it, in spite of the high prices. Well, the moral to all your remarks is, friend March, that you and others must build up a reputation in the same way. It takes only a little while to win the confidence of the people, and when the current once sets your way, it is not a very hard matter to hold your customers, if you have the spirit of fairness in your heart. Will our Oregon friends, and those in that remote vicinity, give friend March a trial? And now, friend M., get a smart girl or boy who writes a good plain hand, and teach him to send an acknowledgment of some kind for every letter received; then as soon as you can, pencil your answer hastily on the back or margin of every letter, and let the boy or girl put it in nice shape at her leisure. This clerk can have a postal guide, make sure the addresses are correct, attend to the stamps and stationery, wrap up and mail queens, while you only do the pleasant part of scratching off the main points of the answers. In this way you can please people by giving them to understand that every thing that goes to you will have some sort of an answer right back again.—With your glowing account of Washington Territory, I am afraid there will be a regular stampee for it, unless there are some unpleasant features that you haven't yet mentioned. What is the reason you can not raise grapes and peaches, with a climate like the one you have described? Perhaps it doesn't rain, and you have to irrigate, as they do in California?



TRIALS IN ITALIANIZING; AND IS IT THE QUEEN OR WORKER BEES THAT LEAD OUT A SWARM?

THE Italian queen which I ordered of you came all right; but it beats all what a time I have had with that queen. If I thought all Italian queens are as eccentric as this one, I should give up Italianizing, I assure you. I received her on the 3d of May; introduced her to a good strong colony, and she was kindly accepted. On the 7th, she, with her entire colony, swarmed out and tried to go in with another colony, but I prevented this by closing the entrance of the hive. They settled, and I hived them and put them back on their old stand, giving them a frame of honey from another stock, as her colony was one that had been recently transferred, and I had been compelled to feed them. Well, she remained quiet; after this, however, she laid but very few eggs, and the bees seemed perfectly demoralized, fighting and killing each other until they were greatly reduced in numbers. On the 30th she led them out again, leaving a few bees and a small amount of brood, trying to go in with another stock; but failing in this they clustered on the end of the hive. I then put them into a new hive, giving them a frame of unsealed brood, just as I would a swarm, but all to no purpose, for on the following day she led them out again, and I hived them again, and this time I clipped the lady's wings, thinking I could keep her in that way, but not so; she persisted in coming out; and while the bees were swarming, she would be hopping about on the ground until she was caged and put back into the hive, where she would remain until the next day, when she would repeat the operation, until finally the bees became tired of so much nonsense, I suppose, and went in with another stock. As it was a queenless colony, I put her in too, keeping her caged 24 hours. When I released her she was kindly received.

On the following day, while out among the bees, I noticed a bunch of bees collected together on the outside of this hive. On looking, I discovered her in the center of the group. I put her into the hive and went into the house. I went out again in about ten minutes, and the bees were quietly at work, but I noticed a string of bees crawling along on the ground, and at their head was my beautiful Italian queen, started for Medina, I suppose, where I almost wished I had let her stay.

I captured her and returned her to the hive, only to see her ball'd immediately. I rescued her and carried her back to the now small nucleus to which she was first introduced. I put her in after removing the queen-cells, which they had started, and giving them to the queenless colony. She remained quiet a day or so. I watched her closely, feeding them nights. In the evening of June 9th she was in the hive; but when I looked for her about 9 o'clock the next morning, she was gone; so you see she was too smart for me.

Now, friend Root, if on rising some morning you should find a weary, travel-worn queen, with both wings clipped, you may know it is she. Be kind to her, for she surely thinks more of you than she does of me. But, laying all jokes aside, I have been greatly perplexed at her conduct, as I have studied GLEANINGS and A B C, and have followed your teachings as nearly as I could. If you can assign any reason for her strange behavior, will you be so kind as to do so? Although I am somewhat discouraged, I shall not give up; but I think I shall try dollar queens next time.

SARAH E. DUNCAN.

Lincville, Iowa, June 12, 1882.

I am sorry to say, my friend, that I can not assign any reason for this occasional swarming-out mania. The trouble seems to be, to find whether it is the fault of the bees or the queen; in your case, if the colony had always behaved with propriety before the advent of this eccentric miss, it would seem very plain that she was the party in fault. Now, the question comes up, Can a queen induce the bees to swarm when she chooses, or, in other words, is it the workers or the queen that does the swarming? As the queen is often almost the last to come out, it would look a little as if she did not lead, at least; and when she has her wing clipped, she seems to have very little to do with it, until they find she is not among them, and come back. If none of your remaining colonies swarmed out and "acted up" in this way, it would be another pretty strong proof that the queen has the ability to stir up discontent and discord, in some queer sort of a way, where she is so disposed. We haven't seen the jaded and weary traveler yet, but we will keep a sharp lookout for her, and meanwhile you may have another at half price, in consideration of your troubles, if it would be any accommodation.

A "BLACK" QUEEN FROM AN ITALIAN MOTHER.

We failed to make the division of one of our colonies that we had previously arranged for, and this morning we found five dead queens in front of one hive where we had left the queen-cells. One of the queens is so different in appearance from the others, I venture to write and ask how you would account for it. She has no gold bands, and yet from the same queen. From her appearance, I should say she is an old-fashioned black queen. If you can give me some information in regard to my "black queen from an Italian mother," I shall consider it a favor.

MRS. CARRIE L. STALLARD.

Russellville, Ind., June 29, 1882.

Your case is not at all unusual, and we are in the habit of paying little attention to the color of the queens, or drones either, to determine their purity. Your black queen, had she lived, would probably have produced just as nice yellow-banded bees as her yellow sister; and we often have queens all black, producing nice yellow bees. These facts only show that color in *queens* is, to a great extent, only accident.

OUR GOOD FRIEND MRS. LOWE; HER SUCCESS AND HER TRIALS.

How could you, Mr. Root, destroy my confidence in you as a just and generous man, one who was willing to accord women her dues? Like all the rest

of your sex, from old Adam down, you are ready to proclaim it if a woman commits an error; but if she does any thing deserving of praise, you keep silent, or say you don't believe she did it—"may be her husband did it, and she gets the credit of it."

I don't think anybody is entitled to much honor for the manner in which my bees have been managed; but if any is due, my husband is not entitled to it. He is so much afraid of bees he will hardly come home to dinner when they are out, and has tried in various ways to discourage me from keeping them. Because I fed them a few pounds of sugar last winter he declared each bee had cost *ten cents*. I have over one hundred standard and nucleus colonies that I have managed without an assistant. Sometimes I find the work very laborious; nothing but an indomitable determination to succeed in the business has sustained me. I have the ignorance and prejudice of some of my neighbors to contend with. They are constantly bringing in their complaints that my bees "suck their flowers to death;" they "eat the grapes and peaches." One man complains that my bees work on his watermelon-blooms so much he won't be able to raise any fruit.

Mrs. B. H. LOWE.

Hawkinsville, Ga., June 12, 1882.

Why, my good friend, I only suggested that your husband might deserve some of the credit, because some one else might think so; and now it has brought out the fact, that you raised the queens all your own self, and that he only carried them to the post-office on days when the bees didn't fly much. I believe that is the statement he made, or something similar.—Tell your watermelon friend that he could not raise watermelons at all if it were not for the bees, and, if he will read it, show him the cucumber story that we gave in the June number, p. 300.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the frowlyer. I think I shall venture to give names in full here.

HERE is a dollar to renew my subscription to GLEANINGS, and here is my report: Commenced in the north-east corner of Blasted Hopes in the spring of 1881 with two very weak colonies; increased by artificial swarming (too poor and too spunky to buy more) to 9; wintered all nicely, and now at this date have increased (by "natural," aided with a little "artificial," to give them "vim") to 23, and have put back at least 4 or 5 swarms. The swarming fever is subsiding now, and they are settling down to business nicely. I have commenced taking off sections. Hoping the "sweet by and by" is close at hand, I remain yours with a broad grin.

P. S.—Why, my gracious! friend G. W. White, of Georgia, needn't blow about a swarm in April swarming in May. I have had as many as three queens this season that led out two swarms each, inside of a month; that is, all in the month of May. We seldom have swarms here in April.

JACOB COPELAND.

Allendale, Wabash Co., Ill., June 14, 1882.

Friend C., we can imagine you bending

over a hive, lifting out the white filled sections, thinking of the hours you have spent in anticipation of this very harvest time of all your fond hopes, and "grinning" all the time.

A NEW DISCIPLE OF THE "COMPRESSION THEORY."

HOW THE BEES CONTROL THE SEX OF THE OVA.

ABOUT three years ago, being short of worker comb, I used some sheets of drone comb to furnish a nucleus containing a virgin queen; this was intended as a temporary arrangement; but, like many such, was forgotten as soon as made. In due time this queen became fertile, and filled the drone comb with eggs, which developed into perfect worker bees of ordinary appearance. After reading friend Peters' letter on page 291, June number, I think I am safe in making this statement.

HOW THE BEES MANAGE IT,

to enable their queen to lay fertile eggs. The bees drew in the edges of the drone-cells in such a manner as to reduce the size of the openings to that of worker comb. Mr. Langstroth tells us, in that most excellent of all bee-books, that we need take nothing that he says, on trust, but prove to our own satisfaction every statement that he makes in regard to the natural history of the bees, by personal investigation made easy by the use of movable frames. I have no doubt that any one of us who has the patience and skill to conduct the experiments properly, can satisfy himself that the abdomen of the queen *must* be compressed to fertilize the ova, or, rather, that unimpregnated eggs *only* produce the drones. I have seen drones produced under circumstances similar to the one mentioned by friend E. A. Morgan, page 290, June number, but they were from eggs laid by fertile workers after the combs of brood were given to the queenless colonies.

E. M. HAYBURST.

Kansas City, Mo., June 5, 1882.

I believe, friend H., this matter has been before mentioned, although no one suggested, if I am right, that the drawing-in of the cells is for the purpose of making the queen lay worker-eggs. Will friend Peters please tell us if the drone-cells in his hives were thus drawn in at their upper edges? I have observed it for many years, and in almost every hive we can find patches of drone comb thus drawn in by widening the walls at their outer edges, evidently because the bees at some time wished to use them for rearing worker-bees. If this is *invariably* the case where workers are reared in drone comb, it will be a powerful argument in favor of the old compression theory. The heaviest proof against this theory is the fact that the queen often lays eggs in cells so shallow there is little else than fdn., and you have all noticed, by this time, I suppose, eggs laid in fdn. where the cells are raised not more than an eighth of an inch. Thanks for your suggestion of a possible explanation of the turning of worker-eggs into drones, friend H.; but under the circumstances you mention, the drones would be the small kind, and, if I am correct, they were good full-sized drones. There is evidently much need of more careful observa-



OLD-TIME HONEY SEASONS.

I SHOULD like to have some such honey seasons as we have had since I have handled bees. One year I remember that my bees built on the outside of the hive. It was when I used the box hive. I had them on benches close together; in one or two instances they filled in between the hives. I roofed them over; they seemed to work in perfect harmony from each hive. It was one great mass of bees, covering the sides of the hives next each other clear to the top. I had several that year that built comb up the front. I made additions, and screwed them on to the hive for them to work in; took the boxes out of the tops, and tiered them up three high. Oh, for such another year, with my present knowledge and my facilities for securing honey! I have had stocks of bees in the old box hive make and store over 40 lbs. of surplus comb honey after the second Sunday in August.

B. F. LITTLE.

Brush Creek, Iowa, June 19, 1882.

BLUE HONEY, AND SWEET POTATOES FOR BEE FEED.

Do you ever have any *blue* honey in your country? I see nothing about it in your book. Please to give me some information about it. Did you ever try our common sweet potato for feeding bees? If not, please give it a trial. I think you will be pleased with the result.

S. W. CLEMENT.

Wallace, N. C., June 10, 1882.

I never heard of "blue honey" before, friend C., and if you can send me a sample I should be very glad indeed to say something about it. We have "blue" people now and then, and I have heard say that they could sour milk by looking at it; but I suppose it can't be that the blue honey came in that way. Years ago I tried to feed bees sweet potatoes, but with not very gratifying results. It might do for warm-weather feed, but I would warn you against any such for winter stores.

FEED THE BEES AND HOLD THE FORT; HONEY WILL COME.

If the goods we ordered May 22d are not shipped the day you receive this, *you need not ship them*, as my customers are getting "sick" — bees are starving down here. Our bees have been consuming pollen largely, and we have had our *first* case of dysentery, so we score *one* for Heddon. At this date we expect no surplus for sale. Our more favored Southern friends will have a boom in the honey market, for which we *all* should "rejoice and be glad."

D. H. TWEEDY.

Smithfield, O., June 10, 1882.

So we have lost an order by being behind, and you have lost a crop of honey that you never had, friend T. I must say I commend your closing bit of hopefulness.

CAN BEES MAKE WORKER EGGS PRODUCE DRONES?

In June number of GLEANINGS, Mr. E. A. Morgan gives an account of bees rearing drones from eggs laid in worker-cells. Also Mr. Lane, in April number, rather carries the idea that the worker bee determines the sex of the "bee to be." Now, then, can't the Dzierzon theory be correct, and yet have Mr. Morgan's report be true — i. e., the queen be able to lay a worker or drone egg at pleasure, and the nursing bees be able to make a drone from a worker-egg by destroying a part of the deposit of the queen?

Since reading Mr. M.'s report I have tried a swarm on drone-eggs, to see whether they could rear a queen, but they would not even try. How have others fared who have tried to raise queens from drone-eggs? or haven't others been foolish (?) enough to try? I should try to make the bees start queen-cells over drone-eggs, if it took "all summer;" but I can't afford it; I can only experiment where I think there is a chance to make it pay, to help "keep the wolf from the door."

J. J. McWHORTER.

South Lyon, Mich., June 19, 1882.

Your suggestion in the former part of your letter is not a bad one, friend M.; but you are sadly at fault in your last point. It is quite a common thing for the bees to start queen-cells from drone larvæ (see A B C), but the drone almost invariably dies by the stimulating treatment, and never produces a queen, nor a "king" either. Many of us learned this to our sorrow, before we recognized these "bogus" queen-cells by their smooth exterior, as described and illustrated in the A B C.

HONEY FROM WHEAT STUBBLE.

I want to know what our bees get on wheat stubble. There is a field close to my house, and it has been cut four days, and they are yet sucking on the ends of the stubble, thicker than I ever saw them on white clover, and I hear the same report from two other parties. It is new to me, but may be old to you old bee-keepers. They stay at it from early in the morning till late in the evening, as thick at noon as any other time of day.

Vienna, Ill., June 15, 1882.

D. W. BELLEMEY.

We have had honey from almost every source, friend B., even from wheat and oats before flowering, but never before from the stubble, that I know of. Did you not examine, to see if there was not some sort of sweet juice that captivated their — tongues? I once thought of straws for artificial comb, and now you have them nicely "stuck up" in a field with honey in the — cells!

CROSS BEES.

I began handling bees in the spring of 1881; had 2 swarms of black bees; found no trouble handling them, with a smoker and veil. In the summer I Italianized with queens procured from parties who advertised pure Italian queens; and as they became Italianized they became cross, and I found last fall they were almost unmanageable, and this spring so cross I can hardly manage them with gloves, gauntlets, veil, and smoker. Now, I wish you to tell me if it is probable or possible that I have the right kind of bees. They are yellow bees, good color, good workers; never fall off the comb, as some say. Now, I think that good workers would naturally be cross and self-protecting. I am perfectly satisfied

with my bees, excepting for the handling quality. Would you recommend me to try further for better breed, kind, or strain? I have been used to handling bees for forty years in the *old* method, and know pretty well about them, but knew nothing of the *new* method till about one year ago. I have increased my two swarms to seven. Last fall all wintered well, and I have now 15 good swarms, but they are so cross I am about discouraged.

GEORGE S. PAINE.

Lexington, Mass., June 15, 1882.

If your fifteen are all Italians, I am sure, friend P., you will find some among them gentle to handle. It may be accidental that those you have seem to be cross, and I think you will find at least a part of them "civil" when honey begins to come in freely. Gentle bees may be just as good honey-gatherers, and just as prompt to defend their stores as any. Our imported queens generally have gentle bees, and yet they are celebrated for their industry and prompt defense of their stores.

THE WONDERFUL INSTINCT OF THE BEES.

The following has commenced going the rounds of the papers:—

An Australian correspondent furnishes interesting proof of the provident and far-seeing instinct of bees. Last year the drought in New South Wales was of long duration, and the denizens of the aparies suffered much from it. This year the bees have made provision against a similar emergency by filling a large number of the external cells in every hive with pure water instead of honey. It is believed that their instinct leads them to anticipate a hot summer and provide against it.

No doubt somebody has found cells of water in a bee-hive at the approach of hot dry weather, but that the bees have planned to keep it several months, or even weeks ahead, is, I think, a mistake. Unless capped over, it would very soon evaporate, and if capped it must be thick ripened honey, or water containing no honey at all, otherwise it would sour. Again, the bees that store the honey seldom live to eat it, and, worse still, those that passed through the drought of last year are none of them alive now. It would be wonderful indeed, if they told the story of their lack of water to the rising generation, so they, in their turn, made provision for water for a generation yet to come upon the stage. This beats any thing on "water for bees" we have had yet.

WATER FOR BEES, AND HOW TO GIVE IT.

The way the bees go for the water every warm day during early spring, is very good evidence that they want it. If these warm days are few and far between, as they have been this spring, especially the fore part of April, when we want our bees to be breeding as fast as possible, I think to supply them with water would hasten breeding, while it would be retarded for the want of it. I do not think it is very often necessary to water bees in winter. It is clearly evident, that those that I gave water to are in advance of those not watered, in regard to young bees and sealed brood; that is, the average condition of those watered is the best. The way I watered them was by placing small bottles and vials of water on the frames. I picked up my bottles as I could find them, some being small. A half-pint flat bottle is about right. The bottom should be elevated a little, to give the water free passage; the

cork, to have a crease cut in the side of it for the water to flow out. I would further state, that the water was placed on the hives the latter part of March, and taken off during the last few days of April, and it was all taken, except a very little in the largest bottles.

ISAAC C. CARPENTER.

Cherry Creek, N. Y., May 16, 1882.

Here is something from friend Warstler, on the same subject:—

My bees had a nice fly for a few days, and carried in water and a little flour that I gave them. They look very healthy. I looked in; my lightest have lots of honey. Well, that shows that bees want water in winter. If you had seen me last winter watering my bees every time they got restless you would say that I was doing like the man with the umbrella — holding it over his ducks in the pond during a rain shower. I told you, in a previous letter, that I would let you know how I watered my bees. Well, every time they got restless, and were coming out as they did, I would get cotton batting and put it at the entrance so it would close about half; then I would take soft water, milk warm, and keep putting it on every 10 to 15 minutes, or as soon as it commenced freezing, and, oh how the little chaps did hum and take up the water! Well, you may think it don't pay, but it paid me well.

H. L. WARSTLER.

St. Johns, Clinton Co., Mich., Feb. 17, 1882.

GETTING DOWN TO BUSINESS.

The queen I bought of you began to lay in two days after she was let loose with the bees. The first day's laying she did was by laying 3 eggs in every cell, all in drone-cells; second day's work, two eggs in every cell; third day, began to lay one egg in each cell, worker as well as drone. What do you suppose was the cause?

A STUBBORN COLONY.

I took some of her new-laid eggs and gave to a very strong colony of hybrids that have been very cross all the spring, having killed their queen several days ago, first destroying all the cells that were started from the hybrid queen. They were so mad and stubborn they carried out every egg that was in the nice frame I gave them. Two days after, I gave them two capped queen-cells; they also tore those down, and now they have nothing but capped brood. What do you think was the cause?

LAW AGAINST KILLING BIRDS.

Is there any law to hinder a man from killing bee-eating birds? King-birds are very thick here. I have shot a great many. Some people have set up those martin houses, and the birds are very thick in this place; because I have shot some, quite a little talk has been made to put a stop to it. Can it be done? and do you think they kill very many bees?

JAMES RICHARDS.

Milford, Jefferson Co., Wis., June 5, 1882.

Queens often commence laying in the way you have mentioned, and they do so at their first laying, as well as after a long trip. Do not be in haste about condemning a queen. — After your stubborn colony has hatched all its brood, they will usually take a cell, or start brood from any larvæ you give them. — I feel pretty sure the law would not touch you for killing any wild birds that you could show were doing you a damage. Both martins and king-birds may do you considerable injury.

HOW MUCH SPACE TO ALLOW FOR BROOD-FRAMES.

On the old style of cover for GLEANINGS you say, "The space usually allowed for brood-frames is 1 7-16 in. from center to center, but they can be worked as close as 1 3/8 in., or as far apart as 1 1/2 in." The regular Simplicity hive with ten frames brings them just 1 3/8 in. from center to center. I use only nine frames in each, and that brings them 1 1/2 in. apart.

A NEW WAY TO EXTRACT WAX.

I have tried several different plans that have been recommended in GLEANINGS, for extracting wax, and none of them have succeeded nearly so well as the following: Place the pieces of comb in a pan on the stove, and pour considerable water on them; do not stir; as soon as it is melted, set it where it will cool slowly; this allows the dirt to settle. When it is cool, scrape off the dirt. Now put it on and melt again without any water, and strain through a thin cloth. I bent a piece of stiff wire into the form of a hoop (four inches in diameter), with a handle, and pin the straining cloth in this; as soon as it is done dripping, I pull the pins out and put the cloth and dirt both in the fire. Both the wax and cloth should be as hot as possible, so it will not harden on. I keep a pan and some teacups to mold the wax in just for this purpose, so there is nothing to wash when I finish, except my hands. By this method I always get nice yellow wax from the blackest combs, even when filled with pollen. G. H. POND.

Bloomington, Minn., June 15, 1882.

Much depends on what the combs are. I think, friend P. If they are built on wired fdn., we can use ten in a hive without trouble; but if they are old, crooked, and bulged with honey, we may find nine, or even eight, as many as will go into the hive handily.—I should call your plan of rendering wax, the *old way* rather than a new one. It does very well for combs not very old. I believe, but has not been generally liked for those that are old and tough, and have been long used as brood-combs.

NEW HONEY BEING CANDIED; ANOTHER REPORT.

We have rather strange phenomena in the progress of bee culture. All the honey gathered for the last six weeks is completely granulated; the cups, in many combs, are well filled with sugar, which, when taken out of the cell, retains the shape of it. Now, from what does it come? is it the peculiar flavor, or is it attributable to the honey season during the time of the gathering of this honey? The bees died out until about half of each colony was gone, but now they appear to be healthy again. Can you account for it? What will the result be? Will the honey answer for food in winter? will it be healthful for the bees to live on? Can they eat it? What was the cause of the mortality?

W. J. REEVES, M. D.

Calhoun, Gordon Co., Ga., June 24, 1882.

I can not tell why your honey all candies in this queer way, friend R., but I am inclined to think it is on account of the source from which it comes, and not from any peculiarity of the season. I have never before heard of its being injurious to the bees, more than to harden in the cells in winter so they were unable to use it. I would try to have them use it up in brood-rearing, and gather their stores from some other source for winter, which they will be very likely to do; but if not, I would give them sugar syrup

instead. If it has really been injurious to them in warm weather, it will most assuredly be unsafe for winter. I think some one has suggested, that it is the honey from the persimmon that candies so quickly.

DARK DOLLAR QUEENS.

The queen you sent me is probably a black one, fertilized by a pure drone, or else she is a hybrid. Her young are hybrids; as a layer, however, she is not to be excelled, and she is evidently a good disciplinarian, for her workers are workers in every sense of the word. From an unfavorable beginning she has made my artificial swarm a strong one. Write me on a postal, if you think there is a probability of her sending out a swarm this season. From three colonies in the spring I now have twelve in all, and more expected. G. A. LEAVITT.

Houston, Texas Co., Mo., June 15, 1882.

Friend Leavitt, we do not send out black queens for a dollar. No doubt she looks dark, and may be as dark as a black queen, for this is the case with many of the daughters of imported queens; but notwithstanding the dark color of the mother, the workers all seem to have exactly the qualities you have described. Is not this of far more value than the single item of color of the mother? I should think it quite probable she would send out a swarm.

MAKING NEW SWARMS STAY IN THE HIVES.

My boss, Mr. E. E. Shattuck, uses a frame of unscaled brood, and perhaps a frame of honey, in the hive before shaking the swarm into it. I have put up several hundred swarms in that way during the last six years, and do not think that I have had as many as three swarms desert their hive. I have charge of two hundred swarms here. They are doing well at present, and storing considerable honey, but I fear it will not last long, on account of there having been so light a rainfall during the last winter. GEO. W. ROWLEY.

Iglesia Canon, Cal., June 24, 1882.

Your plan is exactly what we have been discussing along back, friend R., and my experience agrees exactly with yours, only I would not put in the frame of honey at a time when honey is plentiful in the fields.

ANTS BOTHERING QUEEN-CELLS IN THE "HATCHER."

In last year's GLEANINGS I find it recommended to hatch queen-cells over brood-chamber in chaff hives. I have attempted to do so, and find that small ants will destroy the cells, and even kill the young queen. Can you give a remedy?

CHARLES H. GROTE.

Maunston, Wis., June 14, 1882.

Set your chaff hive on legs, and stand each leg in a dish of water, and you can put your thumb against the side of your nose while you look at the ants and laugh at their discomfiture. Neighbor H. again uses, this year, the arrangement you mention, and it still works nicely, and he thinks it much less care and trouble than a lamp nursery. He calls it a "hatcher," and any sort of a cage that will cage the cells right over a powerful colony, will answer the same purpose. A chaff cushion is put over the cages, to keep the heat uniform during cool weather.

STILL MORE CANDIED HONEY, ETC.

Bees have never done better than they are doing now. My honey is all granulated in the comb. There are no Italians near, except those I have sold — some that are mixed. Well, I do not know what to do with my bees; they will not stay in their hive. I give them a frame, but they leave it, and out they come; some have come out as often as three times; what shall I do with them? Nearly all are large swarms, and do well, when I can get them to stay. At 4 P. M., out came a swarm hived yesterday; I put them back, but they will be out to-morrow again, I suppose. The bee fever is high in this section, and people are making frame hives this spring.

J. L. MCDANIEL.

Moorsboro, N. C., June 15, 1882.

The bee fever does indeed seem to be "high," friend M., especially among the bees. I did not know at first but that they might have swarmed out more, on account of that granulated honey; but I think, after hearing you through, that it is only the usual swarming fever that we often see when honey is very plentiful in the fields. I would divide the heaviest swarms that seem so bent on decamping, and let one part of them raise some queen-cells, just to tone them down a little. The ascending mania will soon pass over, and then — look out for the honey.

SWARMING EARLY IN THE MORNING.

My bees are doing nicely; never had them work better, and are swarming every day. I had a swarm come out fifteen minutes before 6 on the morning of the 16th. Can you beat that? I never had a swarm earlier than 8 o'clock before. Bees are storing honey from white clover now, and are making up for the loss in consequence of the cold wet spring.

Merritt, Ill., June 19, 1882.

H. W. HITT.

Such early swarming is very unusual, friend H., and I suppose, of course, it was an after-swarm with a young queen. First swarms seldom come off before the sun is pretty well up and all the dew well dried off the grass.

SALT FOR BEES.

I have read with interest all the "big" bee-men's experience, but have never seen any one yet who ever tried salt in breeding-time. I salt mine once a week during spring and summer; by so doing I keep them from sucking about the kitchen or slop-barrel.

POLLEN AND PROPOLIS.

There has been a good deal said about pollen, about whence it comes. I think Mr. Doolittle is right, but I don't think everything they bring in is pollen, as I have seen them getting gum from the sweet-gum tree. They also get gum off the goldenrod, when the stalk breaks or splits. D. A. GARDNER.

Dyer Station, Gibson Co., Tenn., June 18, 1882.

CUTTING OFF LIMBS, ETC.

I bought 4 swarms of bees this spring for \$20.00. I have made 8 hives for the new swarms, Langstroth style. One swarm came out Tuesday, the 13th, and clustered on an apple-tree limb that I didn't want to saw, but I did saw it, and hived them alone — the first swarm I ever saw in the air. They came out the next day at 11 o'clock, and clustered on a cherry-tree, and I hived them again, and left them there until dark; then I carried them to the stand, and

they are contented, so far as I know. They have been there five and a half days.

EDGAR RAWLEY.

DeWitt, Onon. Co., N. Y., June 19, 1882.

Well, I think, friend R., you should not have cut off any limbs from your apple or cherry tree either; but instead, I would have shaken the bees right into the hive, or taken them down with a swarming-box or basket. If you saw off a limb every time when your apiary gets to be large, you might sadly disfigure all your shrubbery. Letting them stand until dark, I do not think made any difference; but putting in a frame of larva, as we have so often talked about of late, would, I think, have made them stay the first time.

FOUNDATION ON PAPER BASE, ETC.

I have been experimenting a little this season with paper for the base of fdn., and have had very fair success, even with common straw paper, by dipping sheets of paper in wax, and rolling, while the wax is yet quite warm. Almost all the wax will be forced into the side wall, leaving the base almost entirely of paper. Now, if a very fine quality of paper were used, say silk paper, would there not be a saving of wax, while at the same time adding to the strength of the comb? And further, if the supply of wax should give out, as you intimate, would not paraffine work better in paper than in wired frames? It may be that you have gone over that ground before, and know all the objections thereto; if so, I should be glad to have you mention them.

This has been a very poor season to get fdn. worked out by the bees, but they have taken to the fdn. on paper much better than that without; this I attribute to its being pressed while soft, and the surplus wax rolling back on the other gives the sheet a rough appearance, and enables the bees to get a better hold to nibble than where a smooth surface is presented.

No surplus honey so far; weather cold and foggy. I think the honey crop will be an entire failure.

R. TOUCHTON.

Santa Paula, Cal., June 14, 1882.

The idea is an old one, friend T., and it has been several times revived. The great objection is, that when the flow of honey stops, and the bees are looking out for any kind of mischief, they will tear the combs all in pieces, in their efforts to get the paper out. There is also a waste of wax on the scrap, and it seems very hard to get it out. Your idea of rolling it quite warm, may be an improvement; but the two objections mentioned, I hardly know how we shall get over.

HONEY IN CITIES, DARKENED BY COAL SMOKE.

We intend to extract this season, because our bees can not make comb in the city without getting the smoky tinge on it, and then the very whitest clover and basswood has a dingy-looking comb, which never sells satisfactorily. We would not mind selling it 4 or 5 cts. per lb. less, but those who buy it can not sell it without grumbling. We left 25 colonies on their summer stands as usual; all came out well, except one lost its queen, which we replaced, and all are now in working order, waiting only for something to do.

A. C. KENDEL.

Cleveland, O., June 8, 1882.

STETHOSCOPE FOR FINDING BEE-TREES, ETC.

Last fall I went into winter quarters with 16 colonies of bees; came out in spring without any loss up to the 10th of May last. I increased to 34 colonies; they are now prospering, gathering honey from white clover, which is in abundance. Would not the stethoscope be a useful thing to the bee-hunter, to be used as follows? If a tree is suspected to contain a swarm, chip off the bark and a little of the sap, to get a solid surface upon which to rest the instrument; give the tree a few good raps with the ax, then apply the stethoscope. Will not some of your many readers try the utility of the above?

H. J. PETERS, M. D.

Rogersville, Tuscarawas Co., O., June 14, 1882.

I do not know where we bee-keepers would find a stethoscope, friend P., unless we borrow it of some of you doctors; and as you know best how to use it, I would suggest that you give it a trial.

COMBS BUILT CROSSWISE.

A swarm settled in one of our peach-trees May 17, about noon; we were all afraid of them, as we had never handled bees before. We left them hanging until the next day at noon, when a bee-keeper here hived them for us. I have a Langstroth hive; the bottom is full of comb now, but it runs crosswise of the frames. What shall I do with it? I got fdn. for the top story, so I will have that straight. Which is the best way to swarm artificially?

LOUIS T. ROSSBACH.

Jeffersonville, Clark Co., Ind., June 15, 1882.

The old way of doing, friend R., would be to cut the combs out and put them in as they should be, as we do in transferring; the way we should do nowadays would be to melt them all up and put in wired frames of fdn.

MOVING BEES IN APRIL, NEGLECTING TO FEED, ETC.

On the 15th of April it came off warm, and I had to move my apiary about one mile. I moved them and set them out; 49 all seemed strong for the time of year, and now my troubles begin. It came off cold in a couple of days, and during April there were only two days the bees could fly. May was no better, but worse; for it was warm, then cold; and how the bees did die off! June so far has been no good. On the 22d I opened a large swarm of blacks in a ten-frame Langstroth hive; found 5 frames of brood in all stages, and not ten drops of honey in the hive. I then looked them all over, and found 12 in almost the same condition. I gave each one a frame of honey left from those that died off, and they are all right now. I have lost and doubled down until I have now 34 good stands left to begin with. Am not discouraged yet.

R. P. LOVEJOY.

Greig, Lewis Co., N. Y., June 26, 1882.

Moving bees short distances, say a mile or less, in the spring months, is almost always a serious damage; but letting your bees go until there are not *ten drops of honey* in the hive, when the combs are full of brood, is a still more serious matter. Here were 15 good colonies, worth in the spring something like \$75.00, allowed to die just for want of a few pounds of sugar! Some of them did not need the expenditure of a single copper for sugar, but only needed exchanging combs, or combs being brought from those that had

died. Is it any wonder that bee-keepers fail? There is not a month in the year when there is not a *liability* of your stocks, some of them, needing feed; and the bee-keeper who has not his eye (and his *mind*) on his bees enough to know just how they stand, ought to have them taken away from him; and when God takes them away, you have no right to complain. Brother L., I will stand by your side and take this little sermon, for I remember the time when I starved a strong colony, right in July, by extracting the honey too closely.

BEE PARALYSIS—THE NEW DISEASE, AND THE REMEDY.

There, I have named that disease which our friend writes about from Indiana, and which you describe on page 63 of the A B C book. The symptoms are a sure indication that it is an ailment of the nervous system. The oscillating nervous movement of the mass, the severe emaciation, the beating the air in the feeble manner you describe, seems to me is satisfactory evidence of the above statement. My apiary of 60 colonies has been severely visited, fully 80 per cent more or less affected. The disease may be and is often produced by eating poisonous honey. In my case, I am sure it was, from the following observations. It first appeared in the colonies whose stores were short, and such colonies suffered most severely. Those having plenty of sealed honey were not affected. And further, on opening the hives there was that rank, unpleasant, unmistakable odor of the buckeye-blossom. Yes, sir, (would you believe it?) my bees were "buckeyed." Don't smile now, if you never heard of the like before. It may be well to say here that the sick bees acted precisely like cattle that are suffering from buckeye poison. After all that I could find out, I wanted a remedy, and did not know of any; and I believe you gave none in the A B C; but bee-keepers would like to have one. Well, I can give them mine. I found it out by pure accident. At first glance I thought they were starving, and commenced feeding sugar syrup; and not having any feeders, I opened the hives at sundown, and poured the syrup in right on to the frames and bees, daubing them all over. The result was, they filled themselves with the thick syrup, and I could see that a single application was beneficial, and 3 or 4 doses cured the worst cases. This treatment did not fail in one single instance. I saved 25 or 30 colonies in this way. G. A. BEARD.

Winchester, Clark Co., Mo., June 8, 1882.

I agree with you, friend B., that pure sugar feed is pretty good medicine, and it works well in almost all diseases; but I can not agree that the disease you describe is always caused by buckeye honey. In our apiary it made its appearance, and did most harm, before buckeyes were out. I can hardly agree, either, that food was the cause of it, for it kept right on clear through clover and basswood bloom. Destroying the queen, and giving them another, cured it, and I presume the same means will cure any disease of bees, not directly contagious. If a good feed of pure sugar helps matters, by all means persist in it; but when it doesn't, give new queens from some fresh strain of bees, and, if you like, keep up the sugar feed also, until healthy bees make their appearance.

A SUN WAX-EXTRACTOR.

Allow me to give you a description of my sun wax-extractor that I know is very handy and cheap for all bee-keepers. It is a box 16x20, and 12 inches in depth; a tin pan with a 2-inch rim and spout at one end; this pan is hung about 4 or 5 inches below the top of box; on the pan the wax is put; under the spout a vessel is put to catch the wax. On top the box a glass with a narrow frame is hinged on; then set it in the sun, and it will do its work. It comes very handy for cappings; the honey is underneath, and the wax is the nicest that can be seen; no more fussing with washing the cappings, or letting bees clean them up for you, nor moths getting at your wax before you get ready to start a fire to steam it out. A sheet of tin, tacked in a hive, and glass laid on top, will give you a cheap trial of it.

LOUIS HOFSTATTER, 22.

Louisville, Ky., June 19, 1882.

Thanks, friend H. If I mistake not, we have given a description of something similar, in some of our former volumes. Doubtless a hot sunny day will be required, and I think likely it will work better on cappings than old tough combs.

FEEDING WITH FILLED COMBS.

Our first honey worth naming has just commenced coming in this week. I have fed about half my colonies since April 1st, and have now fed about 1000 lbs. of honey. I fed in cards of sealed stores saved last fall when I doubled for winter. It is the least trouble of any way that I have found yet, and they do well fed in that way.

H. V. TRAIN.

Mauston, Wis., June 16, 1882.

This, it is true, is an easy and safe way to feed, but it is, after all, a rather expensive way, if the honey is good white honey that will command 10 cents or more extracted; or 15 cents or more in sections, for I can not think it as good nor as safe as an equal weight of granulated sugar. There is this, however, in favor of the combs of sealed honey: One who is at all inclined to be careless would be all right with those combs of honey; for a surplus beyond any possible want could be kept in the hive the year round, and the disagreeable task of feeding might be put off, or neglected altogether.

OUR SHOP-ROOF APIARY, AGAIN.

You ought to just see it; it now numbers 9 hives. We bought 2 three-frame nuclei of Mr. Dan White, and have had 5 swarms from the 2 one-dollar queens we bought of you last June. They swarmed once and lost their clipped queen; they then went back and swarmed again in a few days, without a queen. Did you ever hear of the like? I had two such swarms, but gave them brood to raise a queen, and they have nice queens now laying. The bees are going in on the white clover, which is now in full bloom.

FRED TYGART.

Pittsburgh, Pa., July 5, 1882.

ORANGE HONEY, ETC.

The present season in this region does not promise a large honey crop. Oranges bloomed but little, hence orange honey is not plentiful. Last year a man located in the north part of the county, in the midst of orange-groves; on the 14th of April he had taken five gallons each from ten colonies. This year, at the same date, he was feeding his bees.

But paucity of orange-blossoms was not the only cause of their poverty. Our winters are usually dry; but the past winter and spring were unusually dry. Our rainfall in January was 2.60 inches; February, .15; March, .80; April, 3.04, and May, 2.58, making, for five months, a total of 9.17 inches.

JAS. H. WHITE.

Georgianna, Brevard Co., Fla., June 20, 1882.

WINGLESS BEES; AN UNUSUAL NUMBER.

I find that a great many of the young bees come out wingless this summer. A friend of mine was at my place yesterday, looking at my bees, and he was remarking the same as regards his, and I also find they are killing off a great many drones already. What is the reason?

J. G. PARTRIDGE.

Newmarket, Ont., June 19, 1882.

The drones are killed off just because the honey comes so slowly, or because of bad weather; and a cessation of the flow from any cause will result in the destruction of the drones. I presume the imperfect wings come from the same reason, or because the bees have to work so hard for the small amount of honey they do get, that they wear their wings out prematurely. If a bee get a load from the first flower he visits, it would be less severe on his wings than to buzz through the grass until he has visited a thousand clover-heads to get a load.

IS IT TOO LATE?

Do you think it is too late to introduce queens this year?

A. JUMP.

Chicago, Huron Co., O., July 8, 1882.

How such inquiries remind us of the strides our industry has made in a few years! It is an actual fact, friends, that only a very few years ago we supposed queens could not be raised after about the middle of July, and very often there were no drones to fertilize them. Now our heaviest trade is in the month of July, and drones are as plentiful in Aug., Sept., and Oct., as at almost any other time. One would hardly think, now, that very many hold the idea that queens reared in August are in any way inferior, to see the demand for them during this month. Friend J., we now send out queens every month in the year, unless we have a long spell of unusually severe weather, and we also introduce them, as a matter of course, every month in the year. Do you ask, "What is the good of it all?" Why, we now get not only five but even *seven hundred pounds of honey* from the progeny of a single queen in one season.

HONEST IN DEATH.

Find inclosed the sum of 40 cents, which my brother David owed you. He died two weeks ago, and almost his last words were to remember the 40 cents he was owing you.

ROBERT STOCKS.

Springville, Ventura Co., Cal., July 4, 1882.

The above is only a simple little incident, and it may be that such incidents are common; but for all that, it is a touching one—to me at least. When bidding this world adieu, with all its cares and sorrows, our friend, in his anxiety to be just and fair with all, thought of this little amount that had not been sent. It may be that my life is such that I am in danger of laying too much

stress on such simple matters; but, my friends, are we sure that God did not honor this little closing act, much as Christ did the little mites that the poor widow cast into the treasury? A few days ago I heard of a young Christian who was stumbled, and went back to the world again, because an old professor, with whom he was riding, told a deliberate lie to the toll-gate keeper, to save only about *four cents*. How far will a profession count on a dying bed, with such little things in the record book of it?

UNCAPPING-KNIVES — A MASON'S TROWEL.

If you wish to furnish the best uncapping-knife in the world, get a medium-size Henry Disston mason's trowel. I have used Muth's, Root's, and Bingham & Hetherington's honey-knives; but Disston's is the best for all purposes. It takes up the capping very nicely; have used one for two years, and for my own use I want nothing better. J. S. TADLOCK.

Luling, Texas, July 3, 1882.

Did you ever? It has often been said, in describing honey-knives, that they are like a mason's trowel, somewhat; but it seems it has been left for our friend Tadlock to discover that a mason's trowel itself is what is wanted. I find, by looking over Disston's list, that we can get a Disston trowel, first quality, for about 75 cts.; that is, of about the size of a Bingham honey-knife. I have sent for samples of different shapes, and will supply the friends who would like to try one. As a mason wants the very best steel and temper he can get, I presume we shall find in a trowel just what we want for a honey-knife, so far as that part of it goes. Since the mention of it, we have sold a great number of our little steel garden-trowels, for cheap honey-knives. Will somebody tell us how they answer?

ABOUT SOME YELLOW SWEET CLOVER.

I have some sweet clover, of which I think a great deal. It is six weeks earlier than the white kind I got of Mr. Newman some years ago, which was recommended to be the best kind, and is a good honey-plant. It commences to bloom about the 20th of June, and lasts about six weeks. My early yellow commences about the 10th of May, and continues till the 15th of July. It gives twice the number of blooms; it produces more pollen than the white, and, I think, more honey, by the way the bees work on it. It has a little finer straw than the white. Now, I want to know if any other bee-man has any of this kind. Some may be curious to know how I got it. I did so by accident one day. As I was passing my stock-yard I saw a nice yellow bloom in a group of weeds. I stepped out to see what it was, and saw it was sweet clover, and I saw it was much earlier than the white. I saved the seed from that little spear, and I have now a bed well set, 6 by 3 ft., and it would do any bee-man good to see how the bees swarm over that little bed. I have no seed to sell yet. I can't tell how the seed came there, for I never saw any before, and I think it is as hardy as the white, and will be a great addition to our honey-plants. S. J. SOWERS.

Dunlap, Morris Co., Kan., July, 1882.

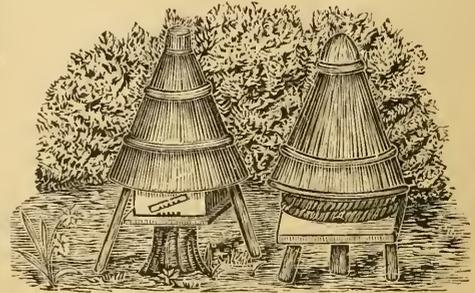
I believe, friend S., that yellow sweet clover is not uncommon, but yours may be a little different from any we have, and, of course, you will either give or sell the friends

some seed, when it ripens. I presume it does not blossom until the second year, although you do not say so. The blue, it will be remembered, blossoms in about 3 weeks after sowing.

THE STRAW HIVE ON THE COVER OF GLEANINGS.

Let me call your attention to a mistake on the cover of GLEANINGS. What you call a primitive straw hive is only the outside covering of such a hive. It is what the old writers call a "hackle." I inclose a cut from Hamet, in which this straw "sur-tout" [overall] is shown in a more finished style.

Oxford, O., April 6, 1881. L. L. LANGSTROTH.



ANCIENT WINTER PROTECTION.

The above was received over a year ago, but we never got the engraving ready until now. It would seem that our artist must have got his idea from some picture of a hive prepared for winter, and it was my suggestion that a hive in its most primitive form was simply a bundle of straw, tied at the top and separate at the bottom, so as to leave a hollow underneath. Many thanks to friend Langstroth for setting us right; and this is the more interesting, because it shows that the idea of chaff hives, or, rather, straw protection, is very old. This protection may be to keep off the hot rays of summer, as well as the frosts of winter. In the engraving, one of them is shown placed over a straw hive, and another over some kind of a box or wood hive.

ENAMELED CLOTH; HOW TO USE, ETC.

In using enameled cloth for covering the brood-frames, which side down do you put it,—cloth or enameled?

We use the enameled cloth with the enameled side down, because the bees can not bite into the hard smooth surface, and also because they can not make wax stick to it. If they do build on to it, the sheet can readily be peeled from the wax, so as to come off clean and bright. It is also so soft and light it can not kill a bee, and, all together, it seems destined to be the thing to supersede all other devices for covering frames, where the hive has to be opened often. The demand for it this season has been enormous, and we received, in one single shipment, 100 pieces, which are nearly all sold now.

BEST PACKAGE FOR RETAILING EXTRACTED HONEY.

Which do you consider best for retailing extracted honey, a pail holding a pound, a bottle, or a glass jar? What do pound pails cost a hundred? Please give me diameter and depth of pail necessary for holding a pound.

At present, our sales of honey are by far the largest in the raised cover, one-pint pails. These hold just about 1½ lbs. of honey, and retail for an even 25 cents. The pails cost \$4.00 per hundred. We also furnish the Dadant pails, holding 1½ lbs., at the same price. We have no pail holding exactly 1 lb., but we have a 1-lb. tin box, such as D. A. Jones uses, at \$2.75 per hundred. The dimensions of this box are 2½ inches in diameter, and 4½ high. This is perhaps the best shape for economy in working the tin. We could put bails on them, so as to make it a veritable 1-lb. pail, for \$3.50 per hundred.

THROWING OUT BROOD.

Being inexperienced at extracting, I slung out a little brood, not much. Will it do the honey any hurt if it stays in it until drawn from the extractor?

A little brood, immediately strained out, would not, I think, impair the taste of the honey; but in some of our earlier experiments with the extractor we threw out so much brood that I imagined it gave the honey a raw taste; and as the milky food prepared by the bees goes with it, I should not be surprised if it would hasten the tendency to fermentation. If your honey is so thick that you have to turn hard enough to start the unsealed larvæ, I think I would skip frames containing such, and not extract them.

INTRODUCING A QUEEN IN 20 MINUTES AFTER REMOVING OLD ONE.

I had a singular experience the other day. In extracting, I accidentally, but carelessly, killed a young laying queen. I went to a hive where I had some queen-cells in reserve, cut one out, and, while taking it to the queenless hive, I heard it gnawing inside of the cell. I saw the cap begin to separate, and had just time to pull up the end of the enameled cloth, and hold the cell down on to the top of the frames when her majesty crawled out and down into the hive. I had no idea that they would accept her, but I found her all right next morning. The hive was not queenless for twenty minutes.

GILBERT & GAY.

West Winstead, Conn., July 17, 1882.

Your experience is not very unusual. The queens we hatch from the lamp nursery are let loose this way, as an every-day matter; and had you let your just-hatched queen into the hive, even before the other was killed, they would likely have received her just the same. They sometimes, however, notice their being strangers, after they have been in a day or more, and then they are attacked. While honey is coming in briskly, you may often swap queens from one hive to another, without either being molested. When you have some queens you do not care for, try it.

IMPORTED QUEENS—THEIR UNPREPOSSESSING APPEARANCE.

The imported queen was received yesterday, and duly installed, by taking frames of hatching brood from different hives until I made quite a colony when hatched. To-day she seems to be perfectly at home among her colony of baby-bees, teaching them the Italian language (bee), I suppose.

I must say that I am disappointed in her; she is the smallest queen I ever received through the mails; but then, she has traveled further—all the

way from Italy. Now, friend Root, I am not complaining yet; but if, after rest and proper attention, she still presents the present dwarfed condition, I shall be forced to complain, for you know I sent for the best six-dollar queen, right from Italy. I do hope that rest and proper attention may be all the queen requires to develop her into a *fairone*. There were three dead bees in the cage; the remainder were strong enough.

Thanks, friend R. The unprepossessing appearance of imported queens has always been a matter of dissatisfaction, and I fear always will be. They do not begin to compare in appearance with their own daughters raised in this country; but why it is, I am unable to say. Then why do we import, do you ask? Because we have proved, over and over, that unless we make frequent importations for our apiary, we soon lose the intense energy of the Italians. As a rule, the bees from imported queens, or their daughters, gather honey when home-bred Italians of several generations do not. Keep watch of your imported queen, and see if this is not the case. Since you have again called our attention to the matter, friend R., I have just gone and inserted in our price list the following lines:—

It were no more than fair to inform our friends that imported queens, as a rule, are small and dark. If you want a large yellow queen, do not order an imported.

13th.—Queen is a little better looking to-day.

14th.—Queen has decidedly improved in her general appearance, but has not commenced laying yet.

14th, 3 P.M.—Queen commenced laying, and would be considered an average one.

15th, 7½ A.M.—Queen continues laying, but quite small. She now has quite a colony of young bees, and I intend to feed them up and make a strong colony by winter. I hope she will prove good, better, best.

THIN HONEY, ETC.

Our spring proved to be a very poor one for honey; plenty of flowers, but no honey; yet I am not discouraged; indeed, I ought not to be, when all the box-hive men tell me they made no honey, and their bees are dying. I took 1200 lbs. from 30 colonies, all extracted, and I wonder if the rainy spring everywhere made honey as thin as mine was. If so, a real splendid article is scarce.

Clinton, La., July 15, 1882.

W. F. ROBERTS.

I believe thin honey is the rule this season; but you can get it thick by putting on an upper story and leaving it on the hive until it is partially or all capped over.

REPORT FROM AN "A" SCHOLAR.

In the first place, I will term myself an "A" scholar, not having progressed as far as B, for this is the first season that I ever lifted a frame of bees from a hive. When I began I had 41 colonies, one of which had a fertile worker. They began breeding early, and by the time poplar bloomed they were nearly all in good condition. The fore part of the season was very favorable, and you can imagine they kept me busy. The rainy season began just about the time white clover opened, and continued until July 1st, during which time they gave me but little surplus honey. Since July 1st we have had some nice weather, and the little pets are working early and late. I have taken in all, between 1000 and 1500 lbs.; increased only two by natural swarming; have a nice lot of cells, which will hatch in a few days, for nuclei.

Sellersburg, Ind., July 11, 1882.

A. L. CRIM.

BLUE THISTLE, AGAIN.

Now, right here is an important question I want to ask, and much desire a satisfactory answer, as in it the bee-keeping fraternity are all interested. Is blue thistle really and legally a noxious weed? In other words, will the law of the land tolerate its growth? For instance, if one should choose to let it grow for bee forage, can his neighbor compel him to destroy it for fear of its species being propagated on his lands, thereby polluting his soil? The above question is agitating the minds of some to-day, and an early answer will be appreciated.

J. H. BOSSERMAN.

Gettysburg, Pa., June 30, 1882.

Blue thistle is a variety of borage, and nothing more. I do not know why one can not grow it for honey, just as well as to grow any plant for honey alone, if he chooses to. As the plant dies every year, root and branch, it is not strictly a thistle at all, but is exactly like the great mass of weeds that are a nuisance if allowed to seed the ground. If one neighbor could compel another to prevent all weeds from growing up to seed, perhaps it might include blue thistle; but as the law against weeds is intended to cover only those of no use, there would be another side to this question.

YOUNG QUEENS, VERSUS OLD.

I wish the queen to be reared this season. This is a *sine qua non*. I would not have an old queen as a gift.

M. W. CHAPMAN.

Mayhew Station, Miss., July 4, 1882.

I would take an old queen as a gift, friend C., providing she was still active in egg-laying; but I should consider a queen a year old worth only about half as much as one just tested, other things being equal. One great reason why I prefer dollar queens to tested ones is because all honest dollar queens are young ones, while all the tested queens, say before July, must, almost, of a necessity, be of the previous year's raising.

SKIMMINGS FROM MAPLE MOLASSES.

My bees are "no go" this year so far; too cold and wet. A friend of mine living about three miles from here wintered three colonies. During May they swarmed 8 times, so now he has *eleven*, because he saved the skimmings from the maple molasses and put them into a large wooden trough, and put a board on it so the bees could get it without drowning. Tell the people through GLEANINGS to save the skimmings next spring for the bees. *It pays*.

HENRY BRENNEMAN.

East Germantown, Ind., June 14, 1882.

WHAT TO DO WITH UNFINISHED SECTIONS.

As the white-clover season will soon be over in my locality, and I shall have a lot of sections only partly filled, I wish to know if you can tell me of any way by which I can have the honey carried out of part of them and stored in the others. In short, tell me how to manage my partly filled sections when clover is gone. We usually have a very good crop of fall honey here. They sometimes make a little surplus in the fall.

J. F. EDWARDS.

Secree, Webster Co., Ky., June 18, 1882.

You can get the bees to take the honey out of the sections without much trouble, by simply uncapping them and moving them back a little from the brood-nest; but to get them to take the honey and put it into other

sections, is not so easy. I believe the usual way of doing is to take all of those nearest filled, and put them on the strongest hive. Now throw the honey out of the rest with the extractor, and feed it back to this one colony until the sections are filled. Or if you have extracted honey enough, feed until all the sections on the hives are finished; but this will be quite an expensive proceeding, compared with placing all those nearly finished on one strong hive, and feeding that alone. See remarks in the A B C on this matter.

MOVING BEES BY FREIGHT IN WINTER.

As it may do some brother bee-keeper good, and do me no harm, I will give my experience in moving bees. I started from Lostant, La Salle Co., Ill., Feb. 27, for Brookfield, Mo., 200 miles distance, with 12 swarms of best hybrid bees in large 2-story chaff hives. I made a frame of 2x4 pine, large enough to hold 6 hives, and cleated it so the hives did not touch; then I bolted on posts and braces, and added another lot of 6 hives above them on a frame made like the first. I strapped the hives down securely to the frames, ventilated the top with a two-inch tube through chaff cushion. I set the frame in the car on as much hay as we possibly could, well leveled and tramped down; neither the hives nor any part of the frame touched the car, which was heavily loaded with stock and other freight. Part of the road was very rough; the sections of hives were metal cornered with tin rabbets, with nothing to hold them but a very small notch made with a file, and the propolis put on by the bees. There were 2 sections which moved a little by the journey, and over thing else was lovely. WM. S. ROBERTSON.

Brookfield, Mo., July 4, 1882.

Your plan is a good one, friend R., but I hardly think so much expense is necessary, and I should have given more ventilation for strong colonies. However, as freight is liable to very rough handling, your plan may be safest.

CANDIED HONEY IN THE COMB.

I send you by to-day's mail a small can of candied honey that I wrote to you about. If you are careful to take out the comb you will find at the bottom some that had been subjected to heat; but the grains of sugar are there the same, nevertheless. The way that I got the honey was to take the combs that had no brood in them, and with the honey-knife I shaved off all the honey-comb and all down to the base on both sides, leaving the base whole as best I could, and then at night put it in vessels and set it on the stove, and brought it to a heat sufficient to melt wax, sugar, and all, until I thought all had thoroughly melted (stirring well in the meantime). In the morning the wax had cooled, and all risen to the top in a solid cake, which I took off, leaving the honey in a half-sugared state, which I strained and put away in a can; and in 24 hours it was as pure sugar, after heating it, as it was before, and that is why I put some of that which had been heated, in the bottom of the can, that you might taste it after it had gone through the above process.

All the honey, inclusive of persimmon and wahoo, has sugared in the cells this year, as you see the sample. Our wahoo is synonymous with basswood. We have a good deal of it on the rivers and creeks, and our bees have brought in a good deal of honey from it this year; but all have candied, so the sam-

ple is perhaps a mixture of persimmon and bass-wood. The bees are ready and waiting for another harvest. I hope we shall have no more candied honey, as it is difficult and unpleasant to work with. I took about 100 lbs. of honey like sample, but did not take more than a third from colonies working for extracted honey; took about 100 lbs. in sections; it was nice; about 1100 lbs. in all, to date.

Coronaca, S. C., July 14, 1882. J. D. FOOSHE.

The honey sent is of fair quality, aside from this unpleasant candying feature; in fact, it has a flavor not unlike dried figs. If some sort of confectionery could be devised to work it in, it seems as if it might find favor. As it can be spread upon bread like butter, it seems as if it might answer just as well, for home consumption, even if it won't liquify; but I suspect the main trouble is, it doesn't look handsome.

WHY DID THEY SWARM OUT?

Well, I went into winter quarters last fall with 11 colonies on their summer stands; lost one by wintering, and one in May by swarming out, and one as late as June 6th, from same cause as the last. The season now bids fair to be good and long, and I think will turn out all right yet, even if the spring was so unfavorable. A few days ago I divided a neighbor's bees that were in box hives, just making two colonies out of one, giving each colony brood in all stages, and paying no attention where the queens were. In three days I went back to look at them, found two colonies rearing queens; and one colony, to which I had given brood by transferring combs from the old hive, proved to have the queen; but the combs had broken down, and I had to take them out; but they had built several new combs in the hive, and were working nicely. But they swarmed out the same afternoon, and clustered, when I hived them again in the same hive, moved it to a new stand, and they are doing well now. Now, what was the cause of their swarming out after they had been working so nicely, and they are a large swarm?

J. H. EBY, 10.

North Robinson, Crawford Co., O., July 5, 1882.

They swarmed out, friend E., because the combs broke down. Very likely they held a council of all the wise little heads in their little community, and, after due consideration, looking at the tumble-down mass from all points of view, they resolved that, to the best of their judgment, the wisest thing would be to just go off and leave the whole thing, and start over again, and fix things better. Old-fashioned cross-sticks, or modern movable combs, would very likely have prevented the mishap. When combs tumble down, you need to get at it and fix them without delay, or the bees will be pretty sure to desert and start somewhere else.

BEE-VEILS WITH GLASS BEFORE THE FACE.

As the question of what kind of bee hat or veil is best to use for the eyes has been discussed, I will send you a description and illustration of the kind that I use. There is no wire cloth or veil to obstruct the eyesight, and every thing can be seen as clear as day. Take a strip of wire cloth about 7 inches wide and 28 long; have your finner make a frame out of doubled tin 6x7 inches, and rivet it to the ends of the wire cloth; then cut a piece of good, heavy, clear glass that will just slip into the tin frame, and fast-

en it there; then bind the top and bottom edges of the wire cloth; sew it on to the brim of a hat, and sew cloth or netting to the bottom of it, to put under your coat, and you have a bee-hat that will not hurt your eyes. I have used mine two years, and have not broken the glass, nor does it get smoked up.

My bees are doing well; have increased from 6 swarms to 16 by natural swarming; first swarm came out May 25.

WM. A. JAY.

Jayfield, Mich., July 10, 1882.

Bee-veils with glass were suggested some time ago, friend J.; and while the matter was being discussed in GLEANINGS, we made and sold a few of them. My objections to them were, that the glass would soon get sticky and dim, and then it was much harder to see through than the silk lace we now use. Besides, when kept washed and clean, the reflection of the glass was to me quite a hindrance when looking for eggs in the cells.

BEEES GETTING HONEY FROM THE CASTOR-OIL PLANT.

I observe that my bees are getting honey from a saccharine substance that exudes from the immature capsule of the castor-oil plant (*Ricinus communis*). It appears that the sweet watery juice, or the honey-like matter, exudes nocturnally; but on exposure to the sun it becomes hard, and has the granular aspect of brown sugar. It is very sweet, and my bees consume it voraciously. They also get pollen from the bloom of the plant. Is not this a rare occurrence, for the castor-oil plant to yield honey? If not, I should think it a very profitable plant for bee-keepers.

WM. A. SMITH.

Merriman, Tex., July 5, 1882.

I am inclined to think it is unusual, friend S., or that you have a variety of castor-bean different from ours. We have had the large variety in our garden, as an ornamental plant, but have never seen a bee around them so far. Will you please send me some seeds?

A VISIT TO A "BIG BEE-MAN."

I visited our big bee-man in this part of the country yesterday—Mr. Wyatt Morehouse. I suppose he is well known to you, he having dealt with you considerably. After a ride of about 14 miles along the side of the Catskill Mountains, through valleys and dense woods, over rocks and stones, we found him settled in a pretty little opening on the south side of the mountain. When we arrived he was in his yard, with smoker in his hand, hard at work. Although a perfect stranger, we were not long in getting acquainted. We found him to be a very pleasant and sociable gentleman, ready and willing to show and tell us all he knew, which to us (we being novices) seemed to be almost every thing. After spending the afternoon with him I bought a Root chaff hive and started for home. And now I am waiting patiently for a swarm of bees from an old-fashioned hive which I have on hand. I would recommend all bee-keepers, or those interested in bees, in this part of the country, to call on Mr. Morehouse.

Brodhead, N. Y., July 4, 1882. HERBERT SHAW.

Now, friend Morehouse, if this brings you too prominently before the people, you must keep hives and things enough for sale, so that you can afford to stop and talk and explain, or else keep somebody to do it for you. I know of no more pleasant way of

enjoying a day, and few things more instructive, than visiting a real live modern bee-man. I do not know but that it would be in order to advise the friends to take care to make at least a few little purchases after taking up very much of the time of one who is comparatively a stranger. For my part, I always feel a little more free about troubling a man, when I have just bought something of him.

THE HOLLYHOCK AS A HONEY-PLANT.

Tell me what kind of a honey-producing plant the common hollyhock is. There was a good large plant in my garden, thick with it, that grew up six or eight feet high, and for a long time I have never seen bees work on any thing as they did on that. It seemed there were three or four large swarms at work on it at one time. The Spider plant here was a complete failure. It blooms a great deal, but I have never seen a bee at work on it.

WM. S. BOYD.

Lincolnton, Lincoln Co., Ga., July 12, 1882.

I have seen bees on the hollyhock to some extent, but nothing like what you mention, friend B. All of the Mallow family, to which the hollyhock belongs, seems to yield honey and pollen, and we have a small variety on our grounds that has been several times mentioned. I would like to test those you have, and if you will send us some seeds we will see how our 400 colonies will look after the honey.



FOUNDATION IN WIRED FRAMES.

I PUT in some fdn. with the wire and tin bars; it is just splendid. I don't think I shall ever want any more wired foundation. I would rather put it in myself, it is so nice.

JAMES B. MASON.

Mechanic Falls, Me., June 19, 1882.

Prospects are not good for honey this year in California.

J. P. M. RAINBOW.

Fall Brook, San D. Co., Cal., May 1, 1882.

I am wintering 152 swarms; sold \$1050 worth of honey.

RUFUS COMSTOCK.

Plattsburgh, N. Y., Jan. 26, 1882.

I don't like the "Underhill tenement hive;" it may be extra for winter. Too unhandy to move.

Marseilles, Ill., June 13, 1882. M. W. AKERS.

I never saw bees work as they do now, since I have kept them. Had 56 to begin the season with.

A. F. STAUFFER.

Sterling, Whitesides Co., Ill., June 23, 1882.

WINTERING IN A GREENHOUSE.

I have had good success with my hives of bees wintered in the greenhouse.

W. J. KIDD.

Logansport, Ind., June 28, 1882.

I have had to feed my 100 colonies considerably, but now you can hear that glorious white-clover "hum."

WESLEY DIBBLE.

Middleburgh, N. Y., July 1, 1882.

CANDIED HONEY.

Our honey is all candied in the comb; I fear they can not live on it this winter. They are making very little honey now.

J. L. McDANIEL.

Morsboro, N. C., July 3, 1882.

DARK HONEY DURING POOR SEASONS.

No honey to speak of yet; white clover a failure; bees are getting very dark honey from some source. I never experienced such a poor season thus far.

Hartford, N. Y., June 30, 1882. J. H. MARTIN.

"AWFUL BUSY."

The preparation for surplus honey, and taking care of an avalanche of swarms of bees, has been more than I could attend to. I had the money in the house all the time, but could not send it. I had to work day and night.

A. S. GRIFFITH.

Lebanon, Ill., June 20, 1882.

A NOVEL SMOKER.

For a smoker, I use a smoothing-iron, one of the self-heating kind. I put a few coals in the bottom, and then a few fine chips and bark from the wood-pile, and give it a draft, and get all the smoke I need.

P. H. ADAMS, M. D.

Florence, Williamson Co., Texas, June, 1882.

CLIPPING QUEENS NOT ALWAYS A "SAVING" OPERATION.

The last queen you sent me was "Neighbor H.'s," and she was excellent; but I clipped her wing, and they swarmed while I was from home, and she was lost.

JENNIE W. HUMPHREYS.

Woodstown, N. J., July 1, 1882.

My 387 hives of bees have increased to 566, and prospects are now favorable for our getting $\frac{1}{4}$ of a crop of honey. I have just received a postal order from New Zealand for queens. The order was cashed in my own postoffice here at home; thanks to good postal arrangements.

R. WILKIN.

San Buenaventura, Cal., June 4, 1882.

DANDELION HONEY, ETC.

I wintered 37 colonies, Italians, without loss. Have sold 14. The remainder have increased to 45 stocks; some are now making honey in sections. I have extracted 50 lbs. dandelion honey, the first I have ever had of that sort.

F. A. TICKNOR.

Austin, Minn., June 20, 1882.

The wax-plant spoken of in last month's paper is one of the *Hoya*. They bloom every summer, and I have noticed those large drops of honey. Often they have to be strong plants before they bloom. Could not the bee-keepers in California try it in a shady place, as it will not stand the full blaze of the sun?

WILL A. HAMMOND.

Richmond, Va., July 8, 1882.

JONES ENTRANCE-GUARDS.

I find that they are a "big thing" for the purpose for which they are intended, and more especially in my case, as I am away from my apiary almost every day during the day time. They answer a good purpose in preventing the queen from coming out, and a swarm running away, in case they get a little start.

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., June 5, 1882.

The honey season is the best here it has been for years; lots of white clover, basswood, and honey in good demand at 18 cts. per lb. in your sections, and about 12 cts. in old-fashioned boxes. GEO. LORD.
Thurber, Mich., July, 1882.

I am all "busted up" without a smoker. Wintered 44 colonies of bees without loss, on summer stands, in Simplicity hives. Am working for extracted honey. Have most of them 3 hives deep; honey is coming fast, and every thing is lovely.

GEO. W. FORD.
Avon, Lorain Co., O., June 30, 1882.

My bees are doing splendidly now. Swarming every day, and bringing in honey by the quantity. My Ilgwort, planted from the seed this spring, is from 4 to 6 feet high, and full of blooms from bottom to top, and the bees are working on them from daylight till dark; have been in bloom about 4 weeks.
Bonham, Texas, June 12, 1882. J. P. INGRAM.

Don't put me in Blasted Hopes yet, for my bees are making some of the nicest white honey I ever saw. I weighed one hive the 23d of June, and that day they brought in 8 lbs. I weighed them again on the 27th, and they had gained 28 lbs.; these are the only ones I weighed.
AL. BRUSH.
Susquehanna, Pa., July 5, 1882.

HOPEFUL, AFTER ALL.

Some three years ago I bought four colonies of bees. To the present moment I have been disappointed. This spring I had only one left, and felt like giving up. This one, however, has sent out three colonies in the space of ten days, which are all thriving wonderfully.
L. W. HASSELMAN.
Pella, Iowa, May 9, 1882.

FROM TENNESSEE.

I commenced the season with 45 colonies, most of them in good order. Took a little more than 1400 lbs. from poplar bloom. Sourwood is now in full bloom, and promises a good yield. I now have 94 colonies, and they will all be full by the last of the week.
J. F. MONTGOMERY.
Lincoln, Tenn., June 27, 1882.

BEEES IN THE HOUSE APIARY, ETC.

I now have 30 stands in the house apiary, all very strong, and I have no trouble in handling them, and have raised and introduced queens for all young swarms this and last season. I have about 50 Spider-plants blooming, and each flower has a large drop of honey, morning and evening.
E. K. LEAKE.
Collierville, Tenn., June 25, 1882.

AN IMPROVEMENT IN USING THE BUTTON-HOOK.

Tell those who use a button-hook to lmbed the wires in frames of fdn., to heat the hook over a lamp chimney, and see how nicely the wax will flow over the wires. The bees will never cut around them when put in in that way. It takes a little longer, but it does it nicer, I think, than cold.

Sou' Cabot, Vt., July 1, 1882. D. S. HALL.

HOW MUCH A GALLON FOR EXTRACTING, ETC.

What would it be worth per gallon to extract honey for other people, when a person has to go around with the extractor?
DAVID SCHWARTZ.

Berne, Adams Co., Ind., July 10, 1882.

[I would put it something like this, friend S.: For the first gallon, 50c., or 50c. for "setting up." After that, say 25c. per gallon; or, if a large job, perhaps 20, or even 15c. per gallon.]

My bees are doing finely; plenty of honey. I have taken more surplus honey this season already than I did in three other seasons put together.

JACOB S. WEIBLEY.

Port Royal, Pa., July 18, 1882.

WHITEWOOD FOR FDN. PLATES.

My fdn. machiue works nicely; have made over 500 lbs. since I received it. Blue whitewood makes better dipping-plates than basswood. We could dip perfect sheets on it when the basswood would crack every time. Have taken off some nice comb honey.
Bell Ranch, Mich., June 30, 1882. M. H. HUNT.

WIRED FRAMES.

My bees are now doing finely; white clover about in full bloom, nearly a month later than usual. Extracted to-day about 100 lbs. from the first wired frames. I am perfectly delighted with them. I have about 150 frames built out this spring, and they are as near perfection as I could wish for.

Wheeling, W. Va., June 27, 1882. WM. BITZER.

[That is just our experience, friend B.]

EARLY SWARMING IN 1882.

Some one said, in last GLEANINGS, that he had a swarm of bees on the fourth of May, and wants to know who can beat it. I can. I had one on the 25th of April, 2d on the 3d of May, 3d on the 4th, all from one stand, and all from a dollar queen bought of A. I. Root last June. Now come on with your early swarms.
WM. HOLROYD.

Russell's Place, Lawrence Co., O., June 10, 1882.

LOOK OUT FOR STARVATION.

I lost one of my best colonies from starvation about May 1st, before I knew what was the matter. In looking over my strongest colonies this week (some that were chock full of honey in April), I don't believe they would average ½ lb. honey to the hive, but they are roaring now on white clover.

SAMUEL M. HUMPHREYS.

Richardsville, Pa., June 23, 1882.

INTRODUCING WITHOUT CAGING.

The last two queens you sent me are beauties. They went to laying the next day after introduction. I never use a cage. I have introduced five without loss. This being my first experience, I consider myself very lucky for an A B C scholar.

VINCENZ ZIMMERMANN.

Hutto, Williamson Co., Tex., July 5, 1882.

[Your plan is my favorite one, friend Z., but I want my hive queenless a day or two before I undertake it, and I also much prefer Italians to blacks or hybrids. With the above conditions, and a flow of honey, four out of five times a queen may be let loose without any caging at all.]

AN OBLIGING POSTMASTER.

The queens we ordered of you on the 3d were received on the 14th, just 11 days from date of ordering. They were in excellent condition, considering the distance — some 700 miles; only one dead bee in the lot, with plenty to eat, but water about gone. We introduced them at once, according to directions, and all have been received. It was our first attempt at introducing. Our P. O. is some two miles distant; so when they came, our obliging P. M. hitched up his horse and brought them to us. We fancy that, if all P. M.'s were like this one, your purse would be quite a bit heavier at the end of the year.

BRANDS & DEWITT.

Delaware Station, N. Y., July 17, 1882.

A ½-LB. SECTION.

If you will split your section boxes in two, and hang 8 of them in a brood-frame over the brood-nest, without any separators, I believe you will get ½-lb. sections without any trouble or fussing. I intend to try some.

Ripley, O., July 2, 1882.

G. W. FORMAN.

[Thanks, friend F.; but they would not be in shape to ship handily; nevertheless, I thank you for the suggestion, for something may grow out of it. Friend Muth rather advocates thin comb sections.]

Please send me a Clark smoker. I ought to have ordered it last Saturday with some other things, but thought I could not afford it, till the bees stung my nose for blowing fire on them from punk, as they had a right to do.

REV. J. M. SMITH.

Old Mission, Mich., July 3, 1882.

[It seems to me, friend S., it would not be very convenient for one of your calling to be obliged to go before his people with a disfigured countenance, and most especially with a swollen nose. I wish we might all learn to take such things as philosophicaly as you seem to do, and say, when stung, the fault is ours for our mismanagement.]

"NOTHING BUT LEAVES."

My bees have wintered well on summer stands, having been packed up warmly with dry leaves last fall, and are now doing well in spite of our backward spring.

RED POLLEN FROM THE HORSE-CHESTNUT.

On page 281, June GLEANINGS, Wm. Malone asks from whence his bees get a dark-red pollen. For the past week mine have been bringing in a great deal of that color from the horse-chestnut (*Aesculus hippocastanum*), of which there are quite a number of trees in the vicinity of my hives.

H. L. RAND.

Boston, Mass., June 12, 1882.

QUEENS LAYING IN SECTIONS, AND EUROPEAN LINDEN.

My few bees (9 stands) are working finely. I have trouble in keeping queens from laying in sections. Bees are working on white clover and European linden.

H. H. LITTELL.

Louisville, Ky., June 19, 1882.

[Friend L., will you please tell us if your queens laid in sections having tin separators on, and also if they were at the sides, or over the brood-nest? Will you tell us, too, if the European linden blossoms before the American, and about how long before? You see, I am full of questions this morning.]

PRETTY GOOD WORK FOR A QUEEN.

The queen which you sent to me in April, I introduced after the prescribed manner, and it was very successfully done. She is the best laying queen I ever had. The hive into which I put her contained but two or three hundred bees, and produced, 22d of June, a very nice swarm.

E. A. ROCKER.

Havana, Mason Co., Ill., July 5, 1882.

[We find the above was a hybrid queen sent friend R., April 18th. She must, therefore, have brought two or three hundred bees up to the swarming-point, in about 60 days. This is pretty fair work, unless there was brood in the hive that kept hatching out, day by day, which was very likely the case.]

MAKING GOOD ACCIDENTAL LOSSES, ETC.

Being somewhat discouraged at J. L. Platt's success in getting a queen, I wrote to others; but since learning that you sent him another, I think it may

be that you wish to do an honorable business; and, therefore, inclosed you will find one dollar for a queen.

FRANCIS M. SMITH.

Chester Hill, Ohio, July 1, 1882.

[Do you not see, friends, how much depends on the spirit you show, in trying to bear these losses where it often seems a question as to who was at fault?]

Tobacco Column.

I WILL write to you soon, and tell how, through your Tobacco Column and the goodness of God, I overcame the appetite for tobacco, after using it for fifteen years, and then sent and paid for my smoker with the money I have usually spent for tobacco. May God bless you and all other good people everywhere.

T. C. WILLIS.

East Rochester, O., June 29, 1882.

While perusing the Tobacco Column, I came to the conclusion that I would not be a slave to the weed any longer. I have used it for three years, more or less, but now I have quit it entirely.

R. B. HOWARD.

Salisbury, Add. Co., Vt., June 19, 1882.

May the Lord be praised, friend H., for another name added to the list, and may he help you to hold fast when the time of trial comes.

As you say you will make a present of a smoker to any man who is in the habit of smoking, if you please, send me one, and away goes my pipe and tobacco.

JOHN RUCKLE.

Markhams, Catt. Co., N. Y., June 8, 1882.

With all my heart, friend R.; and remember, if you ever put another pipe between your lips, you owe us that little 75 cents. Of course, I do not know what you will do, but the eye of the kind Father above is ever on you, and it is before him you stand, and to him you are accountable.

It is just one year ago to-day since I formed the resolution to quit the use of tobacco. I went into your Tobacco Column one month later, and I have kept my pledge, and mean to still keep it. I used the weed for about 25 years, and was almost a slave to it. I had often *tried* to quit before, but it ended in a victory for tobacco. I am satisfied that taking the pledge publicly, as I did through GLEANINGS, was a great help to me, and I know that any one can quit who will just think so.

J. H. EBY.

North Robinson, Crawford Co., O., July 5, 1882.

A SHORT LECTURE BY ONE WHO "OUGHT TO KNOW."

Well, 'tis 4 months the 13th of this month since I tasted tobacco in any shape; have not got over the hankering after it, though, but am not going to buy any, nor beg nor steal. I won't have it — no, sir, 'ee; glad I'm boss, I tell you. I feel better, more sense, clearer mind, no vertigo. Well, the fact is, I'm considerable of a man in feeling; rid of that nasty, filthy, mean, dirty, stinking, besmearing habit. I can go into anybody's house, or a meeting-house, without leaving a nasty, filthy mark; but, enough; for it is sickening to think how filthy we are.

JNO. H. DANIEL.

Cumberland, Guernsey Co., O., June 15, 1882.

Our Homes.

For even the Son of man came not to be ministered unto, but to minister, and to give his life a ransom for many.—MARK 10: 45.

SOME of the friends may remember a letter in the Home Papers for May, 1881, by W. E. Leonard, which was answered partly in that number, and another part of it in the June No. Well, friend Leonard wrote another letter last December, which he is very anxious indeed I should publish. He heads his letter, as you see, with a verse from John; but I hardly think he means it as a text, for he calls it absurd. Here is the letter:—

And there are also many other things which Jesus did, the which, if they should be written every one, I suppose that even the whole world itself could not contain the books that should be written. Amen.—

Friend Root:—GLEANINGS comes to hand every month bright and clean; not one word of spite can be found on its pages, unless written by some one who is not as good an infidel as yourself, and you very properly put him into the Growler. When I wrote you in May last, I had no thought you would publish it; and you would be surprised to see the number of letters that was sent to me from seven different States in the Union in regard to that letter. One kind-hearted man sent me a book from Utah, which stated that "Joe Smith found the real Bible in the county of Ontario, N. Y., A. D. 1827!"

Now, what we believe and what we do not believe does not alter the truth; and in your answers to my letter, the heathen priest can use them with the same force, to prove that his stone idol is the God of the universe; and his theory would have this advantage over your reasonings: he could show his god, while yours is invisible. I am not an atheist, and will not deny that there is some power that rules the universe; but I must deny that the God described in the Bible is the power that rules the universe.

The Christian religion is concentrated selfishness. "I am going to heaven, you are going to hell," is the whole matter in a nutshell, and this is the teaching of the Bible: "Believe, or you will be d—d." Now, belief is the result of education and circumstances; and how can I believe, when my reason and education teach me that the Bible is not God's word, but man wrote it in an ignorant age? and my quotation at the head of this letter proves the truth of this remark?

I have headed this article with some Scripture, as you do your articles. How does it sound? It is absurd, to say the least that can be said about it. Again, in I. Tim. 5:23, "Take a little wine for the stomach's sake," Amos says, "Take none at all," and I will believe Amos in preference to Timothy. When a man says he knows two parallel lines will never meet, it sounds egotistical; and when I said that I knew that God did not write the Bible, it was because it is an impossibility; but I will admit that I should have qualified the assertion; therefore I will admit the reproof, and confess that I am an ignorant man, and not a learned one by any means.

You think you feel the presence of God in the morning sun, and the heathen priest of India says he feels the presence of his stone idol when the rain falls and the grass grows, and the common people

clap their hands for joy. Now, are you not both deluded or mistaken?

Your idea of "saving souls" must be erroneous, as it is an utter impossibility to save that which never can be lost. As no man can create any thing, neither can he destroy it; and if there is a soul, no one can save, kill, or destroy it, as it must be eternal, like other matter! The fact is (in my opinion), that friend Root is a better infidel than the writer. You are practicing the teachings of Plato and Socrates, and think you are a Christian. In trying to make people better, and learn the truth, I will do all I can, and only regret that I have not the power to be as good an infidel as A. I. Root.

Now, do not think me unkind because I use this term, as I think I can prove the truth of this assertion. Did you ever know any church to offer any thing (except that which they did not have), in the shape of goods or money, to any person, man or woman, to leave off a bad habit? yet A. I. Root offers any man who will quit making a smokehouse of himself, an article that will do all the smoking that any one should do, worth one dollar. Now, this is pure infidelity; and as I wish to keep somewhere near you in the good work, and not be called a Christian, I inclose you two dollars; one for the smoker fund, and one for GLEANINGS, as I fear you will not be able to keep the good work a going unless some infidels assist you, as you have undertaken a great task; and I earnestly hope any infidel who peruses this letter will see the necessity of sending you a dollar for this fund; and if any Christian wants to practice a little infidelity, let him help in the good work.

Now, in fairness I shall have to ask you to publish my letter, to let my infidel friends know that I am not dead, but will try to live for the benefit of humanity; and when my days are ended, I do not wish to go to the Christian heaven. Why? because they have made their heaven the same as the heathens have in the past. You may ask the Esquimaux where is heaven, and he will tell you it is where the rivers don't freeze, and he can drive his bone spear into the seals, and live on seal-oil for ever! You may ask the Indian the question, and his answer is on the same plan, and the Christian is no better. Ask them, and they will tell you that heaven is a place where the streets are paved with gold, and they will have gold crowns, gold harps, and sing for ever.

Now, this proves that man has always made his heaven just what his physical wants need most; therefore I don't want to go to the heaven of gold, but will exclaim, as an ancient writer did, "I believe in one God and no more, and hope for happiness hereafter."

WILLIAM E. LEONARD.

Port Huron, Mich., Dec. 27, 1881.

I thank you, friend Leonard, for your kind words and kind letter, and especially for your expressions of friendship toward me, even if we do not read the Bible alike; but I wish you might say that it *seems* to you an impossibility that the Bible should be an inspired book, instead of declaring, point blank, it is an "impossibility." Humanity universally agree, that two parallel lines can never meet; but humanity are very far indeed from agreeing in regard to the Bible. Let us put it in this way: Suppose you and I think just as we do now about the parallel lines, but, to our great surprise, we should find, by talking the matter over, that Doolit-

tle, Heddon, and, say, Prof. Cook, think they might meet after a while, if we carry them far enough. Now, inasmuch as these men have just as much good common sense as I have (remember, I don't say how much *more*), would it not be reasonable to conclude that the chances of their being right are just as good as ours? The older I grow, the more I feel the need of having respect for the beliefs and opinions of others; and especially do I pray that God may help me to be careful about judging hastily and harshly those who do not see things as I do. Do you not know a great many, friend L., who are good honest men, men of talent and education as well, who feel that the Bible is a precious gift from God to the children of his creation? Again, there are many different ways of expressing our views, and still more ways of defining the words used. We are taught that the commandments were written by God on tables of stone; but I am not sure that the idea is generally held, that God wrote the rest of the Bible. It may and it may not be; but I confess I do not know just how it is. As for myself, I do believe the Bible was written by good men, and men whom God raised up and inspired for the work; and I believe, too, that he has all along seen to it that no mistakes of any vital importance have by any means crept into it. If you think differently, I am perfectly willing; but before being greatly influenced by your opinion in the matter, I should want to know all about you. If you are loved, honored, and respected by all about you, and your wisdom, judgment, and integrity are so well known that you are sought for, for positions of trust and honor, I should be much more inclined to be influenced by you than if I found you were one who studies to be contrary, to call forth attention and remark, and the like.

Without doubt, the Bible is much better understood now than it was a few years ago, and I believe God intended we should receive new light and help from making it our earnest study, just as we do in the study of bees. Do you not remember my talk a short time ago about making it our delight, and meditating day and night in regard to the law laid down therein? The New Version has given us much light on many points, and I feel sure that God is pleased with the study that has been recently directed to the matter, and that it is going to bring blessings on our land and people.

One of the most comforting thoughts to me in the study of the Bible is, that the men who wrote it, and those whom we read of there, were men like ourselves; and although I am not glad that they had faults and failings, it gives me courage to fight my own, when I find they had like weaknesses. John, who wrote the verse you have just quoted, was one of the two who petitioned Jesus to permit them to sit, one on his right hand and the other on his left, and that, too, just after Jesus had been telling them of the death he must die. The disciples felt indignant at the selfishness of the two brothers, and I presume almost every one who reads it feels the same. John had a good deal of Adam about him, just as we have; and when

he wrote, he wrote a good deal as men talk. If I should say that Medina County is at the present time full of white clover, I hardly believe you would expect to find clover-heads piled up as high as the tops of the fences; and yet you might take me to task, and declare I said so. After all the apostles had written in regard to Jesus' words and sayings, John felt, in looking back, that so much there was that had not and could not well be told, that it would, as he said, fill the world with the books. Friend L., how many books would it take to write out all your sayings and doings? You know a book was a pretty large affair in those times. If I found nothing in the Bible more difficult to understand than this little innocent speech of our good friend John, I should be happy indeed. By the way, friend L., you put in one word that we don't find in any of our Bibles. You have got it the *whole* world; but we don't find *whole* in any of our versions.

If the Christian people in your vicinity declare they are going to heaven, and others are going to hell, I should feel that the spirit of Christ was far from them. I have never heard any such talk, and I meet Christian people of all denominations, and the pastors of all our different churches are my personal friends. Do you not remember what Jesus said of the man who thanked God he was not as other men are?

When you declare so positively that "belief is the result of education and circumstances," I begin to feel again that it is a hopeless task for us to try to reason together. It seems to me you put the bars up, and stop further discussion. Suppose you say, "As I see it, belief is the result of education and circumstances; is it not so, Mr. Root?" By the last form, you give me a courteous invitation to reply and give my views; but by the former, I should almost feel that I was taking a liberty to answer at all. Do you think I am too sensitive? True Christianity should make us kind, courteous, and obliging. My experience with infidelity has been that it is a rude and hard doctrine. Presuming you wish me to speak of believing, I will go on. Suppose you and I are pleading with a young man to give up tobacco. He says he does not *believe* he can. His education, and the circumstances under which he has been brought up, are such that he does not believe it is of any use to try. Further, he has tried, and he knows he can not. Christianity says to him, "You can believe, and you can give it up;" and for the proof that Christianity does save such as he, I will refer to cases of the kind right around the homes of every one of you. I should say, in regard to the wine matter, that Amos and Timothy had different opinions in regard to the danger of wine, just as men do nowadays; but very likely my opinion in the matter is a wrong one. I think both were temperate, and friends of temperance. Surely these are not difficult passages to reconcile.

You make light of my efforts to save souls, friend L., and yet the whole trouble seems to be that you attach a different meaning to the words from what I do. Saving the boys

from tobacco, whisky, gambling, and the like, I term saving souls; and to prove that you are in hearty sympathy with me in the work, I will quote from the letter you sent with the above article:—

I must object to receiving credit for the dollar, as the work in that direction must increase; and if any one can be induced to leave off a bad habit, it is worth more than gold to humanity at large. The only way to make people better is to have the parents leave off their bad habits, and then their offspring will not be tainted with tobacco or alcohol; or, in other words, we must do the same as we do with the bees—*breed a better stock*. And you have commenced the work right at the root of the evil, and children yet unborn will thank you for this great work, as many children are born with a desire for tobacco and alcohol. Why? Because their parents and ancestors before them were saturated with these vile poisons; and as like produces like, the innocent children have to pay the penalty; hence I must object to having that dollar go to any place except the "Smoker Fund;" as who knows but that this dollar will be the means of making some person leave off a bad habit, and some innocent child will not have his or her system tainted with tobacco?

What I mean by saving souls, my friend, is exactly what you have been pleading for; and if God has not told us clearly what is to become of these people who are saved from ruin, why need we trouble ourselves about it? You can call me by what name you choose; but I hardly think the name will make any difference. I was once put into the Humbug and Swindle department; but I didn't see that I suffered any thereby in the estimation of the people. You see, it is not what you call a man, but what he *does*.

You ask me if I ever knew any church to offer goods or money to any one to leave off a bad habit, or words to that effect. To be sure, I have; and not only that, but I never knew a live, prosperous church that did not continually give money, time, and men, to people to leave off bad habits. Have you never been at church when a contribution was taken up for the mission cause? Well, as I understand it this money is for that purpose, almost exclusively. What is sin, but bad habits? and what do we send missionaries for, but to enlighten and lead people from their sins and bad habits? One of our own Medina County boys married a Medina County girl, and they two left home and friends, and went to Ponape (one of the Polynesian Islands), and have been laboring there for years, shut out from civilization, just for the good of a lot of naked heathen. These missionaries are just now home on a visit, and it would do your heart good to hear them tell of their trials there with this same tobacco and whisky, furnished the natives by drunken and profligate sailors. Some converted native missionaries went to a neighboring island and established a church, with schools and printing-press; and when our white friends went there to visit them, they found a part of their creed was to admit no one into the church who used tobacco. Tobacco was made the test of the applicants' fitness for membership.

Among the Christian converts in other heathen lands is a king who used to be a can-

nibal, and at some of their feasts this king used to cut off pieces of his slaves, and oblige them to cook it for him to eat. This man now stands up in meeting and tells of these old scenes with tears in his eyes, while he asks God to forgive him for these awful crimes of his old dark savage life. Do you not think it cost somebody money to carry on and keep up this work? I tell you it did and does; and churches of every denomination are constantly giving their money by the thousands of dollars to civilize and Christianize the world. Did a band of *infidels* ever take up such a work and keep it going? May be they do, but I never heard of it. I hope they do; and when they do, I shall be quite willing to join hands with them, for I do not believe that Christian people are a bit selfish in regard to this privilege. By all means, have your infidel friends help; and if they have got a man who will go as missionary and teacher to these dark brethren, by all means have them go, and I want the privilege of helping to pay his expenses.

Friend L., the heaven I expect to go to, I know nothing about, and I can not remember that I ever heard any minister try to tell much about it; but I hope it will be a place where I shall meet many of my old friends, and where I may still have an opportunity of contributing to their happiness and comfort. Gold is used as an emblem of purity, so far as I know, by universal consent. You and I would want a heaven free from tobacco smoke; and if we are faithful in the Master's work, I presume we shall have it; but I would by no means undertake to say that folks who use tobacco now won't be there. I am just as well satisfied it will be all right, even if I don't know any thing about it, as I used to be satisfied my mother would have dinner all right when I came home at noon, a tired schoolboy, although I had no sort of an idea what kind of a dinner it would be. I knew that she loved her boys, and was thinking about their comfort and happiness, and I *know* that my Savior loves me now, while I am trying to tell you, dear friend, of the love that prompted him to come down to us and "give his life, a ransom for many."

You say the Christian religion is concentrated selfishness. I wonder if you have attended Christian services very much lately, and if you are intimately acquainted with Christian people of intelligence. Have you, my friend, been on intimate terms with the pastors of the churches near you? Of course, I do not know who they are, nor how fortunate the people in your vicinity have been in the selection of men to expound the word of God to you; but I can hardly think it possible they are selfish men, or that their hearers are a band of selfish people. Whenever I go from home, I almost always meet Christian men and women, and I am pretty sure to meet the presiding ministers; but I have never failed to find in them people who were giving their lives, to a greater or less extent, for the good of the people, and the good of our nation. Again: Since you have asked me to publish your letter, and, at least indirectly, asked me to reply to it, I am going to take a liberty that I might not take otherwise. Is it a polite and gentlemanly thing to thus

stigmatize any class or sect, or even any body of your fellow-men, as to call them "concentrated selfishness"? You and I are opposed to intemperance; we regard those who put the bottle to their neighbor's lips as a class of fellow-men who are greatly, nay, *fearfully* in the wrong. We wish to turn them from the evils of their ways. We are in the habit of going to see them, and trying to reason with them in regard to the evil of their manner of obtaining a living—at least, I hope we are. Sometimes I meet a body of them in our county jail, and try to do them good. Well, do you think it would be the wisest and best thing for me to do to say, "Gentlemen, the American liquor business is concentrated selfishness"? If you do, I do not. I should expect to have them turn around and say to me, "Who are you, to stand up and judge us in that way? *You* are very likely entirely free from the sin of selfishness; very likely you thank God every night, before you go to bed, that you are not selfish and bad and wicked, as other men are. Hadn't you better gather up your Bibles and hymn-books, and visit somebody who wants to see you?" Jesus once directed those who were without sin to throw the first stone. Friend L., have you not pitched a pretty big stone at a class of people you may not know very much about? Judge not, that ye be not judged.

Shortly after I took my stand among Christian people, I arose to speak in meeting; and, with my usual awkwardness, I said something I did not mean to say, and felt worried and troubled about it. After meeting, I spoke of it to one of the elderly sisters, but she assured me that no one there would for the world think of ridiculing the blunders of a new beginner, or, in fact, any one else. "Mr. Root, you are among friends here. We never speak or think unkindly of each other, and no one ever thinks of criticizing the actions of another. We all make mistakes, and so we all overlook them." I have often thought of the kind old lady's words, and I have found them the truth. Nay, she did not tell all the truth. Our Christian people think kindly of all the world. I have never heard anybody say that infidelity is concentrated selfishness, for, even if it were, infidels would have to tell it, if it ever were told, for Christian people have too much gentleness and politeness to ever make such a speech. We have had such struggles with selfishness that we know exists in our own hearts, that we do not dare to speak of anybody else.

What do we think of a man generally who continually speaks of the faults of others? My friend, what do *you* think of men and women who continually speak of the faults of bodies of men and women who band themselves together for any ostensibly good purpose?

Friend L., if we wanted to pick out a good man to go into heathen lands, and civilize the savages, should we select one who would go over there and learn their language, establish schools and printing-presses, and then occupy his time in telling how bad the rest of the world are? Why, it would be a fearful waste of time, if nothing more. I

shall have to revert to the little incident I may have told you before, but which I think will bear telling again. An individual who was considerably the worse for liquor, thought he would get home if possible by some by-street, without meeting anybody he knew; but almost at the first turn he made, he, to his consternation, saw the minister coming rapidly toward him. He would have turned off again, if it would have been of any avail; but as he was fairly caught, he resolved to turn a bold face on it, and do the best he could. As he came up, he assumed the air of one who feels it his duty to administer a rebuke, and commenced with "Parson, you're drunk!" Of course, the parson was exceedingly astonished, if nothing more; and before he could recover himself, our friend, catching hold of the pickets to steady himself, went on with, "Now just look a here, my friend, there ain't a bit of use of your tryin' to deny it, for both your face and your walk betray it too plainly." He then went on, congratulating himself that there wasn't very much danger of the parson telling anybody of it, and very likely he was right. I often think of this when I hear somebody severely condemning another. A man is caught in a dishonest trick, and he turns round and charges everybody else with dishonesty. One whose soul is seared with impure crime, declares there is not a virtuous man or woman, even in the churches. The churches and the Bible seem to be especial objects of hatred, in just the proportion that one becomes steeped in sin and crime. Selfishness is sin, but not necessarily a crime; but one who bitterly declares the world is all selfishness.—my friend, what do you, as a rule, think of him? I know I am getting on dangerous ground here, for I shall soon be accused of calling friend L. a selfish man, whether I am guilty or not, and so I will haste to point out my moral. I do not know you, friend Leonard, and so I have no right to infer you are selfish. Still further, I know, from your having contributed this dollar, unsolicited, that you are not selfish, so I would simply warn you against such harsh speeches, lest you may be *thought* to be so. We should all of us be very careful of doing or saying anything that may place us in a bad light.

One more point: Our missionaries and great philanthropists, I believe, as a rule never find fault with the way other individuals or societies manage. Nothing hinders a good man's work so much as a habit of fault-finding. Those who deal with savages and barbarians must have a bright, cheerful, happy disposition, and be far—yes, very far—removed from a disposition to say or think, I am honest and good, and everybody else is selfish and bad. Is it not so, friends? As I go over the matter, I am condemning myself; for I lack, lack fearfully, in this one element of charity for others. Only just this morning I started one of the small boys out to pick peas. We raise excellent marrowfat peas for the lunch-room, and this boy has it for his task to pick the peas, strawberries, etc. "Why! has not L. come in with any peas yet?" asked I. I was told he had not. He had marked his time at 6, and

now it was near to 8. Surely the boy must be at play somewhere, and he will have to be looked after. I did not say it, but only thought it. I was tempted to scold; but a better spirit has been telling me, lately, to try to put myself in people's places when I am inclined to find fault, and so I decided to say not a word until I had put myself in the boy's place. The way I did it was to go and pick peas with him, right by his side. True enough, he had not picked his basket half full; but before I had picked a great while, I found where the trouble was.

"Why, L., there are no peas here to pick."
 "I know there ain't many, but you said I should commence at the first row and pick them clean as I went, and that is what I have been doing."

In obedience to my orders, the poor child had, childlike, been all the morning going over the very ground the women had picked over the night before.

"Look here, L., let us go over to the other side and see if we can't do better." We did, and in a few minutes the basket was full, and I hadn't scolded a bit either. Don't you think I thanked God that I had listened to that better voice? Suppose I had hastily decided he was lazy, and had been idling away his time. Did you ever think what a very wicked thing it is to scold children when they are in no way at fault? Just put yourself in their places; go sit down beside them, and do the same work they do; win their confidence, and encourage them to talk freely, and tell you their reasons for doing thus and so. They have reasons (queer reasons though they seem to you and me, sometimes); and although they do err in judgment many times, still they think they are doing right oftener than we know. May God help us to be slow about judging even the children.

Now, then, friends, when next you feel like judging harshly, just go and sit down by the side of the one who seems selfish and unscrupulous; help him along with his work a little while, just as I helped to pick peas; and if you don't see things in a different light pretty soon, I shall be very much mistaken.

For even the Son of man came not to be ministered unto, but to minister, and to give his life a ransom for many.

Blasted Hopes.

Or Letters from Those Who have Made Bee Culture a Failure.

HONEY crop a total failure here. Not one pound of honey yet. Had to feed all through May. Our only hope is fall flowers; and if weather remains as it has been, we shall have to feed for winter. T. H. KLOER.

Terre Haute, Ind., July 18, 1882.

ONCE "BUSTED HOPES," TWICE "BUSTED HOPES."
 I have 65 stands of bees, and no honey.

Los Angeles, Cal., June 25, 1882. W. W. BLISS.

Short but plaintive. Try "three times," brother Bliss.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
 EDITOR AND PUBLISHER,
 MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, AUG. 1, 1882.

Be of good comfort; rise, he calleth thee.—

MARK 10:49.

WE can still pay 10 cts. each for January and February numbers of this year.

THE Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., Aug. 8, 1882.

A SWING FOR A DIME.

ONE of our 10c clothes-lines has been doing service as a children's swing, for some time, under our maple-trees. It not only holds the children, but even their mother. Who wouldn't invest 10 cents to give the little "chicks" a swing?

SINCE our mention of the bee-sting extractor, Ernest informs me that he uses, with much satisfaction, a pair of tweezers he got from the 5-cent counter, and which he keeps slipped on his suspender buckle. With this, a sting can be plucked out entire, without even compressing the poison-bag in the least.

WILL MOTH-WORMS WORK IN FOUNDATION?

I HAVE always supposed, until now, that no kind of worms or insects would touch fdn. We are just in receipt of a box, however, where the worms had cut it up pretty badly, and the work looks exactly like that of the moth-miller. We presume, of course, it was left exposed—unboxed, may be, near old combs containing moth-worms.

HONEY-GATES.

WE have just succeeded in getting a honey or mc-lasses gate, such as are used to screw into a barrel, for an even 25c. It is just the same as we have been selling for 35c. Postage will be as much more if wanted by mail. The bore is $\frac{3}{8}$. Our extractor honey-gates will hereafter be tinned all over, inside and out, but the price will be the same, 50c. Extra-large size tinned gates, 75c., as usual.

FILLING TIN BOTTLES FOR QUEEN-CAGES, ETC.

WE now fill our bottles for queen-cages and pounds of bees by means of a pail of water set on a shelf overhead, and a tube leading down from it, ending in a small orifice, exactly like that of an oil-can. The pressure of the water makes a jet that will shoot into the bottles, and fill them instantly. Of course, an oil-can will answer for a few; but where one has many to do, an apparatus as above is a great saving of time. We use a tin pail, and a tin tube soldered in the bottom. Tin bottles for queen-cages are now 12c for 10, or \$1.00 per hundred.

OVERSTOCKING.

FOR the first time in my life I have seen bees enough to gather all the basswood honey, and our four hundred colonies do it up clean, and long before night too. They fall around the entrances at 5 o'clock in the morning, very much as they used to

when at work on the Spider plant, but it is all over long before noon. Possibly a larger yield might employ all of them all day, but it is pretty evident the locality is a good deal overstocked. We shall soon commence sugar-feeding again.

We have to-day, July 27th, 5056 subscribers, and 425 colonies of bees. The view of our apiary, from the windows of the factory, is precisely like the cut in the fore part of the A B C.

GERMAN carp and gold-fish will do very well to go with golden queen-bees, and our friends will now find them all in our advertising department. I believe it is universally known, that everybody by the name of Muth is "square."

WHEN you order goods, carry out the prices, and put down, in plain print, the amount you expect to pay. The price will often give us a clue to what you want, when we could not possibly make it out otherwise. Neglect of this has made "bushels" of "troubles," this season, and many dollars' loss. If you have been having a discount, make out the discount, and then the clerks can make out your bill as it should be, without going back to hunt up former correspondence, to see what discounts you are entitled to. "D'ye mind?"

OUR NEW 50-CENT SMOKER BY THIS TIME.

The new Clark smoker is so very much ahead of the Simplicity, or, in fact, any other smoker we ever got hold of, that we have discontinued making the Simplicity. We have sold the enormous number of over four thousand since the middle of May, and I can not remember that we have had a word of complaint, in all that time. Nearly half a dozen hands are working on them constantly, and with the aid of new and improved machinery at that. Just before you direct the smoke on the bees, give the fuel a vigorous shake, and then puff out the ashes. A single filling, with the right kind of wood, will burn four hours continuously.

EVAPORATORS.

GREAT numbers of circulars in regard to evaporators have been sent us, and many different kinds are arranged expressly to be used in connection with a common stove. I am pained to see that a great many of them talk about "family rights;" and if you have any confidence in my judgment, have nothing to do with any machine or any man who begins any of this kind of talk. It is sad enough to have it on bee-hives. One of the simplest forms of an evaporator is a shallow tin pan, like a large dripping-pan, for instance, with a top covering the whole, but a little below the edge of the pan. The pan is placed in a level position, with one end on the stove, and then partly filled with water, the fruit or corn being spread evenly on top. As soon as the water boils, you have an even heat that can not exceed the temperature of boiling water, over the whole upper surface, and therefore nothing can be burned. The pan is filled through a short spout, with a funnel. This spout allows the steam to escape, without in any way wetting the drying articles. We are told the Teasdale evaporator, mentioned on page 344, last month, is not made now for less than \$18.00.

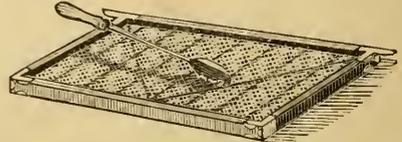
CARROLL'S IMMENSE YIELD FROM ONE QUEEN.

AFTER reading friend Carroll's letter on p. 376, our friends will observe that this honey was all stored by the progeny of a single queen, and that swarming was prevented by the use of the extractor; also that the tiering-up process, which no other hive than the Simplicity will allow of, is at least not a very faulty plan. When one is hurried with work, I know you easier way of giving bees room than to keep adding story after story, with frames of fdn. I have used them four stories high, and the bees seemed to store honey in them as well as if only two stories high. This honey was from horsemint; but, judging from a sample received from friend Stiles, of Austin, Texas, I should not call it first class in flavor, although in color and transparency it equals any we have. We learn further in regard to the queen, from the *Kansas Bee-Keeper*, that she is a granddaughter of the famous Cyprian queen that friend Hayhurst sold us for \$3.00 on account of her "fighting proclivities." Some way this tale begins to spin out like a romance, and I presume many of our friends would be glad to know what has become of the Hayhurst queen, about which so much has been

said. She is alive and well, and much store is set by her possessor, as you will see by the article from friend McDougal, in Sept. No., who now has an apiary of 26 hives, all presided over by her daughters.

PUTTING FDN. INTO WIRED FRAMES.

IT seems as if improvement in this matter is destined to be the order of the day. Soon after the advice some friend has given us, to heat the button-hook in imbedding the wires, we made a trial of it and found it worked well, but it required heating too often. Knowing that a lump of copper is about the best thing to retain heat, I had our blacksmith work over one of our soldering-coppers, as shown in the cut, and we find it a most convenient tool.



IMPLEMENT FOR FASTENING THE FDN. TO THE WIRES.

The copper is heated over a coal-oil stove, and when it is just right it not only dries the wire and fdn. perfectly, but its weight is just right to sink the wire into the fdn., without requiring any pressure from the hand, and it softens the wax so it sticks firmly to every inch of the wire. After placing the sheet in the frame, under the diagonal wire, and over the up-and-down wires, the whole is placed on a half-inch board that just fits inside the frame, and then the fdn. is rolled down flat with the Blood roller, shown in our price list. Now quickly run the copper over each wire, holding it as shown in the engraving. The board is to be kept wet with a damp cloth, to prevent the wax sticking to it. It is to be turned once, of course, to run the wires on each side. Once heating the iron will do for 10 frames. We can furnish these irons at the usual price of our 35-cent soldering-irons. If they are wanted by mail, 18 cents extra.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

DETROIT.—*Honey*.—The market is inactive, as new honey has not come in yet, and the demand has not yet commenced. The nominal price is 20 cents.
Beeswax is worth from 20@25c. A. B. WEED.

NEW YORK.—*Honey*.—There are no changes worthy of note in the honey market this week.

H. K. & F. B. THURBER & CO.

New York, July 22, 1882.

BOSTON.—*Honey*.—New honey, 1 lb. sections, 25c; 2 lbs., 22c. Good demand. *Wax*, 25@36c. Crop is short here. Consignments wanted.

CROCKER & BLAKE.

57 Chatham St., Boston, July 22, 1882.



Vol. X.

SEPT. 1, 1882.

No. 9.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 34.

SHIPPING QUEENS.

FRIEND HEDDON, I have just read your article on page 384, about shipping queens by mail. Like yourself, I have had more or less losses, both by mail and by express, but more by mail than by express until — and thereby hangs a tale — until I used the feed that I am now using. Please turn to page 374 of August GLEANINGS for 1881, and you will find described, by I. R. Good, the kind of feed and cages that I am using. Shortly after reading this article I received a queen from friend Good; the bees and queen were in splendid condition, and friend G. wrote: "Why don't you use a feed like that in the cage I send you? I have no losses at all with this kind of feed." I immediately commenced using it, have used it ever since, shipping about 400 queens, sending them all over the Union, to California and Utah, to Texas and Georgia, to Maine and to Canada, and have lost only one queen. Where is there another breeder who has shipped 400 queens during the last year, and lost only one queen? Having had such good success with this feed, I wondered if friend Good was having equally as good, so I wrote to him, asking for his experience, and here is his reply:—

NAPPANEE, IND., Aug. 8, 1882.

Friend Hutchinson:—In the season of 1881 I purchased 100 of A. I. Root's bottle queen-cages. Out of the 100 queens shipped in these cages, about 8 or 10 were lost, which was very discouraging, and I had about made up my mind to give up queen-rearing on account of the losses in sending them through the mail, when, one day, I for some reason moistened some granulated sugar with honey to feed some

queens that I did not wish to send off at the time, and the bees and queens in the cages containing this mixture lived such a length of time without any of the bees dying, that it occurred to me that this would be a good feed for shipping-cages; so when the Root cages were all used I made some cages, provisioning them with this kind of feed, shipping some queens in them, I think to Massachusetts, and awaited results. When I received word from them, instead of its being, as it generally was, that the bees were nearly all dead, or something to that effect, it was that the queens had arrived in splendid condition, not a dead bee in the cage; after that I used that kind of feed and had no more trouble. I have sent a great many bees and queens to California, Texas, and Utah, and have had but one reported dead sent to every one of these States. I have, this season, sent hundreds of queens by mail, and have lost only two!

Now I wish to say, right here, that bee-keepers, as a class, are honest. It would be a very easy matter for them, after having a queen killed by introducing, to claim that she was dead when received.

Bees need no water when they have this kind of feed. It is also the very best kind of feed to use when sending bees by the pound. If you have been using this feed, you know what customers generally say; it is, uniformly, "Not a dead bee in the cage," is it not? [Yes, that is it, friend G.] I now have a card before me that reads as follows: "Queen received in splendid condition, not a dead bee in the cage; even the drone is smart and lively." This card is signed, B. F. Carroll, Dresden, Texas.

The best way to prepare the feed is to thoroughly wet the best granulated sugar with honey, allow it to stand a few days, then put it into a box or dish that has a wire-cloth bottom, which allows the excess of honey to drain off. This makes the feed that will not run out of the cage, and yet stays nice and moist. Respectfully,— I. R. Good.

GUARANTEEING SAFE ARRIVAL.

Friend Heddon, *somebody* must be responsible for goods in transit; and as the purchaser never prepares the goods for shipment, nor has the handling of them on the road, it does not seem right that he

should be responsible, unless he buys them at reduced rates, and takes the risk in exchange for the reduction. When goods are properly packed, it seems to me the express and railroad companies should be responsible for all damages arising from rough handling; but, as friend Root says, it is our business to put up goods so that they can not easily come to harm. Now, as Uncle Sam does not pay for queen bees that die while he is carrying them about in his big leathern pockets, I consider it perfectly right and fair that the shipper of queens should guarantee their safe arrival. I should not like to pay for a dead queen, that had died because some one else did not put it up properly.

But I did agree with you, friend Heddon, in thinking that these long journeys do, *sometimes*, have an injurious effect upon queens. Sometimes they do not lay any — I have had two or three such cases — and, in two instances, I have had tested queens that I *knew* produced three-banded workers while in my possession, reported as producing hybrids. I think bee-keepers very foolish to send clear across the continent for a queen, especially when just as good queens can be obtained nearer home. But, taken all in all, I consider the sending of queens by mail a great blessing.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., August, 1882.

I am very glad indeed, friend H., that you have given the "Good" candy a "good" trial. I have perhaps neglected to use it, because I feared the bees would dig it to pieces, and let the sugar all rattle out of the cage. I know how friend Good fastenes it in, but I feared, with his arrangement, a queen might get into that little hole and get stuck; but the proof you two give is enough, and I am ready now to adopt this candy for the Peet cage. It is of the greatest importance that we have this matter worked up to the greatest perfection we can possibly get it, and so I am going to give you and friend Good, each of you, \$5.00 to help me arrange a Peet cage so as to hold the "Good" candy in the best and simplest way. I would by no means think of any other plan of introducing, after the favorable experience we have had with the Peet cage, and therefore I wish you two to mail me cages like the ones I mail you, as nearly as may be, yet fixed just as you would have them to hold this honey and sugar. When done, we will give our readers the benefit of it.

Sure enough, here comes another testimonial in regard to the "Good" candy, and it is from no less a personage than friend Brooks. Read:—

QUEENS BY MAIL.

Friend Heddon, I know how to sympathize with you in your losses in sending queens by mail, as I have seen the time too that I thought they would go safest by express. But I am satisfied now that the mails will take them safely almost every time, provided the cages, and *especially the feed* are made just right. I have used a bit of sponge containing all the honey it would hold without running, and have been successful, but wished for something that would not daub so much. Next I bought some of A. I. Root's provisioned cages, with candy and water-bottle in the center, but am sorry to say that the first queen I attempted to ship (a \$4.00 tested one) came back dead, daubed up with the candy. The water-bottle must have got to leaking, as they

were all daubed up, and dead with candy all over them. Next I tried friend Doolittle's boiled sugar candy. It works nicely where you succeed in boiling it just right, but I find that at times we get it too hard and dry, by boiling just a little too long; then again it is too soft, and must be boiled more.

I am now using a feed that pleases me better than any thing I have tried. My friend I. R. Good, of Nappanee, Ind., presented me with a queen, provisioned with his feed, which was granulated sugar and honey, "mixed cold," into a thick paste. His cage is made expressly for this kind of feed, and is simply a small block of some light wood, with one large hole bored to receive the queen and her attendant bees, and another smaller hole to hold the sugar and honey paste, with the partition between the two holes cut through down at the bottom of the cage to admit the bees to the feed. Honey, I think, is the safest and surest food we can use, and the granulated sugar seems to be the best thing for holding the honey in nice condition, of any thing I have tried. Now, friend Good, as Mr. Heddon does not state the kinds of cages nor the kinds of food used, I propose that you send him one of your cages with bees, provisioned with the paste, mixed just right so it does not run or melt down as it were, and we will see, after he has tried it, if he can then say that he is almost sorry the bees were re-admitted to the mails.

Bees are swarming every few days. They gather just enough to breed fast and swarm. The queens have been having things pretty much their own way this season, and have their hives running over with bees and brood. Smartweed is blooming, and I can notice that the bees work a little stronger and continue longer now every morning.

JOS. M. BROOKS.

Columbus, Ind., Aug. 19, 1882.

A SUBSTITUTE FOR A HONEY-BOARD FOR THE CHAFF HIVE.

OUR friend Chalon Fowls, of Oberlin, O., brings into our office the little device shown below, to be used on a chaff or other hive, when we wish to feed and at the same time keep the chaff cushion in the upper story, over the bees.



FOWL'S HONEY-BOARD FOR CHAFF HIVES.

To use it, take off the mat or enameled sheet, and set it so as to cover the ends of the frames where the greater part of the bees are clustered. Now turn the mat around so as to go across the other way, and you have the bees fastened down, and you can put any kind of a feeder you wish over the hole, in the board, and feed without the bees getting out in the way. If the hole has a piece of wire cloth tacked over its upper side, you can tie a piece of cloth over the mouth of a fruit-jar or tumbler, and invert it right on the wire cloth. Then when you lift it off, no bees get up. Of course, the chaff cushion can be tucked in and taken off without chilling the bees, even if the weather is cold. The taper shape of the ends of the cleats that hold the board from warping (and also raise it up so as not to kill the bees), admits of the mat fitting down bee-tight.

FACTS AND FALLACIES IN APICULTURE.

HAS Mr. Root a clearly defined notion of what he believes? Does he think that, if Messrs. Doolittle, Heddon, and Cook should think that two parallel lines would meet, if prolonged far enough, it would be reasonable to conclude that the chances of their being right are just as good as ours (his and Leonard's), who know that they never meet? Of the nature of the above are the following:

QUEEN-BREEDERS' CONVENIENT THEORIES.

The most injurious fallacy that has prevailed in the minds of apiarists is the "Dzierzen Theory." How little truth there is in that unscientific conjecture, coined by Berlepsch, has already been shown in the back numbers of GLEANINGS. It mightily lessened the toil of breeding pure queens, and was, undoubtedly, invented for that purpose. It did not, however, cover sufficient ground to make the business one of convenience, therefore the following theories were added: "The queen bee never mates with the drone while in the hive, but always during flight; and she never leaves the hive after meeting with the drone, except with a swarm." This never leaving the hive except with a swarm, nearly precludes her from mating the second time; and, as the swarming impulse is then the one uppermost in her mind, why should she take up another issue at such a time? Reasoning thus, the queen-breeder conjectured that she never mates but once, and thereby made the business convenient and lucrative.

PRACTICAL TESTS OF THESE THEORIES.

Does the queen ever mate the drone, except in flight? Many wingless virgin queens have been known to lay eggs from which worker bees hatched: if this theory is true, that she never mates the drone except in flight, in such case it necessarily follows that the workers or drone changes the sex of the egg after it is laid, or its production is agamic.

DO WORKERS OR DRONES CHANGE THE SEX OF EGGS?

In February, 1882, we had a beautiful Italian queen that we had purchased of Mr. Viallon the spring before. At that time she had worker brood in several combs, but no drone. In March we noticed, here and there, mixed among the worker brood, a lengthened cell containing a drone. Later, they became more abundant. By the middle of April fully one-half of her offspring were drones of small size, and the others three-banded workers. In May the majority were drones, and, having purchased a hive of black bees which we transferred on the 27th, we fastened the brood into frames and hung them in the hive. Worker bees had been needed in the hive; and if the power to change the sex of the egg existed with the drone or with the worker, undoubtedly it would have been made use of. The black brood hatched, but the queen's eggs finally produced drones only, and we pinched her head, and supplied the hive with brood to raise a queen. In this instance, neither black bees nor Italian workers or drones were able to keep up the worker strength of the hive, though the queen laid an abundance of eggs. This queen, though but a year old, and active, had lost the power transmitted to her, to fertilize the drone egg by mating the drone before; and though in the midst of drones, and, as I shall show hereafter, probably in the habit of flying from the hive, failed entirely to acquire it; and as the virgin queen, which, if she mates at all, does so in the first month of her life, never mated the second time, as the fertilizing fluid from one or more drones was ex-

hausted in one year, may we not infer that several fertilizations are necessary for the continuous usefulness, from year to year, of a queen?

DO FERTILE QUEENS LEAVE THEIR HIVES?

Last winter, on examining our bees we frequently found stocks without queens. Most of these had been supplied with young queens in the summer and fall, and had been prosperous colonies. We concluded that some disease was killing them while in the hive. Having one day found a queen with a few of her workers on the front of the hive, and reflecting upon the cause of her being there, the thought struck us, that after all it might be that fertile queens leave their hive at pleasure, notwithstanding the restrictions they are placed under by queen-breeders. As we reasoned on the subject, the idea that the act of mating with a male should erase from a virgin queen all her natural instincts, most especially that of cleanliness, appeared absurd and ridiculous. Who would believe such stuff if told of any other animal? We became convinced, that though the maternal instincts might at times suppress those of a virgin queen, yet they would revive again as the pressure of motherly duties relaxed. The thought, that the queen found on the front of the hive had just returned from a cleansing flight, struck us with the force of conviction. The day was warm; and, to test the matter, we took an opera-glass, and getting in line with the front of a row of hives watched to see if any queens left them; and if they did, to determine, if possible, the cause of their leaving. We had not remained long when we saw a queen on the alighting-board of one of the hives near by, running around among the bees that were basking in the sunshine. Keeping the glass ranged upon her, we watched her actions with the closest scrutiny. Gradually passing from among the bees she elevated her wings several times, and then flew from the entrance-board, and, making small circles in the air as she raised herself above surrounding objects (which appeared to be a laborious job on account of the distended condition of her body), she gradually gained speed, and, taking a more direct course, moved off toward the southwest. After flying several rods, and voiding her excrement, her flight became more rapid; and as she rose still higher, the sun shining on her wings enabled us to trace her flight for several minutes. Some minutes later she returned and entered her hive. Having witnessed the flight of queens from their hives since then, I am prepared to assert that the maternal instincts of the fertile queen bee do not erase, but only suspend, the natural instincts of the virgin state.

Fully satisfied that partheno-genesis is true, and that the queen mates with the drone, if ever, during the first month of her life; that she, in some cases, breeds nearly pure bees for a time, and then impure ones for the rest of her life; that, when wingless, she sometimes mates with the drone, and that she leaves the hive at pleasure, it is easy enough to see, in my own mind, why results never accord fully with the theories of the queen-breeder. These, probably, are the facts: The wingless queen mates with the drone in the hive. The diversity in the brood of the queen is due to superfetation and the circulation of the fluids. The return of the queen, once fertile, to the condition of a drone-layer, is the result of the exhaustion of the fertilizing fluid; while the notion, that the worker bees change the sex of the egg, exists only in the mind of its originators, as

does the notion of the agamic origin of the worker. If it were not known that a virgin queen seldom or never becomes fertile after a month old; and if it were not also known that a queen that ceases to lay worker eggs resumes the laying of drone eggs as soon as the vivifying, sex-changing drone fluid is exhausted, and never resumes the laying of worker eggs, it might be presumable that fertilization might take place after long intervening periods, if she had been an active layer of worker eggs.

Falls City, Neb., August, 1882. JEROME WILTSE.

Friend W., I hope you will excuse me for making a little protest against such expressions as "convenient theories." The theories you advance are your honest opinions, and I would resent indignantly the suggestion that you advanced them for the purpose of helping some branch of your trade. That those who accept the Dzierzon theory in its main features do so from motives of policy, I do not believe for a moment. If Dzierzon and his warm champion Berlepsch did not discover the matter of a second or third mating of a queen, at the time Berlepsch wrote out the whole thing, is it at all to be wondered at? They were great pioneers in their time, and did much to advance the cause of bee culture then, and I shall always hold in reverence the name of either for the great services they did render.

There seems to be some misprint somewhere, or misunderstanding, in regard to the new idea that the workers have some power in determining the sex. I have never for a moment supposed the worker bees could make a drone egg produce a worker, nor did I know any one had. I have advanced the idea, that a queen might produce worker bees without ever having met a drone at all, and the same thing is suggested in the A B C book, as an explanation of the wingless fertile queens that have been reported. If you think it more reasonable, friend W., to suppose the queen was fertilized in the hive, I surely have no right to object to your holding this opinion, nor would it be kind in me to say I know it *couldn't* be so. When I spoke of parallel lines I used a pretty strong illustration, and I think such a one was needed. I have several times found myself mistaken, when I thought I was about as sure of my position as on the parallel-line matter.

It may be that queens do go out to take a cleansing flight, when the hive is in a normal condition; but as my observations seem to point otherwise, I beg to be excused for not accepting it as yet, although I am open to conviction. I think I can safely hold this position, too, without even thinking of doubting the statements made by any one. I have seen queens void themselves while on the wing, when our hives were badly diseased, during the seasons when we had such losses, but bees and queens were all, at such times, in an unnatural and demoralized condition. I have also seen queens eject a watery liquid while on the comb, busily laying eggs. This liquid, where it fell on the wings of the nurse bees, was quickly shaken off, and did no harm, neither did it seem to render the hive uncleanly or unwholesome. As thousands of clipped queens have been kept in hives from one to four years, and always

found there whenever the hive was opened, it seems to me that they, at least, must be considered an exception.

ARE FERTILE LAYING QUEENS EVER FERTILIZED A SECOND TIME?

I have, in our back volumes, given a case where it seemed plain to me that a queen imported from Italy was fertilized again after having reached this country, and we have had cases since that indicate to me that a queen may, at least once in a while, go out and have a second fertilization, even after she has been for some time laying worker eggs. This has occurred only after a queen had been for some time on a trip, and of course deprived of the privilege of laying for some time. It seems to me they may, by such treatment, be reduced pretty nearly to the condition of a virgin queen. We know that shipment sometimes prevents a good queen from laying at all afterward. Well, would not another fertilization restore her at such a crisis? Of course, such a queen, even though she were imported from Italy, might meet a common drone, and produce hybrids. If our trade in imported or other queens suffers because of my holding this opinion, by all means let it suffer.

SWEET CORN, PREPARING IT TO DRY, AND HOW TO COOK IT.

A "SEASONABLE" ARTICLE.

M^{R.} F. H. CYRENIUS thinks he is ahead yet for nice dried corn, but we can't imagine any better than ours, nor do we think his way of preparing it to dry, the best. We tried it fifteen years ago without boiling first, and remember yet how our faces, clothes, and every thing near us were starched with the milk. Instead of his hetchel we drew a sharp knife down through the middle of the rows of grains, then with the back of the knife scraped out all but the hull; but cutting off outer edge of grains makes it easy working after they are boiled and cold. By boiling first, one need not hurry for fear of its souring. It can be kept over night (when prepared in the afternoon, and covered from flies), ready to dry by the morning fire. The stirring while drying causes it to be in lumps, and we found it to be an improvement lately to pound it in a mortar so it would soak evenly. I wish we had some left to send you a sample.

GREEN-CORN CAKE.

This has been one of our summer luxuries. To every dozen ears of sweet corn prepared without the hull, stir two tablespoons of flour, one egg previously well beaten. Add a little salt and a very little sugar. Bake it in a greased tin pan in a hot oven. It is good without any dressing, but may be eaten with butter or cream, etc. MARIA L. DEMING.

Watertown, Wash. Co., O., May 8, 1882.

We have about two acres of the Mammoth sweet corn, and it has been for some time furnishing food for the bees, and is just now commencing to furnish food for the lunch-room. Heretofore the demand has been so great we have not been able to get any to dry, except what Mrs. Root dries for family use; and we all agree at home, there is none like what "mother" dries.

Many thanks, my friend, for the recipe for green-corn cake. I think it will be just the thing for the lunch-room.

QUEENS LAYING WHEN TWO OR THREE DAYS OLD.

DRONE EGGS FIRST AND WORKER EGGS AFTERWARD.

THOUGH I have spent almost two seasons as apiarist at the "Home of the Honey-Bees," I have never yet written any of my experience for GLEANINGS, because I thought older and more experienced heads could fill its pages with more valuable information. But with an apiary of 425 colonies to look after, and rearing from 80 to 100 queens a week (of course, Ernest helps me), I have abundant opportunity for a large experience in a short time; and as one or two things, about which I have seen nothing in the bee journals, have attracted my attention of late, I have concluded to write this letter, giving you a few facts which may be worth mentioning. June 13th I took from a good colony a best imported queen, and left them to build queen-cells. On the 23d I cut out all the cells but one, leaving that to hatch in the hive. I did not look again till the 29th, when I found the young queen, a beauty, hatched from the cell (she probably had been hatched two or three days). I also saw at this date a little patch of drone comb laid full of eggs, which was done regularly, one egg in a cell, and it looked like the work of a queen. This, of course, roused my curiosity, and I decided to watch these eggs to see if they would be raised to drones. There were about half a dozen eggs in the worker cells also.

On the 10th of July my queen was laying, and today, Aug. 1st, she is tested, producing as nice bees as I ever saw. On the 24th of July I found the drones hatched from those cells where the eggs had been laid. They were as large as any drones I ever saw, and as fully developed, as far as I could see.

There is another case, not quite as far on as the one described. The young queen started to lay worker eggs July 28th, and at that date there was a patch of drones, not quite capped up, down on one corner of the comb, the eggs of which were laid while the young queen was in the hive, and when she was but a few days old. If these eggs had been laid by a fertile worker, why should she select a piece of drone comb down in one corner of the frame, and when she had laid that full too, stop and lay no more? The eggs were laid more regularly than any I ever saw by a fertile worker. It seems to me that the above is conclusive evidence that a young queen may, or does sometimes, lay drone eggs in their proper cells when she is but two or three days old, and before she has been fertilized. The two cases mentioned above are all that I have noticed; yet there may have been many more, that, in my hurry, I overlooked.

WHY DO BEES STING THEIR OWN QUEEN TO DEATH?

I do not intend to advance any opinion on this subject, but I want to ask some of the experienced beekeepers why so many valuable queens, just in the prime of life, and not a year old, should turn up missing, and a lot of queen-cells started. I have had a good many cases of this kind this season, and I can not account for it in any way. There is one colony in which there was an imported queen, reputed to

have been raised the season before. On opening this colony a few weeks ago, I found, instead of the imported queen, a young one just hatched. About two weeks ago I opened the hive to take out this queen, which had been laying three or four days, to sell for a dollar queen. As I lifted out the first frame there was a ball of bees around the queen at the bottom of the frame. I immediately got her away from them, but she was dead. These bees were from the imported queen that was in the hive before her, and why should such bees sting their queen to death? I have sometimes found queens that I had introduced, and that had been laying several days, dead at the entrance. The only reason I know of for the latter case is, that the queens were introduced during a heavy flow of honey, when the bees will accept a queen more readily, and this flow suddenly stopping by cold weather, the bees get displeased with their new queen and kill her. This may not be the reason, but I find it easier to introduce queen-cells or virgin queens when there is a good flow of honey, than when the bees are idle, and on the same ground the above may be true.

SMOKER FUEL.

We received a piece of the punk friend Heddon speaks of in July GLEANINGS, and tried it. It is very good, but it is something we can't always get. Friend S. Corneil, Lindsay, Ont., Can., sent us a small roll of a kind of paper termed "felt," which, he said, would burn four hours. He requested us to try it and report. Here is the report: I cut it in two, and Ernest burned his piece two hours, mine burned three hours. It makes a very good smoke, which smells like burning rags. I think that $\frac{1}{2}$ lb. would last a whole day, and it can be had at 4 cts. per lb. This is only 2 cts. per day for fuel, which, I think, is as cheap, if not cheaper, than any thing else to be had.

J. T. CALVERT.

Medina, O., August 1, 1882.

Since the above was written, other cases have been found of a patch of drone brood before the young queen commenced to lay; but the point now before us, is to prove the queen laid the eggs and not a fertile worker.

QUESTIONS FROM AN A B C SCHOLAR.

WHERE TO LOOK FOR BEES THAT HAVE ABSCONDED, ETC.

THE only failure I have had was in getting some bees from a man who gave me 4 lbs. of bees for a Simplicity hive. I put 2 lbs. with a queen into a box, and told my man, on the drive home, to make large holes, so as to give plenty of air. He did not do so; and when I got home, such a mess of bees and honey I never saw. I picked out the queen, however, and gave her to the other two pounds that had come through all straight, and put them into a VanDeusen-Nellis Simp. hive. They accepted the queen, but she was so feeble that I did not expect her to live till morning; however, on looking at them the next morning, they were working nicely. I congratulated myself at this point of the proceedings; but when I went to look at the hive two hours afterward, the sight that met my eyes knocked all the congratulation out of me. Not a bee was to be seen on the outside or inside of the hive. My conclusion was that the queen had died, and the bees were swarming in some tree near by. Well, I hunted for two mortal hours in the hot sun, and

then gave them up for lost. In the afternoon I was looking at one of my young swarms which was standing near the hive of the absconded bees, and I perceived some old drones, flying in and out. Now I knew that my bees had given up the idea of swarming again, and had killed all the drones, so that I hadn't one in the apiary; and as I knew that there were quite a number of them in the two pounds of bees, a thought flashed into my head that perhaps my runaways were there. Sure enough, on opening the hive I found over double the number of bees that were in it the day before.

Now, Mr. Editor, is not that strange? or is it my ignorance of the "ways that are dark and tricks that are vain" of the honey-bee that makes me think so?

BUILDING UP CONDEMNED STOCKS.

I had an idea of getting my farmer friends to let me have the swarms they generally kill in the fall, giving these swarms dollar queens, and feeding them till spring, giving them hives full of fdn. I have another plan, which perhaps is better—to raise a lot of queens from two fine select tested queens I have, and give them, say, 2 lbs. of bees each in a hive with fdn.; do this, of course, this coming month, August. Which do you think the better plan?

I inclose a sprig of a plant I found the bees working on very strongly. Can you tell me what it is? It grows about 4 ft. high.

JOHN ASPINWALL.

Barrytown, N. Y., July 31, 1882.

When a colony absconds suddenly, as in the case you mention, I should always look in the other hives in the apiary, for they very often try to push in somewhere else, and they are not always as successful as in your case; that is, they often get stung for their presumption. It is not at all unusual for stray colonies to come into an apiary and unite with some one of the hives.—Either of your plans will work well, providing you stick right to them, and build them up strong in both brood, bees, and stores.—Your plant is the well-known sweet clover.

CYPRIANS YET BEHIND.

JAMES HEDDON.

HIP! hip! Hold on! Never, since the howl of the Free Methodists resounded through the groves of the backwoods was I so astonished as when I read the claim that B. F. Carroll's report was the largest ever made in the U. S. Mr. J. Vandervort, of Pennsylvania, beat him badly last season, the same having been reported in the *A. B. Journal*. Two different colonies of hybrids (crosses between Italians and Germans) beat his record. I quote verbatim from Mr. V.:—

"From one stock in the spring, with no extra chance, I have to-day three new swarms (two artificial, one natural), all good and in the best condition, except about 15 lbs. too much honey in each, in the hives. From the old one and increase, 400 lbs. of white honey, and 300 lbs. of dark, all in 2-lb. sections. Another gave 400 lbs., and no increase."

NOW, LET US COMPARE.

Suppose Mr. Carroll's honey is first-class extracted honey (which I suppose it is not, as hardly any Southern honey is), the present market price is 9c. per lb. Call it 10; it is worth it, if good. The value is \$70.00. From Mr. V.'s colony that did not swarm,

400 lbs. of comb honey at 18 cts. (and he got between 20 and 25 if I remember correctly), \$72.00. Hip! But then, the other colony gave 3 swarms, worth, say, in the fall, independently of hive and frames, \$4.00 each, \$12.00; 700 lbs. of comb honey at 18c., \$126.00. Total, \$188.00. Hip! hip! hurrah for Apis Americana. The best-natured and best honey-gathering bees in the world.

Gallup reported 60 lbs. of honey from one colony in one day. Hosmer, 50 in one day. Your humble servant got 30 lbs. in a single day, and I sold \$120.00 worth of extracted honey from two colonies, of three weeks' gathering—black bees too. I also sold \$86.80 worth of honey from one colony of black bees, all gathered in one season. The comb honey sold at 30c., and extracted at 20c. per lb.; but the income was \$86.80 all the same, and still I was satisfied with it, without any donations. I do not own any Cyprians or Syrians, and I don't want to get their blood anywhere near my apiary till I hear better reports from them. They are of doubtful superiority in any one respect, it seems, and as cross as "blue blazes" thrown in, and I want to say that to me irascibility among bees is the greatest drawback to the introduction of apiculture that we have. It is also the greatest annoyance to the old practitioners. I am aware that many "don't care about bee-stings; " but then, they pursue a moderation that no one would care to lose time by so doing, if the posterior department of the worker were built on the drone plan, about its extremities. My motto is, more honey and less stings, and I am working toward that ever-retreating point as fast as I can. My motto for apianian fixtures is, accomplish the most with the least labor and capital.

JAMES HEDDON.

Dowagiac, Mich., Aug. 5, 1882.

Friend Heddon, may I gently remonstrate against the way in which you speak of our Free-Methodist brethren? They may have different views in regard to the proper way of worshiping God from what you and I have; but if we are all of us working for harmony of feeling, even though we have differences of opinion, are we not bound to respect the peculiarities of each other? If the work of the Free Methodists bears fruit in the shape of inducing men to give up tobacco, whisky, and profanity, by all means let them shout.—If I am correct, you have omitted to tell us where in the *A. B. J.* the extract you mention is found. I believe friend Carroll made his claim on the ground that none of the other results were achieved by the workers from a single queen. It seems he has sold his a little better than you estimate, as the following, from the *American Bee Keeper* for August, seems to indicate:—

It seems from friends Carroll and Comings' articles in this number, that a bee-keeper can make double the money from extracted honey. And the best argument we ever had in favor of extracted honey is, that friend Carroll sold the extracted honey from one hive for \$405.

I pretty nearly agree with you in regard to stings, friend H.; but our experience with the two new races has not been that they sting worse than the Italians, after the first generation reared in this country. Professor Cook, and a great many others, say the same thing, if I am not mistaken. By all means, let us combine gentleness with honey-gathering. It takes *time* to get stung, to say nothing of the other part.

KNOWLEDGE OF A LOCATION,

AND OTHER MATTERS.

SUCCESSFUL bee-keeping is made up of numerous items, all of which bear an important part toward the success attained; hence, the more thoroughly a person understands when to attend to all these items so that the right thing is done at the right time and in the right place, the more sure that person is to attain the success desired. Among these items, a thorough knowledge of the location in which we are situated as to its honey-producing flora, is by no means the least. Best hives, best strains of bees, and best locality, all play an important part in the success of the apiarist; but none of these are more important than a knowledge of our location. I was forcibly reminded of this about a month ago by being asked by a person who had kept bees for nearly a score of years, if basswood was not out of blossom long ago, when about the 4th of July I remarked that I hoped for better weather when basswood blossomed. To be sure, our basswood was nearly two weeks late in blossoming, and the knowledge of its being late was what helped me to secure the little surplus I obtained. How are we to know when to commence to build our bees up so as to have our hives filled with bees and brood at just the right time, when to put on boxes, and when to have our swarming all done up, unless we know which flowers produce our honey? As I said in GLEANINGS a month or two ago, "The getting of bees at just the right time is the great secret of success," and hives full of bees at any other time amount to nothing. When I first began bee-keeping, I was told by an old bee-keeper, that when he lived in my neighborhood, his bees got an early start by getting pollen off the willow buds when they first swelled in the spring, as there was lots of golden willow on his place. So I set it down that golden willows produced the first pollen. I soon read in Quinby's book, that golden willow produces no pollen, but that the first comes from skunk cabbage. About April 10th I saw the first pollen coming in, and I at once went for the willows, but not a bee was to be seen about them. Next I went to the skunk cabbage, and there I found the little fellows rolling up the pellets of bright yellow pollen, and carrying it home, thus showing that Quinby knew more of what he was talking about than did my old bee friend. Then as every new variety of pollen came into the hive I traced it out and kept the date of its blossoming in my diary, from the skunk cabbage in the earliest spring to the witch hazel in latest fall. Then the same was done as regards honey-producing plants and trees, golden willows giving the first, and seldene and a white weed in the woods the last. This was kept up for five years, and then notes compared, so as to give the mean time of the blossoming of all plants visited by the bees. Thus with this knowledge I could work with the bees understandingly; and if the season were early or late, vary operations accordingly. If those entering the ranks of bee-keeping would thoroughly post themselves in this matter, we should hear less of "blasted hopes."

LARGE QUANTITIES OF QUEEN-CELLS.

I read with interest E. R. Root's article, telling us how those Holy-Land bees build queen-cells. With me, the Cyprians far excel the Holy-Lands in that direction. In swarming, the Cyprians had about 50

cells, grouped in bunches of from 3 to 10, while 13 was all the Holy-Lands gave under the swarming impulse. Although I agree with E. R. Root, that the new races of bees are apt to build more queen-cells than the blacks or Italians, still I think the condition of the colony has much to do with it. I once knew an Italian colony to build 154 queen-cells at one time, and 83 of them were on a piece of comb not larger than a man's hand. This was brought about by a plan similar to that reported by Mr. Root. The queen was taken away from the colony, and after two days all the brood was taken away, giving them dry comb. They were then left 24 hours, when five frames of brood were given them, with the above result. Whenever I wish a "raft of cells," as Mr. Root tells of, I practice this method; still, I rarely resort to it, as I believe cells produced under the swarming impulse are superior.

LARGE YIELDS OF HONEY.

I see our friend Carroll is at the front with the enormous yield of 700 lbs. of extracted honey, which is 134 lbs. better than I ever did, and 118 lbs. better than P. H. Elwood's report; yet, without wishing to take any of his well-earned honors, I wish to say that his sentence, "This is the greatest amount of honey ever produced from one colony of bees," needs a little notice, as it is not in accordance with the truth. If the readers will take the pains to turn to page 164, *A. B. J.*, Vol. 7, they will find that E. Gallup, then of Orchard, Iowa, produced a surplus of 738 lbs. of honey from a single swarm hived the 14th of May. If I am correct, Mr. Carroll's was an old colony. Mr. Carroll will also see that Gallup's swarm made the same average for 30 days which his colony did. Among the "big yields" reported, this one of Gallup's seems to have been overlooked. Unless Mr. Carroll can make out 38 lbs. over and above what his colony consumes during the rest of the year till honey comes again, I don't see but that Iowa will be the banner State in the Union for honey so far.

I also notice, on page 416, GLEANINGS for August, that the editor says, "Also that the tiering-up process, which no other hive than the Simplicity will allow of, is at least not a very faulty plan." I read this sentence several times, and fell to wondering if friend Root meant it to read just that way. Geo. T. Wheeler's hive allows of tiering up; N. N. Betsinger's does, and I have tiered up the Gallup for years. Gallup told of tiering up before Novice ever thought of the Simplicity hive at all, as you will see by going over back volumes of the *A. B. J.* Dadant uses the tiering-up process with the Quinby hive, unless I am greatly mistaken. I have frequently tiered the Gallup, as well as what is termed the Doolittle hive, three stories high, and obtained the 412 lbs. from one colony reported last season in that way. I once used a 32-frame long-idea Adair hive two stories high. The colony could not content themselves without swarming on the 32 frames, so I gave them 64. Don't that sentence need a little explanation, friend Root?

G. M. DOOLITTLE.

Borodino, N. Y., Aug. 10, 1882.

Very likely the sentence needs a little explanation; but it seems to me my friends need to exercise a little more charity before taking me very severely to task. As one or two others have made the same correction, perhaps I should not have made the remark in just that way. What I meant was the Simplicity idea, compared with hives having

permanent bottoms. Although other hives admit of tiering up, I do not remember having seen a hive before the Simplicity came out, that could be thus tiered up, and still not permit the rain to beat in at the joints; nor do I remember to have seen a hive that was made of just two different pieces, bodies and covers, the covers being either cover or bottom interchangeably, and fitting as a cover, so as to exclude the rain. The principal point I meant to make was, that although permanent bottom-boards have obvious advantages, taking it all together we could hardly afford to use them. Am I right in thinking friend Carroll could hardly have achieved this very great result without any swarming, in any other form of hive? In regard to Gallup's great yield, we find on page you refer to, of *A. B. J.*, the following:—

In thirty days I obtained from the hive 50 gallons of excellent thick honey (a gallon will weigh 12 lbs.). An average of 20 lbs. per day for 30 days in succession is not bad for one swarm of bees. I took 5½ gallons from that hive the first week in September, and have at least six gallons more in the hive, over and above what will be required for wintering the swarm.

Orchard, Ia., Dec., 1871.

E. G. GALLUP.

DRONES AND DRONE-TRAPS.

WHAT SHALL WE DO WITH UNDESIRABLE DRONES?

THE late discussion of the 'dollar-queen traffic' has made quite prominent the idea of improving the quality of our queens by exercising greater care about the kind of drones we allow to be raised in our apiaries. Theorists may write and plan about building up special strains of bees vastly superior to any we now have, but all said and done will remain theory only until some practical plan is devised by which the raising, or, if raised, the flying of undesirable drones can be certainly and absolutely prevented. Methods are already known and practiced by which this is done in small experimental apiaries; but it is a vastly bigger job when attempted in a large apiary run for honey. Of course, the raising of drones can be very much restricted by using only worker comb or foundation, but that isn't enough; the restriction must be absolute. I think what Mr. Hasty says on page 179, July No. of the *Exchange*, is directly to the point.

I have thought this matter over more or less during the past two or three years, and have come to the conclusion that there are but two practicable methods by which we can accomplish this work. The first and only way yet successful is the one used by our good friend Jones — that of having our queen-breeding establishments on isolated islands; but it is utterly out of the question for the majority of us to even think of using this method. The only other method that it seems to me can be made practical is to invent some kind of a drone-trap that will absolutely prevent the escape of a single drone from any hive to which the trap may be attached, and yet be free from those serious objections present with every trap I have yet seen.

At the National Convention held in Cleveland, in 1871, a Mrs. Farnham exhibited a non-swarming arrangement, to which was a drone-trap incidentally attached. This would, without doubt, trap every drone attempting to leave the hive; but it had too many objectionable features to be practical. 1. It was

a queen-trap also, which is a fatal objection, as old queens are liable to be superseded, and young ones fly out for fertilization, at any time; and any thing that will prevent that is not to be thought of for a moment; 2. To be effective, the trap had to be looked to every day while the drones were trying to fly. This takes more time than the most of us can afford; 3. It was too complicated and expensive; 4. It seriously interfered with the bees carrying dead bees and drones out of the hive.

The drone-excluder described by Mr. Jones at the convention last fall, and also in the April No. of *GLEANINGS*, remedies some of these objections, but not all; and I certainly think you were mistaken in your answer to Mr. Newton, on page 337, August *GLEANINGS*. If one wishes to get rid of bad drones out of a dozen or so colonies only, your plan will work, if practiced once every three or four weeks; but how will it be if one wants to operate on three-fourths to nine-tenths of all the colonies in a large apiary, as I do? You can readily see that it is impossible for me to spend the time for that; besides, to be effective it would sometimes have to be done when robbers were around, and I have no idea that any bee-keeper would attempt the second time to shake the bees off from the combs of 150 colonies with a mess of robbers looking on. This suggests another objection to all drone traps or excluders, which must be overcome before they will be effective; viz., preventing the queen from regaining her hive when she is shaken from the combs with the other bees while extracting.

Now, friend Root, yourself as well as others seem to look on this drone question as though the few black or hybrid drones we may happen to have in our apiaries were the only fellows that need squelching; but it seems to me as though it should be looked at in a far broader sense than that. It isn't enough that our bees be all Italians; they must be the best Italians; and to be that, we must obtain the fathers as well as the mothers of our working bees from a few of our best colonies; and some effective, practical method of doing that is just what I want. Friend Cook suggests that we pinch off the heads of every queen we raise, not up to our highest standard. This would be all right if it were not that it would cost us our income from our bees. Can not some inventive genius, yourself for instance, give us some cheap, practical device, free from the objections I have enumerated? Perhaps some modifications of friend Newton's device may answer, even if it is an old one.

I spent one rainy forenoon in experimenting. I made a Jones excluder, only wider than he uses them, say 2 or 3 inches wide; made a hole about ¾ by 1 inch in top of this. I made a box, about the size and shape of a quart oyster-can, out of same material the excluder was made of, with bottom, but no top. In the bottom I made a hole the same size as the one in the excluder, into which I soldered a tube of tinned wire cloth, with the upper end raveled out an inch or so. I set this box (or, rather, trap) on the excluder in front of a hive, so that drones could pass up through the hole in the excluder, into the trap through the tube of wire cloth, the raveled ends of the later preventing their returning. I used a loose piece of the perforated zinc to cover the trap. I watched this for a few days, and am satisfied that, if I had the proper material and plenty of time, I could make a cheap, effective drone-trap, free from all, or nearly all, of the objections noted.

First of all, perforated zinc will have to be obtained with slots large enough to allow the passage of queens, yet not large enough to allow drones to pass also. If the size of the queens and drones is too nearly alike to allow this, then we might as well drop this whole matter at once, and consider the making of a practical drone-trap an impossibility. Second, the trap itself must be made of open material — if possible, more open than the excluder, as the drones seek the light to pass out; and third, some better device than the tube of wire cloth should be used to prevent drones returning to the hive. I would suggest a cone, or, better yet, a double cone, with openings at top just large enough for passage of drones.

Now, friend Root, if you think this matter of sufficient importance to bee-keepers, I wish you would experiment some to see if zinc can be made with oblong perforations that will allow the passage of queens but not drones, as this is the one thing I consider absolutely necessary in a practical drone-trap.

I wish to say right here, that I have always looked on all fixings and traps around our bee-hives with a good deal of contempt; and I am not positive but that drone-traps are deserving of the same attention; but the great desirability of improving our bees by a more rigid selection of drones, compels us to do what we don't like to do. O. O. POPPLETON.

Williamstown, Ia., Aug. 7, 1882.

Your closing sentiment pretty nearly agrees with the way I have felt about almost all such contrivances, friend P., and I must confess I have been not a little surprised at the demand there has been this season for the Jones drone-traps. The demand would seem to indicate the interest our people feel in this matter, and very likely it is high time, in this age of progress, that something were done about suppressing drones we don't want. The use of worker fdn. has already done very much, for by the old way we used frequently to have drone comb by the square foot, and, as a consequence, drones enough in a single hive to fertilize all the queens for miles around. The next question is, What drones shall we rear for the fertilization of our queens? In other words, does anybody know what drones will give us the best honey-gatherers? Aside from having them reared from a queen we know is of great value in producing a honey-gathering progeny, it seems quite natural that large drones would be best; and if they are bright, and nicely banded with yellow, it seems as if the worker bees might be more likely to be so too; but how much do we really know about it, and what are the chances that we shall improve greatly on the old way, even after we get the management of the matter? Of course, we can get rid of all black blood, and we can, if we choose, more rapidly introduce Cyprian and Holy-Land blood; and neighbor H. has been for some time controlling his drone progeny to a great extent, in this very way; but, are we sure that getting rid of all traces of black blood is going to augment our honey crop? Day before yesterday I visited an apiary where the bees were filling boxes right along through August, and they did it just about as fast as they ever do here in June; but the owner declared his best yields of comb honey were from hybrids invariably. This is no new report, and now

the point comes before us. Do we really know just what we want to do, when we learn how?—Large drones may be kept with a guard that will allow queens to pass; but small drones from fertile workers will be quite likely to go where a queen goes.

YELLOW BEES.

STILL IN EXISTENCE, AND NOT ITALIANS EITHER.

MUCH has been said in the interesting columns of GLEANINGS concerning the "yellow-banded bees" which existed in this country prior to the importation of our "golden Italians," and much doubt has been expressed by yourself and many other prominent and able writers upon the subject, even questioning the possibility of such a thing. Having not yet attained to a man's estate, I can not remember (?) seeing them in ante-bellum days, and have consequently entertained the opinion, in common with yourself, that those who spoke of these bees might possibly be mistaken; but I have recently met with evidence which I think sufficiently important to merit your consideration.

Forty miles from any place where the Italian has ever been known to wing his flight, and among people unacquainted with modern bee culture, my attention was attracted by a few colonies of bees by the roadside. Upon examination I found them to be very much like the Italians in form, a little smaller, and with a *small yellow band* on each of the three first segments of his abdomen. These yellow bands were on the "horny scale," but were only about one-third the width of the segments, leaving a small space between each, covered with a kind of down, which you claim is the only stripe they have. I remarked, "These are not the little blacks?" "No," replied the owner, "they are our yellow bees." I was content to keep quiet, however, until I examined other hives, there and in other portions of the country, which I found to be likewise. The drones were as well marked as some I have seen from "imported mothers."

These bees have been in the hands of their present owner a number of years, and as my apiary is forty miles away, containing the nearest Italians, and these bees were with him *before* I had ever seen a "yellow bee," they can hardly be hybrids. I know several men whose bees are all of this variety, and from my observations I think they are more industrious than common blacks, and less pugnacious than hybrids. They reproduce themselves as consistently as any bees, maintaining their characteristic appearance, and I would pronounce them a *distinct race of bees*.

I have not entered into any elaborate argument to support my opinion in this matter, but expect to rear a few colonies of these bees for my own gratification; and if I am correct, you will, perhaps, hear me again on the question of "yellow bees." When I next speak I should like to say something of candy for bees, which I think you will find more beneficial to your readers than the question of races.

CHAS. R. MITCHELL.

Hawkinsville, Ga., Aug. 8, 1882.

Were it not for the clause, to the effect that these bees were kept, and this peculiarity noticed, before Italians were brought into this country, I fear I should be suspi-

cious after all, that the Italians had, by some of their wonderful flights, carried their blood even over the 40 miles, when no one suspected it was possible. Will you not, friend M., mail us a cage of these yellow-banded bees that have no Italian blood about them?

STATISTICS FOR IOWA WANTED FOR THE NATIONAL CONVENTION.

TO ALL BEE-KEEPERS IN IOWA.

FRIEND POPPLETON asks us to give room for the following, to which we call the attention of our readers in Iowa:—

At the next annual meeting of the North American Bee-Keepers' Society, to be held Oct. 3d, in Cincinnati, vice-presidents are expected to report the status of the industry in their respective States. This can be done only by the help of bee-keepers in different parts of the State, and I wish that every person interested in bees would, as soon as they see this notice, send me, by postal or letter, a report of the condition of bee-culture in their section, from the close of last year's honey season until the present time. I hope all who see this will respond, as I will not even attempt to make the report expected of me, unless I have sufficient information so as to make a reasonably correct one. O. O. POPPLETON.
Williamstown, Chickasaw Co., Ia., Aug. 15, 1882.

ENEMIES TO BEES, ETC.

ASILUS MISSOURIENSIS.

INCLOSE a "bird" that eats bees. I have seen several of these insects, and with one exception every one that I saw had a bee on which it was feeding. They are not as common as flies in this section; still, if they subsist entirely on a bee diet they do me a good deal of damage. I hope it is not identical with the Missouri bee-bug, and that it is not so disastrous to the bee-keeper.

MARTINS AND KING-BIRDS.

I saw in one of the bee-papers that it had been observed that martins and king-birds kill only drones. Our king-birds here, I must say, are not so considerate. I watched them last spring when cherries were in bloom, and was in such a position that the birds could not see me. One was at work not six feet from my nose, and I saw it take at least ten bees from the flowers. It would dive up to a tree, snatch a bee, and then alight on the fence, give it a pinch and swallow it, when it was ready for another. I tell you, if one comes within range, and if I have a gun, and don't miss it, it's a dead bird. I have seen martins swooping about after the returning bees when no drones were out, and I put them down also as bad birds that must keep aloof when I have a gun. I am more afraid of the bugs I send you than of the birds. The latter are soon thinned out or scared away.

The sumacs give a good lot of honey now, in the early morning. The *Rhus glabra* is at its height, and yields fairly. Buckwheat promises well. I have not seen bees on sweet corn.

ALBINOS.

I had not seen albino bees until a few days ago. I have a dollar queen from Valentine, of Maryland,

that produces—well, they are—the prettiest and largest bees I ever saw. They do not fly out yet; but as they travel about on the combs they appear a fourth larger than the old bees in the hive. I wish that those who know about these albinos would give us a good full report of what they are, and can do in the field. I admire their appearance, and must albinoize two more stocks in buckwheat time. S. J. H.
Spotswood, N. J., Aug. 9, 1882.

The fly you send is indeed the *Asilus Missouriensis*, so much talked about. I believe they are found in almost all localities where bees are kept in great numbers, but I do not anticipate much harm from them, unless they should increase so as to get to be quite numerous.—Your report in regard to the king-birds and martins, seems conclusive. True enough, we do not often (?) see drones on the blossoms of cherry-trees.—We have the albinos, but I have never thought them larger than the average Italians. Our albino, received from Valentine, has not proved as prolific as average queens, but it may be only accidental. Neither have they been above the average Italians as honey-gatherers.

REPORT FROM KANSAS.

FEEDING AND FEEDERS.

I FEEL disposed to send you a meager report from this region. Bees did finely last winter—very little loss so far as I know; but the spring proved to be unusually cold and wet. We got no good from fruit-bloom, on account of cold and wet. I fed several stocks till the middle of June, and having to feed so long caused me to try to get up another feeder, which I did. I like it much better than any that I have yet used. I will tell you how it is made, and run the risk of being told that it is obsolete.

I take a piece of board $\frac{3}{4}$ in. thick and 5 in. wide; cut a slot in the edge $\frac{3}{8}$ wide and $4\frac{1}{2}$ in. deep. This slot runs to within $\frac{1}{2}$ in. of the end; then fit it in, slot side up, $\frac{1}{2}$ in. from top-bar in a common brood-frame, and brad it fast; then cut a $\frac{3}{8}$ -in. hole in top-bar, and insert a tin tube to carry the syrup into the feeder. This tube extends $\frac{1}{2}$ in. above the top-bar; then a hole is cut in the quilt, that leaves the tube always accessible, by simply removing the cover. I insert a small funnel in the tube, and pour the feed down near the cluster, not disturbing a single bee; in this way one hundred stocks could be fed in a very short time.

HOW TO MAKE STRONG FRAMES OF LIGHT STUFF.

Tell Mr. Heddon to have a pot of hot glue standing by when he is putting frames together, and just dip the ends of the different pieces in it, and I think he will not care for heavier end-pieces.

My bees will swarm, even yet, in spite of cutting out queen-cells, or giving more room. I had a swarm Aug. 1st that has 11 frames of fdn. drawn out and filled with honey and brood. A swarm came off on Sabbath while I was at church; I did not find them till late in the evening; they were getting on the wing; they went across the street and entered a vacant chimney-flue, where they are still. I shall try to dislodge them this afternoon.

JAS. W. MARGRAVE.

Hiawatha, Kan., Aug. 14, 1882.

Friend M., my objection to your feeder

would be the amount of machinery it takes — tin tubes, tunnel, hole in the quilt, which we have found quite an annoyance, and the difficulty in opening a hive with a tube through the quilt. Also, these feeding frames must be taken out and stowed somewhere when not in use. If you do not fill the lower part of the frame with comb, the bees will; and then when out of the hive, the worms will get into these combs. Also, how do you avoid making the feed run over, unless you measure out just so much to pour in the tunnel, at every "dose"? For all that, the arrangement has some very decided advantages.—Glued frames are certainly very nice and strong; and in connection with the dovetailed joints we make, they are strong and quickly done. Did we not use the metal corners, I think we should put all our frames together with glue.—If the bees keep swarming, they surely get honey; and if they get honey, I think I should manage to "get honey," if I were you.

Bee Entomology.

Or Enemies of Bees Among Insect Tribes.

I ENCLOSE a bee or fly that I caught to-day. Will you please tell me what it is, as I have seen them in the greenhouses all winter, sipping honey out of the flowers? I do not know whether they have stings or not. WILL A. HAMMOND.
Richmond, Va., July 8, 1882.

Answer by Prof. Cook :—

The insect sent by Will A. Hammond, Richmond, Va., is a syrphus fly, and is referred to on page 31 of my Manual. This one so mimics a hybrid bee, that no wonder the sender did not know whether it was a bee or a fly. This insect has only two wings, and so belongs to the order of *Diptera*, and no such insects possess stings. The syrphus flies are very bright colored, and often so resemble wasps and bees that it is not easy, even for the entomologist, to tell them without close attention. They like sweets, and so are often seen about flowers, in company with bees and wasps. They like the warm sunshine, and may often be seen about flowers, seemingly motionless, so quiet and dextrous are they as fliers; but if we come near, or move quickly, they dash away like a flash of light. It is pretty certain that this mimicry among animals is not accidental, but that it is the result of fixed laws of development, and is of great use to its possessors, in protecting them. Thus the birds, like our Richmond friend, fear the sting of these syrphus flies, though they have no such weapon. Thus many a fly goes free because it looks like the harmful wasps.

Some of the maggots of these syrphus flies possess long tail-like appendages, and so are called rat-tail larvae. Such larvae live in water. Others feed, while larvae, on decaying wood, and still others do us a great deal of good by feeding on plant lice, which they destroy in great numbers. Most of the flies are very gay in coloration, and so make quite a showy collection when nicely preserved for the cabinet. A. J. COOK.

Lansing, Mich., July 14, 1882.

Bee Botany, OR HONEY-PLANTS TO BE NAMED.

I SEND a honey-plant that I should like to have you name. It grows very plentifully here in pastures that are not fed too short, by the roadside, old run-out fields, and, finally, almost anywhere. Perhaps it is not of any especial benefit, as it blooms about the same time as white clover; but even white clover fails some seasons, and perhaps this would take its place. I think the Cyprians work better on it than either the blacks or Italians.

Ripley, Me., June 20, 1882.

W. HOYT.

We have the plant here, but it is visited but little by the bees, owing, perhaps, to the fact that we only occasionally find solitary plants. Not being able to name it, we send it to Prof. Lazenby, who replies as follows:—

The plant is *Brunella vulgaris*, L., commonly called "self-heal," or "blue-curls." It belongs to *Labiata*, or mint family. Perhaps the most remarkable feature about this plant is its *wide distribution*. It is found almost everywhere, but is not considered indigenous to this country. It is not a troublesome weed, though found on many farms. In ancient times it was highly prized for its supposed medicinal virtues, — especially for healing wounds, — hence one of its common names. WM. R. LAZENBY.
Columbus, Ohio, July 31, 1882.

HOW TO MAKE AN OBSERVATORY BEE-HIVE.

ALSO HINTS ON USING IT AT FAIRS AND EXHIBITIONS.

DURING the months of September and October, nearly every State and county will hold its annual exhibition. The bee-keeper who intends to exhibit his products is now preparing for the show. As we have been through the operation several times, we know that it is quite an undertaking, and there is fully as much danger of doing too much as of doing too little. We find that where the bee-keeper tries to exhibit bees in the open air, and flying at all hours of the day, he will usually make a failure of it. The bees must be exhibited under glass, and the object of this article is to describe our observatory hive. There are others who may have used such a hive, but we have never seen one described.

The object of a one-comb observatory hive is to allow people to see the bees, the queen, the brood, and, perchance, the queen in the act of laying. Such a hive must be placed where people can get their eyes close to the glass, and in such a manner that they can examine both sides readily. Our hive has a space of two inches between the glass. It has thorough ventilation at the top and bottom through one-inch holes covered with wire cloth. It is provided with panels, to protect the glass when necessary, and a tin corner, so it can be used outdoors or in a building. Under the center of the bottom we secure a two-inch block with an inch hole in it; into this we insert a peg, which is secured firmly to a narrow board. This board is secured by screws to a shelf of the proper height. The hive can now be turned upon its center into any position required, and any person can turn it just right to accommodate the eye.

A screw in each end holds the frame steadily in the center.

Care should be taken in stocking such a hive, not to get in too many bees; just enough to cover the comb evenly. The queen can be seen readily by even an inexperienced person. This hive at our fair was a decided success. There was a group around it nearly all of the time. Much instruction can be given to the public with such a hive as this.

Hartford, N. Y., Aug. 9, 1882. J. H. MARTIN.

The hive described by friend Martin does not differ materially from the one illustrated in the May No. of our JUVENILE, only it has the swivel arrangement, so as to revolve freely on its center. It surely does form an instructive and entertaining feature for a fair; and as some one is almost always near who can "explain things," it is usually the means of giving the great wonder-loving public much knowledge in regard to our pursuit.

BEES ON A RAMPAGE.

WHAT TO DO, AND WHAT NOT TO DO.

I WRITE for information as to the management of cross bees. I know but little about bee-keeping. A year ago I bought two swarms of black bees. After they had reared considerable brood I divided them and made three hives; then I sent to Kansas City for two Italian queens, and introduced them with success. From them I have five Italian stands. Yesterday I undertook to rob one of the old stands, assisted by a man who is pretty good at handling bees. I got along tolerably well for a while, when all at once they became angry and drove us away, and became so enraged that all the evening it was impossible to go home. They filled my house, drove wife and baby out, and then attacked my neighbors, and entered their houses. No person could pass the street without being badly stung; they drove the chickens out of the yard, and hogs in the street were assailed; they took possession of the printing-office, and drove the inmates out. I could not go to my house to stay until after dark, and never succeeded in clearing it until this morning. I have been thinking of sending for another queen; but if they all prove to be of that disposition I don't want any more of them, and will put sulphur to those I have as soon as they fill up the hive again with honey, if there is no way of subduing them. They are good workers, and make plenty of nice honey, but I can't stand their temper; besides, I fear they will become a pest to my neighbors.

If you know any successful way to manage them, please state it. I have never seen any thing that would compare with them in the way of hostile bees. This hive has given two swarms this season; the old imported queen came off with the first swarm.

Mason, Texas, Aug. 8, 1882.

W. HOLLAND.

By no means sulphur your bees, friend H. If you really want to get rid of them, take away the queens and get some that are tested for gentle bees, and you will very soon be rid of them, without any such loss as you would have if you killed them with sulphur. I think there are plenty of our readers who will buy the queen you mention, and I don't think that they will ever get into such a scrape with them as you did either. It is possible that they have a trace of Cyprian blood in them; but I am by no means sure

of it, for Italians will often act much the same way when once they get aroused and get the upper hand. Give me a good smoker, in nice working order, and I think I could bring any such colony into peaceable terms in a short time; but woe to you if you run and leave them, and let them find out they are master and you are the slave. If you will excuse the liberty, my friend, I think an experienced hand would have known trouble was coming, and stopped proceedings before he got where you were. When you find the bees are getting excited and aroused, never by any means push on with the work. Before they make an attack such as you describe, they usually range themselves along the tops of the frames, and by their buzz and motions you can, if used to them, divine pretty accurately that they will soon make a desperate onslaught, if you do not hold on. In such a case, either cover the hive up quickly, or get a large volume of smoke, and oblige every bee to go back and down, even at times driving them clear out of the entrance. Horses, cattle, and wild beasts, all behave much in the same way. When they find they can chase you, you'd better look out. They must be conquered and subdued, and kept in subjection. The Rarey system of training horses is right in this same line. Only yesterday neighbor H. had to give his little mustang pony a course of lessons not unlike we have to give the bees sometimes. She had for some time been getting more and more unmanageable, until finally a strange hand attempted to use her for some little service, when she just broke out in open rebellion. Of course, next time H. tried to drive her, she did the same way, and tried to break the buggy all to "flinders." He took her out of the buggy, threw her down by the well-known Rarey method, put her head down in the dirt, and quietly sat on it to hold her there. This was so utterly new in her experience, either on the wild prairies or since her domestication, that she was both frightened and surprised almost out of her poor little wits. When she found she could not get up, nor hardly move, she began whining and neighing, and finally gave all the promises of good behavior that any horse could well promise. She kept it, too, for when he next drove up to the factory she would stand perfectly quiet until he had told his last story, even if it was after 9 o'clock; and when he stepped into the buggy she stood like an obedient child until he gave her liberty to "skim the ground." In telling of it, he said he came pretty near getting mad; but, my friends, the one who tames horses or bees, or wild beasts, must by no means think of getting mad. If you aren't boss of your own passions, how can you ever expect to be boss of them?

Now, you may think this a pretty long story, but I wanted to get the idea clear, of the way in which you must get and keep the upper hand of your bees. Don't court a quarrel; but when one comes, put them down under your foot, and hold them there until they promise. It has been said, you can not conquer the Cyprians with smoke; but I think I should try the smoke at all

events; but I should want it in dense clouds. I really do not know of any way to handle angry bees, except with smoke.

A NEW SOURCE OF HONEY.

BEES ON WHEAT-STUBBLE, AGAIN.

ONE of your correspondents speaks of bees working on wheat-stubble. In 1878 a person's boots would be wet by walking a few steps in the stubble; the sap was quite sweet, and the bees very busy upon it from morning till night. The wheat was pretty fair, but still did not seem to ripen up just right and naturally. The straw seemed brown and light. This is the third poor honey season in succession. Two years ago some bees starved on their summer stands before frost came. This year we have had only 120 lbs. extracted honey from 11 swarms. Had we better give it up?

E. Z. GREEN.

Montague, Muskegon Co., Mich., Aug. 14, 1882.

Most surely I would not give it up, especially so long as I had seen, with my own eyes, honey in the wheat-stubble. If this occurred over any considerable tract, the yield of sweet must have been enormous, even if it was only sweet water. I presume, by some queer chemical change in the workshop of dame Nature, the starchy matter in the growing stalk was changed to sugar, and this sweet sap, as it were, filled the hollow in the straw stubble. Can any one tell us how long after the cutting of the wheat it is that this phenomenon takes place? When we learn enough about these things so we can make it come about at our pleasure, we shall be — wiser than we are now.



THE GOLDEN BEE-HIVE.

BEE-KEEPING (in frame hives) is just being introduced here. A bee-man is running over the country with a hive called the "Golden" bee-hive, selling rights, and ordering persons not to use top stories, etc., saying they infringe on his patent.

E. C. FISHER.

Sissonville, Kanawha Co., W. Va., July 13, 1882.

Of late we have had quite a few inquiries in regard to the "Golden" bee-hive. It has been shown up several times in the past few years, and the above should be evidence enough for anybody. It would seem almost incredible that any one should pay over money to any party claiming that he had a patent on all "top stories," but it seems several have done so. The idea is even more absurd than Mitchell's claim of a patent, covering all cloth or mats spread over the frames. Denounce every man as a fraud and swindler who attempts to talk Golden bee-hive to you; and, if you choose, show him this.

QUEENS; THEIR FERTILITY SOME-TIMES IMPAIRED BY TRANSIT.

GALLUP'S IDEAS IN THE MATTER.

IN my travels among the bee-keepers I found two cases where the parties had received queens (one from Oatman and one from Dadant), and they said that they received queens that were not prolific, and they both condemned the queen-breeders. I asked them if the daughters of those queens were not prolific, and they said, "Yes, in every case." Now, we must not condemn the queen-breeders in those cases at all, but we must look somewhere else for the cause of the unprolificness. Several years ago I sent two queens to different parties, and which queens I knew were extra prolific; but the parties who received them sent word after a time, that the queens were not as represented, and accused me of cheating them.

Now, I had an idea; and to thoroughly test it, I stated my views to Dr. Hamlin, of Edgefield Junction, Tennessee, and requested him to exchange queens with me. Both were to select queens extra prolific, and report how they turned out. We exchanged queens several times; and the result turned out in every case just as I expected. The queens proved to be very indifferent layers. Now for the cause: When we take a queen from a colony, with her abdomen distended with eggs in the height of the breeding season, ship her either by express or through the mails for one or two thousand miles, we stop her breeding at once, contrary to nature, and perhaps the thumping about and pounding she gets in transit has something to do with it. We have then injured her for life for the rapid production of eggs, and still it does not and can not affect her progeny or purity. I explained the whys and wherefores as I understood it to those parties, and thus set Messrs. Oatman and Dadant right with their customers.

I do not recollect of ever having published my ideas on the above question before. Where parties know that their stock is all right, why not ship young queens for long distances, that have just commenced laying, and it would save this injury to their laying qualities? I am not sure but taking a queen away from a populous colony at the height of her breeding, and keeping her in confinement for 6 or 10 days, might produce the same result — who knows?

The California honey crop is almost a failure. Extra good management has produced nearly half a crop in some apiaries or localities; in others it is an entire failure.

E. GALLUP.

Santa Ana, Los Angeles Co., Cal., Aug. 3, 1882.

While I can not think a pure queen may be made to produce hybrids by a trip in the mails, I can agree with you, friend Gallup, that their fertility is often impaired, and the reports this season show very plainly that they are often rendered incapable of laying at all, after such trips. Let those who get queens, therefore, have a large charity for the sender, and not accuse him of willful wrong, as has so often been done. And I agree, too, that queens just commencing to lay are less liable to such injury, and this is another reason, I presume, why the traffic in queens has gone so entirely, as it were, into these untested queens, or queens sold just as soon as they commence to lay.



THE OTHER SIDE OF THE STORY.

I HAVE kept bees for ten years. I have 17 colonies now. I think bee-keeping is too hard work for women. Any woman who can lift a 75-lb. hive with a 40-lb. honey-box on it, and carry it away so that the returning swarm won't find it, can go out with an ox team and break prairie sod and make money faster. Somebody has a long article in *Harper's Monthly* for June, entitled "Money-making for Ladies." Among many other things, it says, "In connection with a garden, it is a comparatively easy matter to raise bees. They take up little room, generally find and take care of themselves. Bee-raising particularly commends itself to ladies, because there is so little work in it; it is like having a colony of small slaves to work for her while she is busy with other things, or enjoying the sweet do-nothingness that follows accomplished labor." I like that — I like the "sweet do-nothingness." It sounds well; but any one who has raised bees for a few years knows it is only sound. Bees must have close attention, and constant attention, a good part of the year, and that means work, and very hard work. A good many women who would like to keep bees and make money easily are like a woman who came here three years ago to buy bees. She wanted cheap bees, and I told her I would sell them as cheaply as I could. I told her that I had paid two dollars for a single bee, but of course I would not charge her that much for every bee in the hive. I would sell her a good colony for \$7.00. She said she thought she ought to get them cheap, because she had lost all of hers. "I understand bee-keeping," she said, "and I think I had real good success with them for a new beginner. I had only two swarms last spring, and in the fall I had six. I swarmed them *artificially*, and I think I *succeeded real well*."

"And how many have you now?" I asked.

"Oh! I haven't any: they all died this winter, but I think I had real good success to make six swarms out of two."

I did not sell her any. MAHALA B. CHADDOCK.
Vermont, Fulton Co., Ill., July 10, 1882.

There is some truth in what you say, my friend, and I would by no means have our lady readers think they can keep bees, and care for large crops of honey, without hard work; but for all that, I think it is not necessary, nor even well, for anybody to lift a "75-lb. hive, with a 40-lb. honey-box on top of it." No, nor even one that weighs 50 lbs., all told. It is true, work might sometimes be hastened by so doing; but in the end, I do not think it would pay. Friend Brooks has given us a plan to take care of swarms without moving the old hive at all; and as a rule, I do not believe it pays to move hives. If you are going to sell bees, lift out the frames and set them in a nice new hive for

your customer, and let this new hive stand on a light wheelbarrow, and then it can be easily wheeled where wanted. Honey is now mostly sold in cases containing not much over 25 lbs., and a woman of average strength can handle these pretty well. If she has a great many, she will have honey enough so she can afford to hire some cheap help, in the shape of boys and girls who will be glad of something to do. Am I not right, my friend?

TEASELS, SUNFLOWERS, ETC.

We heard this refrain many times during July: "They are good bees, and we'll put them in the Holy-Land." A portion of our apiary acquired this name from some plants grown from seed given us by Mr. Jones at Cincinnati, who said it was mint seed from the Holy Land. In the spring of 1881 we sowed the seed in a flower-pot, and transplanted the plants to our apiary. We impatiently watched for bloom, but none appeared. This spring we noticed the plants were of a beautiful green, with long linear leaves, covered with spines. We said, "They look as if they might make good greens;" but we did not try them. After a while they ran up and put forth burrs, and our partner remarked, "Your Holy-Land mint is nothing but teasel; I've seen plenty just like it growing wild in Connecticut, when I was a boy." And so it has proved to be teasel, and nothing else. Bees worked upon it, but we had too little of it to form any opinion as to its honey value in this locality.

A friend gave us a few Spider plants that she raised in a hot-bed, and we think they are pretty, and quite an ornament to a lawn. They seem to suit this locality better than the Rocky-Mountain bee-plant, but this season has been uncommonly cool and wet. The Rocky-Mountain bee-plant revels in hot, dry weather.

We have some sunflowers that we admire and talk of from sunrise till sunset. They are the Russian, and do not grow so tall as the old variety, but the flowers are immense. The diameter across the seed only of the head measures eleven inches, and the circumference is 31½ inches. We think they are grand for shade for bee-hives, as they grow so quickly, and the bees need sunshine in spring and fall, and they would be large enough for shade as soon as it was needed. The bloom yields honey, and the seed excellent food for fowls. Many persons think that sunflowers grown in a malarial district are a preventive against disease.

Peoria, Ill., Aug., 1882.

MRS. L. HARRISON.

THE NATIONAL CONVENTION.

THE North American Bee-Keepers' Society will hold their next annual meeting at Washington Park Hall, Cincinnati, Ohio, across Washington Park from Exposition building. First session, Tuesday, Oct. 3d, 10 A.M. We are encouraged to hope that this will be a very profitable meeting, as we are promised papers from and the presence of a large number of our most prominent bee-keepers from many of the States and Canada. Implements of the apiary, and essays from abroad, are expected to add to the knowledge imparted by the research and inventive skill and methods of our own countrymen.

EHRICK PARMLY, SEC'Y.

HOW TO BE SURE OF CHOICE DRONES.

AND SOMETHING ABOUT INTRODUCING AND UNITING.

I SHOULD like to tell the readers of GLEANINGS my plan for having pure drones in all of my colonies, and produced from the eggs of a selected queen only. I prepare me, during the winter, one brood-comb for each colony I have, by inserting in the center, and next to bottom-bar, a nice piece of drone comb 4 in. square; in early spring I take one of these prepared combs, insert it in center of brood-nest of one of my choice colonies, and I then commence to feed this colony a small quantity of sugar syrup *daily*, until I discover drone-eggs laid in my prepared comb. I then remove the comb, shaking off all bees, and inserting another prepared comb. I then give this comb to some colony, and let them nurse these drones. I proceed thus till I have a comb with drone-eggs inserted in each colony I have, and by the time these drones are hatched out and flying we are then ready for artificial swarming, raising queens, etc.

When I introduce a queen to a colony having a laying queen, I always insert a tight-fitting division-board 24 hours before introducing the queen; after the queen has been successfully received, and is laying, I then at my pleasure remove old queen and division-board, and by this means I have a queen laying all the time in the colony, and should my new queen be killed, the colony still retain their old queen. Sometimes I keep both queens laying till the colony becomes too populous; I can then remove division and the old queen. The above is a good plan where you wish to test a queen as to purity before making way with the old queen, by having the brood-chamber covered with one of Jones's perforated division-boards; both colonies can store their surplus in one department; the bees being all of one scent, they will agree. When I wish to unite any two colonies for any cause, I prepare them in the following manner: If any choice in queens, I remove the poorest; I then take a good-sized onion, cut it in half, go to the two colonies about dusk, slice each half on top of their brood-combs, cover hives over, and next morning I select from both brood-chambers a set of brood-frames, put in one hive, bees and all. I then shake off the rest of the bees from their combs in front of the hive, and the bees will unite, and not a bee be killed. I use no smoke. I believe I could thoroughly scent a colony this way, and pick their old queen from her comb, and turn a new queen loose, having scented previously the new queen, and the queen would be recognized as their own every time. W. T. CLARY.

Claryville, Campbell Co., Ky., July 17, 1882.

Your plan of supplying choice drones, friend Clary, is all right; but keeping two queens in a hive is very risky business, if a single bee by any means passes the division-board, or gets into the wrong side. I know many colonies will go for quite a time in this way; but as a rule there is soon trouble. It is an old idea, and has been many times tried. So long as you make two distinct colonies, and have the entrances far enough apart, the plan is all right; but so much trouble has come from it I believe it is mostly abandoned, and a hive and location of its own is given to each nucleus. As two colonies will almost always unite in the

manner you mention, I should not feel sure that the onion had any agency in the matter. The same may be said about taking a queen out and putting another in her place. If honey is coming in, it can be done in nearly half the time, without using any kind of scent. I beg your pardon, friend C., for so much that may seem like objections to your experiments, but I only wish to give you a little caution.

CYPRIAN BEES.

THE FURTHER HISTORY OF THAT HAYHURST CYPRIAN QUEEN.

BY request of friend Hayhurst, I write in July for August GLEANINGS. My experience, however, may surprise him. I have handled black bees nearly all my life, and for several years bred Italians; but the "Hayhurst Imported Cyprian Queen" and her posterity have given me greater pleasure than any other race of bees. I have raised about 40 queens from her this season, and now have 26 hives, each of which contains one of her daughters. A few were fertilized by black drones, and have progeny that defies every thing but a dense cloud of smoke. Veils and soft "leather breeches" afford but little protection from these half-breed Cyprians. If *Apis dorsata* stings deeper, or causes more pain, we have no use whatever for that strain in America.

As regards pure Cyprians, even from the Hayhurst queen, it is but just to breathe another sentiment. My hives sit upon the ground, about ten feet apart, with entrances in every direction. Some of them are in the sun all day, while others are in continuous shade; and, no matter whether the air is full of them during a free honey-flow, or when but little forage is to be obtained, they take no exceptions to anybody's presence, whether hot or cool. You may sit upon a hive with safety while you positively avoid jarring it. In this latter event you will be attacked by a number which can be estimated only by the size of the entrance and the hives from which they issue. With these, the pure Cyprians, I use neither veil nor gloves, and would almost as soon scratch the kicking part of a mule as blow smoke upon them; it exasperates them. Before opening a hive, I am careful to take a position that will not let the wind blow from me on to the bees. The cover is then slowly removed, and after the lapse of a little time the enameled cloth is *very* slowly pulled off. I then wait until the bees on top of frames begin to seek shelter between the combs, and the time has now come when I take one or all of the frames out of the hive, and find the bees evenly spread over the combs. They do not hang from the lower part of frames, and fall upon the ground, as other bees. They are good honey-gatherers, the brightest colored, the quickest motioned, the strongest winged, and the gentlest of all bees, with the most prolific queens. And more than this, both strong and weak colonies have thus far escaped the ravages of the moth here in a country where black bees are now being driven from their combs and brood. I buy the straightest of these wormy combs, and give them to my Cyprians, and they have not yet failed to clean and fill them with brood and honey.

W. MCKAY DOUGAN.

Lenica, Newton Co., Mo., July 20, 1882.

KEEPING THE QUEEN OUT OF THE SURPLUS-HONEY DEPARTMENT.

ARE WE GOING TO NEED JONES'S PERFORATED ZINC?

WILL you be so kind as to give me some information as to what is the best method of obtaining fall honey sealed in body of hive? The season here is short, the bees will not work in the upper story, and it is difficult to prevent them from filling the brood-nest with honey. It does not seem to do any good to extract; they put more in as fast as I take it out. Fall before last I tacked wire cloth over a frame, made holes in it large enough for workers, but not for queen to go through, and hung it in the hive, but it did not do much good, as most of the bees worked in the brood-nest. I think now perhaps I made a mistake in putting it in the wrong place. The frames in my hives extend across the hive from side to side, and not from front to rear, as I suppose those do in the hive you use. I put the frames that I desired for honey in the back part of the hive, then the separator and the brood-nest in front. Would it not have been better to have reversed the thing and put the empty comb in front? I did not know then that any one else had ever tried any thing of the kind, but have seen since that perforated tin separators are much used. What do you think of the wire cloth? Mine was painted green. Is there any danger of poison from that? I suppose another reason why mine did not work well was because I had the holes too far apart.

My brother takes the *Rural New-Yorker*, and the editors promised, some months since, to give Mr. Jones's plan, which has proved so successful, but it has not appeared yet, so I thought I would write to you. There is generally a failure of honey here from the middle of this month till the first of Sept. Ought the bees to be fed during that time? What causes bees to cluster on the outside of the hive? One of my swarms was at that nearly all of last month, but did not swarm, though the hive was crowded with bees. I divided them, but that did not break up the habit with the new swarm. My hives have a broad board that lies flat on the top of the hive, and is used as a cover for the upper story; also when it is on, should there also be a cap to protect from sun? The bees glue the board tight to the hive, and it makes them very mad for me to try to get it off. You must have patience with my inquisitiveness. I think I am about fifty years behind the times in bee culture. MARY B. CROCKETT.

Wytheville, Wythe Co., Va., July 12, 1882.

It seems to me, my friend, you suggest the remedy in the former part of your letter: use the extractor. If they fill the combs with honey just as fast as you throw it out, what more can be desired? The bees will fill a comb with honey quickest when it is put next to the brood. I have no doubt but that your wire-cloth sheet would answer, if there were great numbers of holes made; but as this would be rather difficult and laborious to make, the perforated sheet zinc that we advertise will be much cheaper and better. I believe the purpose of these metal division-boards is to keep the queen from the combs or sections, where we have surplus honey only. Very likely we can keep out the brood without any trouble, but I feel pretty sure that combs next to a brood comb would contain some pollen. Although we

have sold quite a quantity of this sheet zinc, we have as yet had no reports of it for getting comb honey in the brood-nest, that I know of. Will the friends who have tried it please report? By all means, feed the bees at any time during warm weather when they can get no stores. Clustering out is a sort of habit bees get into when strong; *i.e.*, if they cluster out when they have plenty of room in the hive, and honey is to be had in the fields. If the other means fail, recently given, divide the colony. If as you say, divide again the part that persists in clustering out. When they have only bees enough to cover a couple of frames of brood, they will be pretty sure to stay inside and go to work. To be sure, it makes bees very mad to pry off the honey-board, and this is one reason why honey-boards have been abandoned in favor of the enameled sheets. Never mind if you are behind, my friend; we are all behind, more or less. Inquisitiveness is what we want, if it is followed up by making a good use of all we learn.

STRAW - HIVE AND BEE - SHED MEN AHEAD.

IS IT CHAFF HIVES, OR CELLARS?

I DISLIKE to acknowledge it, but the truth should be told, if it is *not* very pleasant; so, here it is: We who advocate cellar wintering and outdoor summering of our bees, are this season coming out second, third, or fourth best. That may not be the case in all parts of the country, but it is so here in Northern New York. Our bees all wintered well; and when we brought them out of the cellars last April, our prospects for a good honey crop were never brighter. But, April was cold, and May was colder, and June was — not quite so cold as May, but yet too cold for the bees to do well. I united swarms the 24th of June that did not have a single ounce of honey in their cells, and now in July, with white and red clover, and locust-trees in full bloom, I am feeding them to prevent their starving. I do not think that there is a hive in my yard as heavy as it was when I brought it out three months ago today. Among all of my acquaintances who winter in cellars, and let the hives stand in the open air the rest of the year, there has not been, so far as I have heard, a single new swarm hived, and we all let our bees swarm if they will.

Now for the other side: The one bee-keeper of this town who keeps his bees in straw hives, and both winters and summers them in an open shed fronting the east or south-east, began to get new swarms the 3d of June, and has had them every day or two since that date. The others who also keep their bees in sheds fronting the south or east, have had some swarms, though perhaps not quite so many as usual. Now, I may be wrong; but I believe that our bees were at least as well off in our cellars as they would have been in sheds through the winter; but I think that, in such a season as this, our hives need protection from the cold all through the spring, if not all summer. And the question now arises, What shall we do about it? Is it best to split up our nice Simplicity hives for kindling-wood, as you advise us to do with patent hives of all kinds, and go back to the old round-top straw hive, without frames, or

any place to put on sections? I don't think it is, nor shall I go to building chaff hives till I have had a chance to use my new *Simplicities* at least one season. The best plan that I can think of is to warm up my bees by putting straw mats, chaff cushions, or felt paper, around them while they are out of doors; but in winter, I believe yet there is no safer place for them than the dark, quiet corner of my cellar.

Prospects are a little brighter to-day, July 4th, for the weather is warm, bees are working, and I have had two swarms. Both came out of old patent hives, the kind you recommend so highly for kindlings. I have only four of that kind in my yard, and nine *Simplicities*; so you can see which are ahead. If I had strictly followed the rule of "Square Root," transferred the bees during fruit-bloom, and destroyed the old patent hives, perhaps I should have had earlier swarms, and more of them.

J. W. HARKNESS.

Keeseville, N. Y., July 4, 1882.

Don't be in a hurry to arrive at conclusions, friend H. Last winter was an exceptional winter. By no means throw away your *Simplicity* hives. Keep them for summer hives; and when it comes winter, double up and winter only in the chaff hives. Almost every apiarist will find use for half as many more hives in the summer than he needs in winter.

FRIEND MALONE'S 25 YEARS OF BEE-KEEPING.

A SWARM OF CYPRIANS 4 FEET LONG, ETC.

I HAVE been keeping bees for 25 years. Bees are a great favorite of mine. Twenty-two years of that time I kept them in box hives; didn't know any better. I got up to as many as 12 stands twice in the 22 years, and lost all I had, twice. In the fall of 1879 I got a stray number of *GLEANINGS*. It gave me the bee fever. I got the A B C, and that made the fever worse. I went to work and made 15 hives that winter. My wife and neighbors wanted to know what I was going to do with so many hives. I said, "Put bees in them." They would say, "Don't count your chickens till they are hatched." They "hatched," and I have 26 hives of bees to-day, all in frame hives, with straight combs, and how they swarm! and such big swarms as my Cyprians send off, I never saw before. One swarm was 4 feet long, and filled a 2-story hive. They swarmed the 17th and 21st. Four days after, I extracted 20 lbs. of honey from upper story, and the lower one seemed to be full too.

I fed ten colonies extra, to satisfy myself if feeding would pay. From those 10 I am getting my honey now; I have got 200 lbs. of extracted honey from 5, and 5 I fixed for comb honey; these won't go into the boxes; but, oh how they swarm! I like the Cyprians best — better than the Italians; they fly off the combs and go into the hives better than the Italians, and while extracting I can see a big difference in the amount of honey in the combs. When extracting, I find a ready sale for my honey at 50 cts. per quart in Mason's quart fruit-jars, jar thrown in. The honey is linden and white clover mixed, and is very thick. I extract before it is sealed, and it weighs 3 lbs. and 3 ounces per quart. I fed 30 lbs. of sugar to those 10 colonies, and have taken \$24.00 worth of honey from 5 of them, and have 6 swarms

from the others, and linden harvest about half gone. With sumac, smartweed, buckwheat, and other flowers to come yet, look out for a big honey crop in Iowa this fall. I have lived here for 25 years, and never saw a wet season yet without a big honey flow from smartweed.

DOLLAR QUEENS OR TESTED.

The first Italian queen I ever bought was a tested one; the second one was a dollar queen from Hayhurst; that proved to be worthless. But I knew the terms before I bought her, and was satisfied with her. But I thoughtlessly told you about her, and mentioned friend H.'s name. As soon as he saw what I said, he sent me a card offering to replace her. That one offer placed confidence in me toward friend Hayhurst that will be hard to move. I accepted half the offer, and then bought a Cyprian queen of him. Now, what I want to say is, that the queens that I raised from that dollar queen are worth twice as much as those raised from the tested queen, and I have that dollar queen yet, and this summer she is second to none of my Italians.

THE NEW BEE DISEASE.

I noticed something in June and July *GLEANINGS* about a new bee disease. I noticed the same thing among my bees exactly; but as soon as linden came in bloom it disappeared. I think, from what I could find out, they found some poison honey-plant, and I think it was the milkweed. I examined it closely, and found bees on it, acting like those at the hive. I may be mistaken, but think not.

Just one question, and I will stop. You say, in the A B C, that after-swarms are led off by virgin queens; do they mate before, while, or after they swarm?

WM. MALONE.

Oakley, Mason Co., Iowa, July 21, 1882.

Thanks for your report on the Cyprians, friend M. That four-foot swarm must have hung down pretty long, I imagine. Three lbs. and 3 oz. to the quart would be nearly 13 lbs. to the gallon, and that is pretty thick honey for that extracted before it is sealed up. Virgin queens do not go out to meet the drones, usually for several days after the swarm issues; but they may go out, the same day, in extreme cases — never before, I believe. I don't think your sick bees had any disease, friend M. It was doubtless the milkweed-pollen trouble, pictured in the A B C.

TEXAS AND THE IRREPRESSIBLE HORSEMIINT, ONCE MORE.

WHAT THIRTY STOCKS DID IN ONE MONTH.

BEES are making some honey now from cotton and melon blooms. I will send you my report for the month of June. I had 30 stands of bees in good condition the first day of June; as the horsemiint was very fine, and more of it than usual, I thought I would try and see what I could do in one month; so there was not a cell of honey in the upper stories on the first day of June, and the last day of June I finished extracting, and I got *only* 2270 lbs. in one month from 30 hives. How is that for Texas? I have one hive of hybrids that made 143 lbs., and others that made 100. I have hives that were May swarms, from which I got 75 lbs. of surplus. All this was in one month. I kept my bees very strong by returning all after-swarms to their parent hive. As soon as the swarm would come out I went into the

hive they came from, and destroyed the remainder of the queen-cells, and brought the swarm back and threw them down at the entrance, and went along about my work, and that was the last I would notice them until I went to extracting. By so doing I had the bees to make the honey when it came in the blooms. For the surplus chamber I get common lath, and I find the wide frames a great deal better to extract from than narrow brood-frames. When one of these frames is full and sealed half over, it will make 9 lbs. of honey.

Sherman, Texas, July 22, 1882. H. D. HEATH.

INCESSANT SWARMING, AND HOW TO STOP IT.

SWARMS GOING OUT AND COMING BACK; ETC.

THE swarm that came out the 1st of June has filled the lower frames, and commenced in the sections. A swarm from another hive the 12th of June has filled the lower frames, and commenced in the sections; besides, we took one frame of brood from them to put in another hive. The bees had to build all their own comb in the frames without foundation.

HIVES OF DIFFERENT SIZES — DISADVANTAGE.

We had one swarm go to the woods with a nice old queen. They came out of the new hive the next day after they swarmed, and clustered, and we put them back; but we did not have any brood or comb to give them, for our new hives are not quite the size of our old ones. Our new ones are the Langstroth, and we are going to get all like them after this. The next day, they came out and took a beeline for the woods. I never had clipped a queen's wing, and was afraid to try, but now I wish I had.

DO SWARMS COME OUT AND CLUSTER WITHOUT A QUEEN?

We had an after-swarm come out the 8th of June. They clustered all right about 4 rods from the old hive. We got them into the swarming-box, and shook them in front of the new hive on the sheet. At first they seemed to be going in all right. After awhile they rose and flew away. We followed them about half a mile, and lost sight of them; then I came back, and found a queen, almost dead, on the sheet. Mr. H. found the bees a few rods further on, clustering on a sapling. After they had all settled, he cut it down and brought the bees and all to the house carefully. This time we put them in at the top of the hive, and spread the sheet over it until they would crawl down among the frames; but they did not go down among the frames—they clustered up on the sheet. Toward night I gently put the sheet down on the frames inside of the top. They made their way up around the sheet, and clustered on the cover, and hung there until the next morning. Then we shook them in front of the old hive. They crawled in all right, and stayed there. They swarmed out again in about two weeks, and we lived them, and they are doing well now. One of our neighbor bee-keepers says they had two queens, one besides the one they left on the sheet, or they wouldn't have left and clustered again. If they had another queen, why did they act so after we put them into the hive again? We have had two after-swarms come out and then go back into the old hive. The first one came out, and we thought they were going to cluster on a tall tree near by. Before the bees were all out of the old hive they

started to go back; they were going in and coming out as fast as they could for a few minutes, but soon they all turned and went back. Once they came out and clustered, and we put them down before a new hive, but they would not go in; they went back to their old home. They came out and went back without clustering, 3 times. I watched them closely, and could not see any queen either time, coming out or going in. Finally they came out, and we got them hived all right, and gave them a frame of brood. They have filled 3 frames with comb, and seem to be doing well.

A swarm came out the 3d of this month, and clustered. We cut the limb off, and let it down in front of the hive, and thought the bees were going in; but the first we knew, they were going back to the old hive. These did not all rise at once and go back, but went a few at a time at first, then began to go thicker and faster until they all got back. We did not see any queen. Will you please tell us what you think about it? We are watching for them to come out again, every day. We had 3 colonies this spring, and now we have six. They are the common black bees. MRS. S. R. HUNTER.

Kendalville, Iowa, July 10, 1882.

Swarms will come out and cluster, without a queen; but they will seldom stay clustered more than a few minutes. I think about a quarter of an hour is as long as I have known them to stay away. Very often they miss their queen, and come back without clustering at all, as in the cases you have given us. It is because of such mishaps and delays (which are very annoying when one is hurried), that I have so strenuously advocated giving every swarm a comb of unsealed brood. This will hold them anywhere, queen or no queen, and in a very few hours you can tell whether they have a queen or not, by looking to see if they have started queen-cells. Where a swarm keeps coming out and going right back again, as in the case mentioned, as soon as you see them starting out again, move the old hive away and give them a new one with the comb of brood, and swarmed they are, in spite of themselves. As a continual swarming is a great waste of time, both to the bees and their owner (for they will often gather no honey for a whole week, right in the height of the season), I would by all means stop it at once by the methods I have mentioned. When a colony wants to swarm, make them do it up and be done with it. Putting them back is seldom of any use, unless the hive is moved to a new location, or something of the kind.

L. L. LANGSTROTH.

IS HE FORGOTTEN BY HIS FRIENDS?

I RECEIVED a sample copy of the *Kansas Bee-keeper* yesterday, and on examination I find a plea in aid of L. L. Langstroth, now of your State, by Mr. Pond, Jr., who states that Mr. Langstroth is now unable to work, and is on the charity of others. He also claims that Mr. L. is the inventor of the movable-frame hive, and had it patented, but that he was robbed of much of the benefit by unscrupulous parties who set up false claims for themselves, and even asserted that L.'s was nothing but

an imitation of some previous hive. Now, let us have the whole truth about Mr. L., his claims to the invention, and his present needs. I am a little bee-keeper, with only five hives stuck up on a roof in Baltimore. This is my second season; commenced with one, but I am willing to contribute my mite in aid of this old man, if his claims are just. I believe they are just, for I have heard more of him in connection with bees than any other man. I know you are as "busy as a bee," but I want you to spare a little time to look into this, and join your voice as a "leader" in this call for aid. Organization is what is wanted. Let some one take the lead to receive funds, and stir up the bee-men. I propose that it shall be a monthly contribution, of any amount from 25 cts. up; just what each bee-keeper feels able to contribute. It needs, for success, the aid of some or more bee journals, in which appeals can be made, and sums acknowledged once a month. GLEANINGS is just the journal for it. You can squeeze out some garrulous letter-writer, and give the place to this cause. I think you are able to pick out some good bee-keeper who has the time, and will take an interest in this work of love and gratitude. Will you do it? I hope so. C. GARWOOD.

Baltimore, Md., July 31, 1882.

Friend G., I thank you for your kind remembrance of our old friend; but had you been a reader of GLEANINGS for past years, you would have seen that this matter has been frequently brought up. Several years ago I suggested that we wanted, not occasional donations, but that we pledge ourselves to send so much a year, as long as Mr. L. is here among us. I have for some time past been accustomed to send him \$10.00 the first of every January; and if somebody else would send as much in February, and others in March, and so on, we could, with little expense, keep him in spending money the year round. Of course, let each one send as small a sum as he chooses, but let it be so much a year, and send it directly to him. I am glad to say that my good friend Pond is a little mistaken in saying he is on the charity of others. He is living with his son-in-law, who is, if I am not mistaken, in fair circumstances; still, if any one feels that he is indebted to friend L., and wishes to send him a little token of his appreciation of the services he has rendered, it will be received in the same kind spirit. I do not know who are sending him a sum of money yearly, but it were no more than fair we should know something about it; so let us have the names in print, and the amount you agree to give each year. In regard to the patent: so much has been written on the matter in years past, I do not think it wise to take it up again. No one man invented the steam-engine, and no one man invented movable combs for bee-hives; but friend L. did do more, I think, all will agree, to introduce movable combs, and make them practicable for the masses, than any other man that ever lived.

In memory of this service, we, whose names appear below, do feel it a pleasure and a privilege to give, each year, so long as our old friend and benefactor is spared to us, the sums set opposite our names: —

- A. I. Root.....\$10 00.
- C. Garwood.....— —.

Now, friends, I have started it for you, go

on. Other journals can have a similar list, if they choose, and we shall soon see how large a life annuity we can make up. To show you that friend L. is in fair health, for him, and at least able to express his thanks to all who thus remember him, I give the following from a postal card recently received from him: —

Accept my thanks for the beautiful new copy of your A B C of bee-keeping, which I value highly. Bees in my vicinity have no sealed honey, and only a few days' supply. In my experience of 45 years, I never knew such a honey famine. Abundance of clover bloom, but next to nothing in it. My health is improving some. Truly your Friend,—

Oxford, O., July 26, 1882. L. L. LANGSTROTH.

"Forgettery,"

Or Department for those who don't Sign Their Names.

I SENT you 88 cents in postage-stamps two weeks ago; if not received, will you please notify me of it? I sent for two 55-cent knives, and a pen to write with clear water. JAS. CURRY.

Nebraska City, Neb., July 17, 1882.

On receipt of the above, we of course made search; but nothing could be found of any James Curry, and we were obliged to write him as follows: —

We can not find that your letter ever reached us, friend C. May I suggest that you did not address it plainly? We can not now make out what you ordered, and your writing is very bad. See what we say in price list about risking money.

About the same time came a notice of a letter at the Dead-Letter Office, detained for insufficient postage. We sent on the required amount, and the letter came; but after it got to the Medina office, the address was so bad it was delivered to another party. In course of time, however, it got around to us; but after it did come, behold, the writer had not signed his name! Here is the letter verbatim: —

New braskey sity June 26 1882

Dear sir friend rot
pleas find in closed 88 ct for 2 knives hand forced
razor steal blades and 1 pen to rite with Clear water
i beleive this is corect i havent got your catalog A
long with mee

Of course, we went to our subscription list and found the letters of all subscribers at Nebraska City, but none of their handwriting was like this. It was pretty clear that our friend at "New braskey" was not a subscriber. Just at this crisis it occurred to me there was something familiar about that expression, "A pen to write with clear water," etc. I mentioned it. "Oh, yes!" said one of the girls; "it is the man who complained on a card, and I know right where it is." In a short time we had his two knives, and his "pen to write with clear water," on the way to him. Now for the moral. Our good friend, who calls me "dear editor" and "friend Rot," first wrote his letter without signing any scrap of a name to it. Next he addressed it to Mrs. A. L.

Root, Medina, Ohio. Then he put on a one-cent stamp. It went to the Dead-Letter Office; then it came to Medina, and was given to my mother, although it was not quite her initials; and when we finally got it, it had no name to it! By this time his postal card of inquiry had reached here, and we happened to remember it because of a peculiar phrase in it. Do you wonder that letters get lost?

We have one word of praise for you, however, friend Curry; you did not get cross, and accuse somebody of cheating you; for even in your complaint you say "dear editor." Now, my friend, would it not be a great deal easier for you to have some little gummed labels, with your name and address printed on them neatly? Stick one on whatever you send away, and you need never write your name any more at all; no, not even "New braskey" where you live. We will print 250 such labels for only 50 cents.

The "Smilery."

This department was suggested by one of the clerks, as an opposition to the Growler. I think I shall venture to give names in full here.

WELL, well! You are a "funny" one, sure enough. You say, in communication, "We ship closed-top sections because you have heretofore ordered 1½-story hives, and also some crates." Good thing you don't keep halters up there, for if we should order one next time, who knows but you would send a "hoss" to fit the halter? About one-fifth of the sections are worthless to us—too rough, and break up badly; but then, we are into honey "up to our eyes" down here, and don't have any time to growl. Crates and top boxes are boss. Then the 3-cent glass-cutters we got some time since work just so nicely that we feel like praising you every time we handle them. Keep the ball rolling, and may the Lord continue to prosper you in "all things." D. H. TWEEDY.

Smithfield, Jefferson Co., O., July 15, 1882.

To be sure, we are going to have halters, friend T. We have almost had them already. We wanted good ones for a dime, and they wouldn't give them to us; but you see if we don't have them. If we had good reason to think you were suffering for a "hoss," I don't know but we might send him with the halter, especially as we know you are a good "square man." We really didn't mean to send you any thing you did not order; but if we did, I am real glad we hit it right. What you say about the sections don't seem hardly the thing for the Smilery, but I don't know but we might as well smile as do the others. I rather surmise it was because we were "up to our eyes" in sections about the time your order came. Charge us for the one-fifth, and we will do better next time. We are now talking of having the sections graded, and charge a little more for those all nice, and a little less for those that—"aren't." Permit us to return your kind closing remarks, friend T.

BEES ARE ON THE "BOOM."

Linn commenced to bloom on the 2d inst.; and every day since, the bees have rolled in the honey at a great rate. The little "pets" can hardly get to their hives, so heavily laden are they. It makes us feel good all over to see them come in with their great loads. E. W. FITZER.

Hillsdale, Mills Co., Ia., July 12, 1882.

SOME HONEY-PLANTS FROM NEW JERSEY.

ECHIU, BUTTON-BUSH, SUNFLOWER, MIGNONNETTE, AND BORAGE.

WE have neither white clover nor basswood in our immediate vicinity, yet there is fair forage all the season from a great variety of trees, shrubs, and wildwood flowers. The principal honey-plant up to the present time has been the *echium*, or Viper's bugloss, a kind of boragewort which farmers call a noxious weed. It seems to thrive in the most barren, sandy fields, and blooms well from May till August. It was introduced here by fertilizing a buckwheat patch with nightsoil, and has now, in three years' time, spread over several acres. The honey from this weed is deliciously flavored, and of bright amber color.

All along the brooks and ponds, and within a radius of a mile from my bee-yard, are acres of button-bush. The low land is fairly white with their bloom. This is a common shrub—*cephalanthus*, from the Greek *kephale*, or head, and *anthos*, a flower—and found all over this country. I consider it an excellent bee-plant. Bees work on it all the day long. I wish you could have seen my bees this morning at sunrise all lining for the brook and ponds; even the little 2 and 3 frame nuclei seemed to send out about two-thirds of all their force pell-mell to the low lands. There is a succession of bloom too. While some of the heads are out, others are coming on.

I planted some Russian sunflower seed for poultry feed, and I believe this variety is no mean honey-plant. I have watched the operations of bees on them for several days now, and always find them there gathering both pollen and honey, and have frequently seen half a dozen bees on one disk.

I do not allow any grass or weeds to grow in my bee-yard; have only the smooth, clean, sandy surface, with alighting to the ground. Ants love to burrow in this sand, and also love to steal honey, and they annoyed me and the bees very much until I tried the cook's good old way, and sprinkled salt over and about the bee-hives, everywhere on the ground, and placed an extra pinch in their burrows. Somehow they don't like salt, and will at once prepare for a general exodus.

I had no shade for my hives, and I found that the reflection on this bare sand made it hot, generally, for the bees, and this I remedied by planting early some Mammoth Russian sunflower seed about the hives. They grow ten or twelve ft. high, and you can trim the lower leaves up and make aisles for yourself and bees, to suit all necessary operations. They keep the ground and hives cool, and do not interfere with my work among the bees. I think they would be excellent in a yard of Cyprians or hybrids. Have a Bingham or Little Wonder smoker, and go in for them. If you get just a little mad, the smoker will begin to blaze, and you'll scorch the wings off the first legion of furies, and when the rest get used

to the fire and smoke of battle, and mean business, you can stand coolly by the sunflowers, and there will be such a similarity between your straw hat and their disks, that it will be about as bad for the sunflowers as it is for you.

I don't know what soil is best adapted to mignonette; but it grows luxuriantly on this Jersey sand, and yields lots of honey. There have been about 25 bees on an average, daily, from sunrise to sunset, on a plat of five square feet, for two months now. There are 43,560 sq. ft. in an acre, so there would be 217,800 bees continually at work on an acre of mignonette.

Borage is a good bee-plant with us. There is a good succession of bloom. I find about 10 bees to 5 sq. ft. as above, or 87,120 to the acre.

These plants I have near my bee-yard, and still I have not often seen an Italian bee either on mignonette, borage, or sunflower. Not one in a hundred of the bees visiting these plants was an Italian; but from a half to two and a half miles away I can always find plenty of them. S. J. H.

Spotswood, N. J., July 25, 1882.

Thanks, friend H.; but I hardly think I should be satisfied with the number of bees on an acre, you mention. According to the latest observations, there are about 4000 bees in a pound; and if each colony sent out 5 lbs. of flying bees, your acre of mignonette would keep only a little over 10 colonies busy, and the borage a little over 4. Our Simpson plant would, I think, keep more than double the number of bees you have mentioned on the mignonette. Sunflower has been visited so seldom by the bees of late years, we have discontinued its cultivation.

BASSWOODS.

SOME ENCOURAGING WORDS FOR RISING GENERATIONS.

IN JUNE GLEANINGS, friend Holke gives a very good statement of how basswoods can be grown from cuttings, in a propagating house; but not every one has such a structure, and it would hardly pay to build one just to start a few basswoods. We have grown a few in the open air very successfully, and give the *modus operandi*.

Here let me digress a little, and say that nearly all trees, vines, and shrubs, can be grown from cuttings, if proper care be taken, some from ripe and others from green wood. All having soft, or open cellular wood, such as all the willows, all of the poplars, mulberries, and many other trees, grow readily in the open air, as do almost all grapevines, roses, currants, gooseberries, arbor-vitæ, etc.

Ground should be prepared in the fall, and should be deeply plowed or spaded. Cuttings should also be made of well-ripened wood, and should be from 6 to 8 inches in length. Tie in bundles, and bury in dry, sandy soil, out of the reach of frost. As soon as spring opens, the ground should be thrown into beds about 6 feet wide, and the soil made mellow by frequent raking with a rake having long iron teeth. The cuttings should be pushed into the soil so that the last bud is even with the top of the bed. Use a board about a foot wide, place it on the bed, and stick the cuttings along its side about three inches apart; when you have a row complete, turn the

board forward, and stick another row, etc. Keep the beds free from weeds; and if soil is liable to bake, mulch with half-rotted tanbark, sawdust, or, what is better, decayed straw or marsh hay, if free from weeds. Treated in this way, 75 per cent of cuttings should make a good growth.

Were we going to start a basswood nursery, however, we should prefer to set roots. These can be procured very cheaply in any basswood country. I have 20 acres of woodland which we use as sheep pasture, and I presume the sheep destroy 100,000 young basswoods every year. Take young trees, from one to three feet high; remove from woods, taking pains to break the roots as little as possible. When ready to plant, cut the tops off to within an inch or two of the crown, and they will throw up a strong shoot that will make a growth of from 4 to 10 feet the first season.

I was much amused at friend Root's idea, that the section business would soon use up all the basswood. Why, friend R., enough basswood is burned in log-heaps in Michigan every year, to make sections enough to last a century. The section business, although it may look large to you, is very small compared with some others. Right here in our little town, as much as 500 or 600 cords of basswood bolts are cut into heading for flour-barrels some years, and such mills are scattered all over the State, and yet there seems to be enough basswood lumber at \$12.00 per M., the price asked for it 20 years ago when I was a boy. We estimate that there will be enough to last for sections for a couple of thousand years; then snow-white poplar, and the beautiful white spruce, will come in; and after that, soft maple can be used, it being as white as basswood, and has not that disgusting smell characteristic of basswood. When this is gone, no doubt but that some genius will invent a process for making sections out of straw that will throw those now in use all in the shade, and our rich Western prairies will no doubt furnish enough straw for 3 or 4 millions of years yet, by which time you and I will be gone, and the present style of sections discarded. Don't borrow so much trouble, my friend.

Plainfield, Mich.

F. L. WRIGHT.

Thanks, friend W. I presume it is very likely that basswoods can be procured cheaper from the forests than from any other source, unless a very great number is wanted, and then I think cuttings will be perhaps ahead of those raised from the seed, or even those procured from the forests. Another item needs consideration. Just now it would be very desirable indeed to have a forest of basswoods that would yield honey all through August. That this is possible, you may almost any of you assure yourself by going through the woods about the time basswood fails, and seeing what a great difference there is in different trees in the time of blooming. Well, just get your cuttings from the tree that blooms the latest of any one you can find, and your late-blooming forest, raised from cuttings, is quickly within your grasp. I think it very likely I have been a little too fast in anticipating trouble; but I am sure that the quantity of basswood cut off in Medina Co. will very materially damage the honey crop. I, too, have thought of card and straw board, and things of that kind; but I have as often computed how much cheaper is the bass-

wood, and concluded our best thing to do is to get to work and raise more trees for both honey and lumber, for the great unknown generations of bee-keepers in the future.

FRIEND CHILDS' SECRET.

HOW TO PREVENT NEW SWARMS FROM ABSCONDING.

NOW, "Uncle," were you ever so hurried that you had not time to be honest? Well, that has been my fix since I received those separators, until now; but I have thought of it, and would think I could get time to-morrow, and so time sped on. It is raining to-day, and I am not sorry, for it gives me time to pay you, and also to make up a lot of fdn., which I needed very much, but could not make it while the bees could fly, for they would not only get into the melted wax, but would swarm and swarm again, and I am tired of it, with cutting out queen-cells, and putting back second swarms, and still they come just when I want to do something else. I am up, generally, before four in the morn-ing, and busy until eight in the evening, hiving them, cutting out queen-cells, then putting back the swarms, taking off boxes and filling in others, tacking in separators, putting up boxes, fixing up stands for bees, etc. Oh! by the way, let me tell you one secret, so "keep dark."

When you have a very heavy swarm, you just put them inside of a large box, like a dry-goods box, with a portico two inches wide, the length of the front of your hive. Raise it high enough for the bees to go under; fix a good alighting-board and a good cover (I use loose bottom and cover); now set your swarm in, as soon as hived; if the weather is warm, do not have more than two thicknesses of burlap over them; now turn your cover over so that it will not cover more than one-half of the burlap; put on a little strip of a board on the other edge of the burlap, to hold the edge down; let them be for a few days, and that swarm will stay; at least, I never had one leave that was in that shape, and I have hived hundreds in that way. I make my outside boxes, then they are all ready to pack the chaff in, in September.

I have never tried cellar wintering. I try to have hives and outside boxes on hand when needed, but I ran out last Friday, and had 7 swarms that day — had no outside boxes for three, but left the covers partly off, and the burlap. I tried to shade some with boards, but one swarmed out the next day. I then hived them and covered them, and they were all O. K. They made a straight walk for the woods when they swarmed out, but they ran against my sheet on a pole, and concluded to turn and alight on the nearest apple-tree.

A DECOY FOR SWARMS.

My bees now have a choice of what tree to alight on. Many alight on apple-trees, some on currant-bushes, two in some brush I had piled, some on a little cedar-tree, one on a basswood, and one on corn; but the "captain" is a little balsam-tree not much higher than I can reach. I took some little dead branches and tied them in a bunch about the size of a small swarm of bees; they have turned yellow, and you could not tell them a little way off from a swarm, and they have fairly rushed for that tree, and I can not tell the number I have hived from it.

I have been very lucky in securing the swarms. I have had only two that mixed together. I have managed, with flag and sheet, to keep them apart.

Amherst, Wis., July 29, 1882.

J. CHILDS.

As I understand it, the "secret" seems to be in keeping the sun from the hive, and giving the new colony plenty of air. Very likely, many new swarms abscond because their quarters are too warm and close. They pant for the leafy shade and the cool breezes of the forest. The matter of decoys for swarms was much talked about several years ago, when friend Jones's automatic swarmer was up before us. Friend Childs, with your decoy tree you could make the Jones swarmer a success, without doubt. Just fix it on a balanced pole; and when a swarm alights on it, it will dump them down before the hive prepared for them, just as surely as "falling off a log."

THE POOREST SEASON IN 17 YEARS IN MASSACHUSETTS.

ALSO SOME OF FRIEND POND'S OBSERVATIONS AND CONCLUSIONS.

DURING seventeen years' experience in keeping bees, I have never seen so bad a season for surplus as the present. I put six good colonies into winter quarters, on their summer stands, in single-walled hives, and they all came out strong in the spring. Spring opened favorably, but the prospects of an early season were soon changed. Fruit-bloom was two weeks late, and yielded but little honey. By stimulative feeding, the production of brood was kept up, in order that stocks might be very strong, when white clover, which is the main stay in this section, came into bloom. Exceedingly dry weather and cold nights until the middle of July prevented comb-building to any extent, and for that, or some other reason, clover did not seem to yield any nectar at all. The result is that my colonies are all very strong; yet, while they have gathered stores enough to nearly winter them, no surplus has been obtained; in fact, the bees could not be induced to work in surplus boxes at all, even when put in the sides of the brood-chamber. Brood sufficient to enable me to at least double my colonies was produced, but the attempt to fertilize queens has proved a failure, owing to the bees killing off the drones as fast as they were hatched. I tried for 26 days to have queens meet drones; but although they flew out every day, they came back virgins still. I am not, however, a candidate for the "Blasted Hopes" column, by any means; for I shall continue on, hoping that the next season will give me my turn. The pleasure I receive in working in my little apiary is compensation, although I confess I should be better satisfied with something a little more substantial.

THE POLLEN FROM THE MILKWEED.

I have noticed my bees of late dragging out of their hives every bee that came home crippled with pollen from milkweed. This I have never before seen, neither have I heard or read any mention of it. Whether it is an unusual thing or not, I do not know; but if usual, I should suppose that some one would have seen and written of it ere this. The bees seemed to have as great an antipathy to these poor crippled sisters of theirs as they would to a robber bee; and as this same condition of things ex-

isted in every hive at the same time, I must assume that this crippled state was the cause of their being savagely pounced upon and removed.

TWO QUEENS IN A HIVE.

This season gave me my first experience with two queens in one hive living with perfect harmony and accord. On the 15th of July a swarm issued; was hived, and placed on its stand, but in a few moments every bee struck out for home again. I at once opened the parent hive, and found the old queen and about 20 capped queen-cells. Not wishing that particular colony to swarm, I, as I supposed, destroyed all the queen-cells; but I must have missed one, for on the 22d I opened the hive and found the old queen and a young one, apparently a day or two old, both on the same comb. They were both traveling around as though this were the regular way; and although I forced them so closely together that they touched one another, no antagonism was shown by either. Upon examining the virgin queen further, I found she had a defective wing, and I therefore destroyed her. I shall experiment with this queen, and perhaps I may find that she will allow another daughter to remain with her after fertilization (if I can get a supply of drones), and thus have an immense colony by reason of double production. That this is not a case of bees superseding a worn-out queen, is proved by putting a frame of fdn. in the hive in place of a full frame, and the queen has filled that with worker brood.

DECIDING THE SEX—DO THE BEES OR THE QUEEN DO IT?

Whether bees can change the sex of eggs or not after they are laid, I can not tell; but I don't believe in the compression theory yet. I have now a frame of comb built up from worker fdn., in which there is not a single drone-cell, and which, since it was fully drawn out, has been filled with brood. When the eggs were first laid there was no difference in appearance of any part of this comb (the comb in the hive was all built from worker fdn.); but when the cells were capped, about 50 on each side of the center proved to be drones. I pulled some of them out, and found them very small; and, having no use for under-sized drones, I shaved their heads off at once. Now, if compression causes the queen to lay worker-eggs, these eggs were all worker when laid, and were changed in sex; but I believe yet that compression, so far as the size of the cells is concerned, has nothing to do with the matter, but the sex of the eggs is entirely at the volition of the queen; and in this case, as there were no drone-cells for her to lay in, she deposited drone-eggs in worker-cells simply because she was obliged to. Now, who can prove the contrary?

FERTILE QUEENS GOING VISITING—FURTHER FACTS.

Since finding the queen balled outside of the hive, referred to in article in August GLEANINGS, I have seen another straw which tends to show that fertile queens do sometimes go a visiting. On opening a hive I could not find the queen at all. I searched carefully, but could find nothing of her. Just as I had given it up as a bad job, and was closing the hive, thinking I was a nice queen "out," back she came from flying somewhere, sailed in on top of the frames, and down she went into the brood-chamber; this was the same queen before mentioned; she could not have been on the frames when I opened the hive, for I took them out and looked them over carefully and set them in another hive, and looked them over equally as carefully when I returned

them, so she must have gone out on an excursion, and this time without a retinue accompanying her, sure. I give the facts and my own conclusions. Others may differ; still, I shall hold to my opinion until I see a better reason, and especially when I see a solution of mysteries related by careful observers, which mysteries can not be explained in any other manner. Brothers, if we can't agree in our conclusions, let us all agree to differ, and each of us strive to ascertain the truth.

J. E. POND, JR.

Foxboro, Mass., August, 1882.

Friend P., you will find the milkweed pollen described and illustrated in the A B C, but I do not know that I have before heard of the bees carrying out all those thus fettered.—Two queens in a hive, especially a queen with a laying daughter, is not a very unusual thing, as many of our friends have found to their cost, after losing queens they were trying to introduce. After having caught and destroyed one queen, they naturally supposed the hive queenless; but I tell you, friends, my oft-repeated injunction, to make a colony start queen-cells before you decide it to be queenless, is a very safe one. Where I find a colony with an unusual amount of brood, I usually look for two queens, and I am seldom disappointed.—In regard to workers being able to decide the sex: Ernest has just brought me a frame having strips of worker brood attached to cross-bars all over the frame; and along the lower edge of every strip are rows of drone-cells. The brood was taken out of a comb having worker-eggs evenly and regularly laid on fdn. All that remained in the hive, in the comb it was cut out of, has been capped as worker brood. Will friends Peters and Dadaut try the experiment themselves? and if they find they are puzzled, will they be so kind as to stand up and say so? I know that we often find a drone-cell in the midst of worker brood, even on fdn.; but young queens do not often lay many drone-eggs the first season. Is it not possible that the extra food given a worker near queen-cells may sometimes destroy the spermatozoa, causing the egg to mature as a drone? I hope my good friend Peters will not think I have got into one of those "mental relapses" again.—Friend Pond, in regard to that matter of old queens flirting around out of doors, I should like to ask if you may not by some mistake have been watching a queen that was not fertile? Did you see her go down into the hive and take up her neglected work of egg-laying that surely must have suffered from such spells of absence of doubtful propriety? Will you please make sure on this point? It should be borne in mind, that we know queens do not generally have such freaks as this, because thousands of them have their wings clipped, and yet are found always at home for one, two, or even three years. True, they may occasionally take a promenade or two on foot, but it can't be a very common thing, as it seems to me.—In regard to your poor season: Are you sure, friend Pond, that Doolittle would not have secured a fair crop of comb honey, with your locality and exactly your circumstances? Suppose you had used an extractor, and not tried to get them to work in empty boxes?



CANDIED NEW HONEY, AGAIN.

TELL me what is best to do with honey that has sugared in the comb. All the honey gathered in the past five or six weeks has done so, and there is no such thing as extracting it, so far as I know. If you will take the trouble to give me some information as to what is best to do, you will very greatly oblige—

J. L. WARE.

Terry, Miss., July 24, 1882.

I can suggest nothing better than to have the bees work it up in making new colonies, as I have said before. If any one else can give a suggestion, let him stand up and speak. What shall we do with this new kind of honey, that candies as fast as stored in the combs?

A TURNING-LATHE IMPROVISED ON A FOOT-POWER SAW.

Some having foot-power saws might like to turn small things like washers for wabbling saws, or the like. It can be done in this way: Take off your saw, put on the collar, bore a hole in the wood you wish to turn, just large enough so you can screw it on to the thread of your arbor. Fix your rest, and you are all right to turn.

D. S. BASSETT.

Farnumville, Worcester Co., Mass., July 11, 1882.

Thanks for the suggestion, friend B. We turn our telephone heads in much the same way, but it had not before occurred to me that the Barnes foot-power saw might be used for turning such articles, until you mentioned it.

HOW THEY DO IN ARKANSAS.

I've just finished taking honey for this season, and I thought I would let you know what I have done. I commenced this spring with six stands, and have extracted about 400 lbs., and increased to 10, besides six I let go to the woods. I had no place to put them, as I had about as many as I wanted, any way.

The wintering problem don't bother us here, as it never gets cold enough to freeze bees, even in the most exposed places. If they have plenty of honey in the fall, they will always come out all right in the spring.

H. C. BETHEL.

Poteau, Scott Co., Ark., July 28, 1882.

Letting the bees go to the woods because you have got as many as you want, is a rather queer way to do, it seems to me, friend B. We should not think it sound up here in the North.

QUEENS GOING INTO THE SECTIONS, AND A CAUSE SUGGESTED.

In August GLEANINGS, H. H. Littell complains of his queens laying in sections; and from the questions you ask, I judge any information on the subject would be acceptable. We, too, have some trouble of that kind, but it is caused by not allowing drone comb enough in the brood-chamber to suit

them, so they build it in from two to four sections in the center, over the brood-nest, and raise drones. I have seen very little worker brood in sections. There were tin separators on the frames.

You may be right in your reason for queens laying in the sections, and several have decided on using only worker fdn. in the sections, because the queen was more apt to put in brood, when drone comb was built.

FOUL BROOD.

I have long wished to ask a question in regard to foul brood. If sealed or unsealed brood is killed by not having bees enough to keep it warm, will it cause the disease called "foul brood," if left in the hives? Bees are doing pretty well this summer.

MRS. P. P. COBB.

Middleville, Barry Co., Mich., Aug. 1, 1882.

I do not think it possible that dead brood can ever originate the disease foul brood; and, if I mistake not, both friend Muth and Prof. Cook hold to the same. See back volumes.

COMB-BUILDING, ETC.

It is said by some of our men, that bees do not make any comb after the 10th of July. Sourwood is now in full bloom; this makes our best honey.

C. WATSON.

Yanceyville, Caswell Co., N. C., July 11, 1882.

The saying you mention, friend W., is simply a relic of old times. Bees build comb whenever they get honey; and if the honey-yield closes about the 10th of July, there would not be any more comb built. Nowadays we have comb built, and rear queens, any month in the year when we choose, by supplying the needed requisites artificially.

IMPORTANCE OF KEEPING A "SHARP LOOKOUT."

Bees are doing finely here now, but I came near losing all of mine this spring. On the 25th of May we had a killing frost. Up to that time my bees were stronger than I ever had them that early in the spring. They had consumed pretty nearly all their stores, and the frost came killing nearly every thing in the tender vegetable line, such as beans, potatoes, corn, etc. My bees were in such fine condition, and I so busy at other farm matters, and feeling pretty blue over the cold rainy weather, to tell you the truth I nearly forgot them; but accidentally I went out among them, and found at the entrance of most of the hives at least one gallon to one and a half of dead bees, while many starving, stupid bees could be seen crawling out of the hives, never to return. It being 9 miles to town, I started out, however, after sugar, and soon revived my living Italians. But they are just beginning to swarm up to date, and I can not govern their swarming fever by adding surplus room.

B. F. CLARDY.

New Cambria, Macon Co., Mo., July 22, 1882.

AN A B C SCHOLAR IN A DILEMMA.

We want some information badly. We received our queens of you, and introduced them to three frames and some bees out of one of our black hives, and put them in, and they went to work all right, and got very strong, and in two or three weeks they swarmed, and we bived them all right, and in looking through them we found it to be the same old queen you sent us. We then went back to the old hive, and there we found a fine large queen-cell, and

yesterday we found the young queen hatched out all right, and found her to be just like the one you sent us, and we now want instructions what to do, as she is now about five or six days old, and we have no Italian drones. J. C. JOHNSON.

Drake Creek, Ark., July 21, 1882.

I should say, things are going on all right, friend J., without your doing any thing. Your queen will find drones somewhere, unless I am very much mistaken. The old queen leading out the swarm, leaving the young one to preside over the old colony, is the natural order of things, and just as it should be, I believe. Where no bees are kept near you, your young queen may have to go out several times, but I think you will find her laying when she is about two weeks old.

TESTING TIN CANS; A SCIENTIFIC WAY.

How do you test tin cans? I test such cans by putting about a quart of boiling water into them and then screwing the top down tight, and shaking them. A leak will very quickly show itself.

Many thanks for your suggestions, friend G. Your plan of testing cans is exactly the one we use in testing honey-barrels when we wax them, but I never before thought of it for tin cans. We will use it hereafter, and it will very likely end the complaints of leaky cans. The philosophy of it is, that you have cold air and hot water in the can when you screw down the cap. Shaking the two together suddenly warms a large volume of air, and its expansion generates considerable force.

THE 3-CENT HONEY-TUMBLERS.

Your half-pound honey-tumblers is a most excellent package for a small quantity of liquid honey. In selling honey in tumblers heretofore, I have always had much trouble with sticky, dauby glasses, and this year the grocery-men complained so that I was obliged to devise some way of making them perfectly tight.

HOW TO MAKE ANY JELLY-TUMBLER "HONEY-TIGHT."

I have it now, and it is very simple. Just lay a piece of paper over the tumbler, and then force the cover down over that. This keeps the cover on tight, and not a drop can ooze out, even if the tumbler is laid on its side or turned upside down. Such paper as the tumblers are wrapped in does very well, but I prefer such paper as GLEANINGS is printed on. If the edge of the cap is wet just before putting it on, the surplus paper can be torn off pretty smoothly, but it is hard to do it rapidly and do a good job. Can you not cut paper into round pieces about three-eighths of an inch larger in diameter than the top of the tumbler? You could sell them with the tumblers at so much a hundred. If these paper caps were dipped in melted wax, and the tin cap put on while the wax was warm, the tumbler would be very securely sealed, and would stand shipment as well as other glass goods.

J. A. GREEN.

Dayton, La Salle Co., Ill., July 31, 1882.

The idea of making jelly-tumblers tight by a piece of paper is hardly new, but it does us good many times to revive old matters. We can easily furnish the circular papers, and could also wax them, but I presume most bee-keepers will prefer to wax them themselves, with their own wax. I

will name, at present, a dollar a thousand for round papers, to fit any of our tumblers, but very likely we can do better when we get the necessary machinery.

OUR TEN-CENT GARDEN TROWEL FOR AN UNCAPPING-KNIFE.

Inclosed please find 16 cents, for which send me one of your garden trowels (10c. for trowel and 6c. for postage). I want to try it for uncapping.

Ironton, Iron Co., Mo., June 27, 1882. WM. HILLS.

I have tried the trowel uncapping-knife; it works splendidly. I ground mine from the inside; I don't want any thing better. WM. HILLS.

August 1, 1882.

The above seems to settle the question pretty decisively. I fear, however, the temper is not as hard as it should be; but at the small price of 10c., it would seem that no one should be without at least some kind of an uncapping-knife. And here we have been all these years paying nearly a dollar for that which might have been bought for 10 cents! It were no more than fair to add, however, that these trowels have never been sold before for a dime, until we made a large purchase of them for our counter store.

FRIEND TYLER'S REPORT.

I bought one colony of Italian bees last August. They filled their hive (10-frame Simp.) last fall, and this spring they have given me three swarms, and are now working in full upper story of sections. I gave their first swarm sections yesterday.

LEARNING BY EXPERIENCE.

I bought 7 swarms of blacks in box hives last September (bad calculation, but a good way to get experience at the expense of capital); one died of worms; one of dysentery and dwindling; one robbed; two killed trying to unite in March. The other two I transferred in May. I use No. 14 wire for transferring-clasps instead of tin, and I like it better. It is firmer, and does not cover as much brood.

A NOVEL WAY OF FASTENING THE COMBS IN, IN TRANSFERRING.

I seldom use smoke about my bees. I transferred one colony without smoke, and succeeded quite as well. And now, by the way, let me tell you how I fixed my frames so that there was no need of clasps, except for small pieces. I selected some thin comb-guides that would slip through the groove easily, and sharpened one end, leaving a long bevel on the lower side, which I brought to a knife edge, and after a comb was cut and in place in the frame, this guide was shoved through endwise, cutting its own groove in the center of the comb. D. S. TYLER.

Clio, Mich., August, 1882.

If I understand, friend T., you think you would have raised your bees cheaper from your Italians, than to have invested in the seven black stocks. Very likely; and you might also have done it about as quickly, the way it turned out. You see, my advice to buy one or two, and then build up, is not very far wrong.—Your plan of holding the upper edge of a comb in transferring is ingenious and valuable. We often put in combs without any clasps, where they are straight, and fit, and are not too heavy with honey. The top edge, however, is quite apt to slip, unless it fits very securely, and your plan makes it very secure, besides adding stiffness to the top-bar.

HOLY-LANDS AND CYPRIANS.

Please ask neighbor H. to give us his experience and opinion of Holy-Lands and Cyprians. I bought a queen of each last season of him. My Cyprian queen produces the nicest and gentlest bees I have, but I see no way to distinguish them from Italians in appearance. The Holy-Land bees are small, white, and easily distinguishable by appearance and behavior. I believe they cause me no trouble until I begin to shake or brush them from the combs; but then no amount of smoke will make them docile.

S. W. MORRISON, 50.

Oxford, Chester Co., Pa., July 10, 1882.

I think neighbor H. has no different opinion to express from what he has already given, and the method of distinguishing the three races are just about what you give, only you have omitted to mention the golden shield found on the Cyprians. The matter of identifying now becomes more difficult, as we have had no recent importations, and most of our Cyprians and Holy-Lands are more or less crossed with Italian blood. The Holy-Lands are not all so cross, but I believe they generally drop from the combs, without adhering, as the Italians do.

BEES ON THE OAKS, AGAIN, AND IN THE STATE OF MICHIGAN TOO.

Bees have been doing well on basswood the last 3 or 4 days, and are getting a nice lot of honey — also some honey-dew. I saw the bees at work on an oak-tree near by, and I found that the leaves were covered with honey-dew. They did not make a very great amount of honey to spare. They have increased very well. I commenced the season with 22 colonies — 16 good ones and 6 rather light. I have now 45 good colonies. I lost one swarm; they came out, and I hived them all right on some comb, and the queen began to lay, and the next day they came out and went away.

N. V. GOODNOE.

North Lansing, Mich., July 23, 1882.

QUEEN LAYING WHEN FOUR DAYS OLD.

In pinching out queen-cells last week, I took one with a large piece of comb, but tore the cell half open on its side. I saw the queen was nearly ready to hatch, and saw her move. I put the cell on top of frames in a small queenless colony in the forenoon; at 2 P.M. I saw her hatch. Bees seemed very glad to get the cell, and helped her out as well as they could. She was large and yellow, being the grand-daughter of the queen I got from you two years ago. In four days she was laying in true straight style.

D. C. AYARS.

Moawqua, Shelby Co., Ill., July 25, 1882.

The above is a little remarkable. Ours do not usually lay until about ten days old, although we occasionally find them laying at seven or eight days.

GREASE OFFENSIVE TO BEES, ETC.

Some years ago I purchased two or three stands of bees, and by the end of the swarming season I had seven or eight; but by the next spring I was in a worse condition than your forlorn gentleman pictured on page 284 of your ABC Book. I had not one left — all dead or absconded. So I gave up bee-raising till this spring, when I bought 4 stands. I brought them home, about a mile; they went to work, and I now have 12. All seem to be in a prosperous condition. I have taken about 100

lbs. of honey from the first four hives. I have had two swarms abscond. And, by the way, I have heard more of this during the past season than ever before, more or less every day. One of these was a swarm that my brother-in-law found in my orchard near my bee-yard on Sabbath morning (a rover, I supposed), and being scarce of hives we improvised a little keg, and he was just hiving them when our preacher rode up, it being his day for preaching at our little church near by. The bees were soon hived, and we repaired to the church where we heard a most excellent sermon. Late in the evening I walked out to see what my bees were doing, when, lo and behold! I found them all in a pile on the ground. I at once concluded they did not like the home given them, so I hunted up an old gum in which many a colony had been raised, and said to myself, "Now you will be content," and I put them in it, and they raised a hum of seeming delight. Here they remained about three days. On the fourth day I went out to see them again, and they were gone, when and where I know not. When I came to examine the gums from which these swarms had left, I found that some of the planks of which they were made were greasy. So I determined this to be the cause. I then scoured the inside of each with blazing shucks, and afterward put other colonies in these same hives, and they went to work and are now doing well. Think you it was the grease that was the cause of the absconding? Do you think there is any harm in hiving bees on the Sabbath?

J. F. CLARKE.

Garth, Ala., July 20, 1882.

Grease is offensive to bees; and further, it is dangerous to all insects, for it stops their breathing-pores, and causes death, even a very little of it. — By all means hive bees on the Sabbath, just as you would give any kind of stock all needed care that could not be given on week days. Of course, we should make it a point to make these Sunday labors as brief as consistent, and should have all things in readiness with that end in view.

THAT NEW HONEY-PLANT, "WAX IVY."

I suppose this is the wax-plant of this country. It is a honey-plant in England and Scotland — *Hoya carnosa* (after a Mr. Hoy, at one time gardener to the Duke of Northumberland, in Surry, England), *carnosus*, fleshy, if I remember aright. You need not be shy of it on account of shy blooms; just try it on the back wall of your greenhouse; give it a turfy loam, with some well-decomposed leaf mold; leave the flowers, and they will astonish you by blooms from the same stems. Cuttings left to dry two or three days will root readily. But do not make too much ado about it until you have tried half an acre of California privet in rows six feet apart and four feet apart in the row; and if you do not have better bee pasture than linden, you will have one of its most successful rivals. It will last six times as long in bloom, and I think produces more flowrets than the linden, and by careful pruning you can have about as many panicles of bloom as you please. Try a specimen or two, and thank somebody for the advice.

G. W. THOMPSON.

Stelton, N. J., July, 1882.

We are thankful for the advice already, friend T., but would be still more so if you or somebody else would send us some roots of that California privet, and send in his

bill. If there is any thing that comes anywhere near basswood, by all means let us have it.

HOW ITALIAN QUEENS SOMETIMES CHANGE TO BLACK QUEENS.

Last fall, about the first of October, I got a dollar queen from you to Italianize my last stock of black bees. The queen was lost in introducing. I got another of you. I introduced her, and she was accepted. I put them all away for winter. About the first of March I found young brood drawn out of the hive; the brood kept coming, and I saw it was drone brood. The first fine day I examined, and found the Italian queen was gone, and a young black unfertile queen in her place, and about one-eighth of the bees were pure Italians. Now the only solution I have got is that the bees started queen-cells after the first queen was lost, and when the second queen was put in she was accepted by the bees, and commenced to lay; and when the young queen was hatched she killed the Italian queen, and it was too late to get fertilized, hence she was unfertile. Now, I would say to green hands, be careful not to introduce a queen when there are queen-cells in the hive, particularly if they are capped; for if I had known this I might have saved my queen, and a swarm of bees and some surplus honey, as that hive will only build up good for winter, and give me one nucleus.

It is a fact, that a queen will many times be accepted when a young unfertile queen is still in the hive, and the introduced queen may even commence to lay; but when the virgin queen becomes fertilized, one of the two must, as a general thing, be driven out. This same occurrence has, I presume, led to many unjust complaints, and it were well to keep such things in mind when we are disposed to be uncharitable to those from whom we purchase queens.

QUEENS CAN BE INTRODUCED WITHOUT FINDING THE OLD QUEEN.

Neighbor Atchison got two selected tested queens of you last fall, to introduce into two black stocks; he and a friend opened the first hive, and hunted three hours for the old queen, but found her not. Sick of the job, and of many bee-stings, they put in the new queen, as directed in the Peet cage; they tried two with the same result, and put the queen in the same. Both were put in without finding the old queen. Now both queens were accepted, and superseded the old ones, and came out good in the spring, and are beautiful pure Italians. Though this has been a successful case, I would not recommend it.

Bees are working below the average around here this summer. I had a swarm of Italians yesterday, about a month later than usual. WM. HARTY.

Brussels, Ontario, Can., July 22, 1882.

I know queens will sometimes supersede the old queen, when let loose in that way; but from the number of losses I have known from doing precisely the same thing, I must think your friend unusually fortunate in having succeeded with both of his valuable queens.

INTRODUCING QUEENS—BE SURE YOUR HIVE IS QUEENLESS.

I had bad luck in introducing; they killed the queen in a very short time; they had been queenless about four weeks. I had looked them over five or six times, and could find no queen nor eggs; but

this morning, after they had killed the queen, I found a young queen as smart as a whip. I don't think I shall introduce another \$3.00 queen unless I find and cage, or destroy one from that hive.

Dexter, Me., July 18, 1882. LUCIAN FRENCH.

Never attempt to introduce a queen where the only ground for thinking them queenless is that you can't find a queen. Make sure of it by giving them some brood, and never let a queen loose in the hive until you have made them start queen-cells, as a proof of their queenlessness.

UNFERTILE QUEENS; LOOK OUT FOR THEM.

Queen came all right July 7th; lost her in introducing, but that, of course, is not your fault. An unfertile queen was the cause; she had been in the hive 30 days after all drones were dead. We have had a fine honey season. A neighbor had 7 hives in spring; he now has 35; has extracted 1400 lbs. of honey; hives are now full. S. A. ELAM.

West Falls, Texas, July 22, 1882.

A great many losses come from the presence of a virgin queen, when the owner feels sure the colony is queenless. Where they persistently refuse to accept a queen, I should take her to another hive, and then try this one with unsealed brood; if they do not start a queen-cell, I should conclude they had some kind of a queen, and I would try to hunt her up.

ANOTHER HIVE THAT WASN'T QUEENLESS.

The dollar queen I ordered of you in June came all right, with only one or two dead bees in the cage. I was positive, when I ordered, that the hive had no queen, nor any cells a queen could hatch from. But when she came, and I was going to introduce her, I found the hive had a queen, and was well filled with capped brood. I had opened the hive several times previous to ordering, and found no eggs nor larvae, and was much surprised to find it in the condition it was. They are and have been doing first rate. I have taken nearly 75 lbs. from it, and the swarm from it. Both have another hive on them, and are nearly full again. How is that? Well, I had no place for my queen, so I took three frames from other hives, with capped brood and young bees, and gave her to them; she did not begin to lay immediately after her 1000 miles trip, but she got at it gradually in a few days, and has done pretty well.

Frosa, Texas, July 15, 1882. C. M. BUTTOLPH.

It should be borne in mind, that a young queen is often as long as three weeks in getting fertilized, and, therefore, even if you have looked several times and found none, you are by no means certain that the hive is queenless. Once more, do not attempt to introduce a queen unless the bees have been given brood, and have queen-cells under way.

HONEY FROM WHITE DAISIES.

Did you ever hear of bees working upon white daisies? Our bees gathered some very dark honey, and I think it came from the above blossom, of which hundreds of acres are within a few miles of us. I never saw bees work upon them before, and never got such dark honey at this season of the year.

Hartford, N. Y., July 21, 1882. J. H. MARTIN.

I have never before heard of bees working on daisies; and if it were going to induce any one to let them grow, I should almost be sorry to hear they ever did work on it.

PUTTING IN STARTERS WITH A HOT FLATIRON, ETC.

I put in fdn. starters after a plan I saw in GLEANINGS; that is, to press it on with a hot flatiron. I got it too hot at first, but soon regulated that. My bees are now ready to swarm again.

GETTING STUNG.

I think my bees must be those cross hybrids you speak of, as I have been stung by them twice quite badly, once making me so sick that I vomited a long time, and my hands swelled badly. I had my face protected. It was when I was trying to hive the first swarm that I was stung the worst. But I don't intend to give them up; it would not look well for one of the boys in blue to surrender to a swarm of bees. I was advised, about 5 years ago, by our family physician, to chew tobacco for a jumping toothache that I had, which troubled me so much that I could not work. I have concluded to quit, so please send me a smoker; and if I chew again I will pay you the cash.

WM. F. ENMETT.

Whitewater, Walworth Co., Wis., July 26, 1882.

To be sure, a boy in blue should not surrender to any swarm of bees; and while we are about it, friend E., to tobacco either, and so you are to remember I would much rather you would not be required to pay for the smoker. If your physician had only thought of it, he might have recommended whisky, for it would have cured the jumping toothache quicker than tobacco. Now about the stings that made you sick. Bees should not be handled when they sting like that. Whenever I hear of a bee-owner getting stung severely, I at once make up my mind there is something wrong. A customer was just in, wanting a pair of rubber gloves because his bees stung his hands so he could not stand it. I talked with him a little, and he went away, but didn't buy any gloves, for I told him he did not need any. By no means would I have my hands stung in that way, and I wouldn't wear gloves either. One should learn to tell by the looks and actions of bees whether it is safe to handle them; and if they must be handled, smoke them into proper and decent behavior. I often see new hands at the business open the hive and commence right off to lift out the frames, where I would not think of doing it. Watch the motions of the bees, and let them also watch your motions, and have a mutual and clear understanding of things. I have not had my hands stung for years, and I do not mean to for many years more.

DON'T BE DISHEARTENED ABOUT WET WEATHER.

Bees are making haste slowly; white clover is abundant, but the weather has been too cold and wet. I don't despair of having a good honey season yet. Referring to my bee diary of 1875, July 30, I find the following: "Examined all the bees, and found them nearly destitute. Not a particle of sealed honey, and probably not two pounds of honey in any hive. The season has been wet." In August, the bees filled their hives, and Sept. 3d I extracted honey and made artificial swarms which wintered well.

GARDEN TROWELS FOR UNCAPPING.

How much we lose by not being communicative! I have used a gardener's trowel for uncapping more than eight years.

J. L. WOLCOTT.

Bloomington, Ill., July 18, 1882.

To be sure, we do, friend W. If you used

a garden trowel for an uncapping-knife 8 years ago, and found it to work well, you did a very wrong thing not to speak of it, and let your light shine. Who will tell us more about them? How large a trowel is needed? and must they be tempered hard, etc.? If much rain will bring a fall crop of honey, we are all right for it in Medina County.

ANOTHER GRATEFUL PUPIL.

The bee business is just tiptop. I wintered four swarms, and now have 12. Too much swarming, do you say? They are all but two working in their upper stories, and from one of them I took about 20 sections, and am waiting for them to cap the others. This latter swarm came about the second week in May, and I was compelled to feed them during that month to save them, as I did with nearly all my bees, on account of wet cold weather. I got a dollar queen of you last year, from which I now have five swarms of bees. That, as a honey-producing bee, or being prolific, can not be excelled by any of the improved and high-bred queens of America, and her daughters are not a whit behind her. I am selling my comb honey at 20 cts. per lb. at home, in packages of from 5 to 24 lbs.; it is just beautiful. And now to consider, how did all this come about? Four years ago, I think, I saw your advertisement in *American Agriculturist*, and procured a copy of GLEANINGS; then an A B C; then I adopted your hive, sections, etc. Had I not seen GLEANINGS, I should probably have been contented with 10 to 25 lbs. to the hive, in cigar-shaped boxes, interspersed with pollen and drone brood. Friend R., I think many of us can say, from the heart, "Thanks for your valuable helps."

R. McCORRY.

Jerome, Union Co., O., July 14, 1882.

And thanks to you, friend M., for your very kind and encouraging words. It is indeed a pleasure to know that I have been permitted to help so many friends, scattered far and wide.

DANGER OF DELAYS, ETC.

Goods received this day. I have lost all chance for box-honey this season, on account of the delay of sections ordered of you on the 24th of June, shipped July 1st, received July 18th.

M. HILLS.

Wellsville, Allegany Co., N. Y., July 18, 1882.

You will see, friends, what a risk you run by delaying orders until right in the midst of the honey season. In this case we filled the order about as soon as received, but we have not done as well as this in all cases. As sections are pretty heavy goods to be ordered in any quantity other than by freight, we have to take the chances of the railroad companies being slow. In this case it took them 18 days, and this spoiled the honey crop. Now, if I were behind like that, I do not think I would let the honey go. Make brood-frames of some kind, and set on upper stories, and thus give them room. New comb built in large frames can be cut out and sold at a pretty fair price as "chuck honey;" and if extracted honey should command a good price, extract it, even if late in the fall. The best honey we ever had was taken out thus, after the season was over. A disappointment in getting sections is bad, but it should by no means result in the loss

of the honey crop. This is on a par with losing a colony because of disappointment in getting a queen. Give the bees brood, and let them raise a queen of some kind, by all manner of means; and this should be done with any queenless stock. Where there is a will there is a way; and a bee-man wants a will, if anybody does.

WHITEWASH FOR BEE-FEED (?) ETC.

I told you in the spring I had got one swarm of bees. I now have five that are doing nicely. My little apiary looks very much like your vineyard, on a small scale. My grapevines are making quite a shade. After I had painted the hives all nice and white, Mr. Bragg made me some boards to put on the top as sun-shades, and as they were not planed I could not paint them. So I mixed water lime and skimmed milk, and took the whitewash brush and washed them, and they look whiter than the hives, and it will not wash off. While I was doing this, one little bee came and sat on the boards all the while I was at work. When done, it went off and I took my brush and put it in a basin to soak, and set it at the back door. But the next morning, on stepping out, I could hardly find a place to walk without treading on bees. They had taken possession of the whitewash brush. I told our folks they had taken a fancy to the outside of their hives, and meant to clean up on the inside. They worked at it all day. A man saw them, and he called to me and said my bees were swarming, and so it did seem all day. Was it the milk or lime they were after?

I love my bees more every day, and I am glad to tell you their sting does not hurt me. I think I can say, as my girl did, the more they stung her, the better she liked them.

A. M. BRAGG.

Viola, Wis., July 29, 1882.

I can not think, friend B., what the bees should want of either lime or skimmed milk and would suggest that it was perhaps only the water they were after, the brush making a convenient place for them to alight without being drowned. I am very glad indeed to hear your bees afford you so much pleasure, and I trust it will ere long be profit with the pleasure.

THE VEIL THAT HAD A "PATCH" ON IT.

"Honor bright," the first veil was all right, and I never found it out until the last one came. Just to look at it, it all looked just alike, and all of a color. I noticed that it was patched on one side, and, being rather aristocratic, I always was particular to put the patched side behind, and had it on, I presume, fifty times, and never *did* find the silk part until the new one came, so I have sold it for 75 cents, which find inclosed. That clerk was not as bad as I feared he was; besides, I said I knew a Yankee trick wherever I see it, and at the same time had one with me for months, and never stood round far enough to see it. If you could only hear my wife go for me! An honest man is said to be the noblest work of God.

JAMES L. WALLAR.

Benton, Texas, July 12, 1882.

The above illustrates how differently people see things before they have been explained to them, or, rather, how differently they *don't* see them sometimes. We have for years been in the habit of putting a piece of silk Brussels net in the face of our best veils, and when our friend accused us of

having played a Yankee trick on him, by charging him for the best veil and sending one without any silk about it, I naturally raised a breeze among the girls who make and put them up. It transpires, as you see, however, that the girls were all right, and our friend was the one who was all wrong. I think your wife must be an excellent woman, friend W. Now the moral is, be slow about finding fault, and especially in deciding that anybody has knowingly played a "Yankee trick" on you. Charity "think-eth no evil."

LEMON-HEADED DRONES.

I send you by mail some Italian drones, which have a peculiar head. Mr. Keller, a neighbor bee-keeper, found them while looking at my bees, and he says that he has kept bees for 30 years, and never saw any thing like them before. They were raised from a young queen hatched during the early part of the season. Probably you have seen lemon-headed drones before. I call them lemon-headed because the head is about the color of a lemon.

I am a young hand in the bee business. Have three colonies. They are good workers, and are coming laden with honey.

B. F. LANDES.

Burlington, Ind., Aug. 2, 1882.

The phenomenon is of rather frequent occurrence; but for all that it is just as wonderful that drones, and drones only, should have heads of black, cherry red, lemon yellow, etc., and that, when this peculiarity is seen, we almost invariably find all the drones of that particular colony rejoicing in heads all alike. The matter has been commented on in our back volumes.

SECTIONS HOLDING 3½ LBS. EACH.

I want 1000 surplus sections. I prefer the dove-tailed, made of such a size that three will exactly fill up a Langstroth frame, which will give a capacity of 3½ lbs. honey, generally. I want them right away, as the richest honey harvest I ever saw is now upon us, and I have used up the last section I have.

I am well aware, friend P., that you get more honey in these very large sections; but will you not have to sell them at a very much lower price? And will they not also be quite difficult of safe shipment?

CLIMATIC INFLUENCES.

I have long known that climatic influences work great changes in unimaged peculiarities, and especially so in the insect tribe. The ant of California and the ant of Texas, of some species, show different degrees of viciousness; and bees in Vermont, show local distinctive characteristics from those of Tennessee or Texas. Thus, comparing the distinctions of the Italian and the black, as given by Mr. Langstroth, does not find a parallel in the differences I have noted between the Italian and the brown bee of Arkansas. I attribute all this to climate and locality, not to errors of that close observer of bee natures. If desirable, I will prepare for you an article on these distinctions of bees in Arkansas.

GEO. B. PETERS.

Memphis, Tenn., July 3, 1882.

I know that bees behave quite differently in different localities, and we should be very glad indeed to have the paper you mention, on the subject.

BEES, SMOKERS, AND ROSE LICE.

I am among the bees all the time I have to spare, and then is the time to observe their habits. I am now satisfied that when there is a good honey-flow, bees fly faster, or with more speed, than when honey is scarce. I think the sting of the bee is more painful in hot summer weather than in cool weather of spring and fall. That Clark smoker I got of you is one of the best tools I have in my apiary. When I hive bees I shake them into a large tin pan, and turn them in front of the hive; in a few minutes I take the smoker and give those that return to the limb or tree a few whiffs of smoke, and they will immediately quit trying to form another cluster on the tree, and go to the hive with the rest of the bees. There is another use for the smoker that should cause you to sell hundreds of them to those who do not keep bees, and that is for killing the lice on rose-bushes. Mix tobacco with rotten wood; cover the bush with a sheet, and the pest of the rose-bush is a pest no more after giving them a thorough smoking.

T. ROTHWELL.

Austinville, Bradford Co., Pa., July 26, 1882.

SOMETHING ABOUT SUMAC — AN EXCITED A B C SCHOLAR.

I should like to know if bees work on sumac every year or not. Will H. Perry, of Southbury, Conn., please answer? Friend Root, I see you say that you never saw bees working on sumac. I wish you were here to see my bees going for it. A neighbor of mine has about one acre of it on his farm, and he tells me that they work on it every year. Now, if it is the case, I shall plant 10,000 this fall, for I think I have never seen such a pretty sight. This patch of sumac has been in bloom for about 10 days, and it looks as if it would last 20 days longer.

GEO. THORN.

Willmoths, Barbour Co., W. Va., July 24, 1882.

We have got some on our grounds, friend T.; but although it is making a beautiful show of foliage, not a blossom have we seen yet. Go on with your 10,000.

THE VICIOUS "CYPS."

Both of my Cyprian queens died last fall, and I was glad of it, as they were exactly like hornets. I could do nothing with them. They never hunted for a "bare place" to "bite," but made a straight dive for you, and it made no difference to them where they "hit." Often my pants legs would be nearly covered with them, with their backs bowed up, trying their best to reach "bottom;" all their young queens met Italian drones but one, and are not cross; they are as easy to handle as pure Italians.

HENRY S. SHULL.

Wellsville, Ohio, August, 1882.

I believe the testimony generally agrees with yours, friend S., that one cross with the Italians usually removes most of this intense vindictiveness.

THE MAN WHO MARRIED A GIRL THAT LIKED HONEY.

Back in my boyhood days I used to ramble over the woods to hunt bee-trees; yes, and I found them too. But time passed away, and about four years ago I got married to a girl who likes honey, and can work with bees too, so my boyish inclinations for bees rose in me again. I saw your advertisement, and got your A B C book, so we have got the bee fever pretty high now. Some of my friends tell me that the business has been tried in this part of the

country, and that it will not pay me. I am a poor man, I have a black-eyed boy and a blue-eyed girl to raise. I have forty stands. I am now doing well. First swarm May 7; next swarm May 16th, from the same colony. The same queen came out with a large swarm the first of July. I think, if the honey weather continues a little longer, she will come out with a large swarm. She has done 300 per cent better than the blacks. All of my hybrids have done better than the blacks. Nearly all of the bees in this part of the country are blacks. I am "talking Italian" to my neighbors.

Now a word about tobacco. I have been a user of it for several years; but by the grace of God I intend to quit it; I can not without.

Georgetown, Ill., July 22, 1882. J. R. LINDLEY.

FROM NORTH CAROLINA.

I had 16 colonies in North Carolina. I now have 50; have taken between 300 and 400 lbs. of honey. Bees did well up to June 20, when the honey crop was cut short; since then they have done but little.

CANDIED HONEY, AGAIN.

The honey gathered in the latter part of May and first of June candied so we could not use the extractor. Will bees winter well on candied honey?

OVERSTOCKING.

How many colonies will overstock, or be too many for one apiary with only natural pasturage?

W. D. THORP.

Eagle Mills, Iredell Co., N. C., July 21, 1882.

As a rule, when you get over 50 colonies in a place, you will be likely to get less honey than if you had a less number, although the convenience of having your bees all near you may make it desirable to keep a hundred or more in one place. For queen-rearing, where we expect to feed, two or three hundred may be kept profitably.

HONEY-DEW.

Last Sunday I saw and tasted honey-dew, while in a hickory and oak grove near our cemetery (where I buried my Christmas baby a year ago last May). I heard bees at work, and after some search discovered it to be a syrupy substance on nearly every leaf of both hickory and oak trees. I did not discover any extra amount of honey gathered by my bees, nor have I had a chance to look for it again; so I don't know that it continues.

C. B. POTTER.

Geneseo, N. Y., July 14, 1882.

God gives, and God takes away, friend P., and he loves at one time as well as the other. He who knows the mystery of the honey-dew as well as the mystery of that other land, where you shall see the little loved one again, doeth all things well; and may our faith in him never waver.

EXTRACTED HONEY FOR CANNING FRUIT.

I think you ought to recommend extracted honey to all those who have fruit to can, for I think it is a great deal cheaper than sugar; and the fruit put up with it will not spoil. It takes only $\frac{1}{3}$ of the weight of honey to make the same sweetness that it does of sugar, and therefore you will see it is a great deal cheaper. Try some by all means, if you have any fruit to can, and try it in different proportions; I think you will say it cans the nicest of any thing that you ever saw. Boil the honey a little before putting the fruit in.

J. CRAIG.

Mt. Meriden, Aug. Co., Va., July 29, 1882.

THE VEXED QUESTION—CHANGING WORKER EGGS
TO DRONES.

I believe in the Dzierzon theory, and from my experiments I believe the worker bees can change a worker egg to drone egg, but not a drone to worker; but they are not apt to when there is plenty of drones flying. Last February I gave a queenless hive a frame of worker brood, and the bees changed at least two-thirds of it to drones—all that was not hatched. After the egg hatches, they seem to have no power to change the sex. I think they do it by destroying the male embryo; but the drones are not as large, and I think have a kind of female appearance, and I don't think they are as good as natural drones.

GEO. W. STITES.

Spring Station, Ind., Aug. 7, 1882.

DRIVING OFF ROBBERS WITH KEROSENE.

I examined a rather weak nucleus the other day, and soon after closing their hive I noticed that the robbers were making a regular raid on them, hundreds of them going in and taking off their honey undisputed. I blocked a wire queen-cage against the entrance, thus giving them air, and preventing those from the inside passing honey to those outside. In a few moments large knots of robbers were collected in different places about the hive. I took pieces of cloth, saturated them with kerosene oil, and pinned them to the hive, and laid them where the robbers collected, being careful not to place any near enough the entrance to affect those inside, and you ought to have seen how every robber "got up and dusted." In a few moments I removed the cloths and opened the hive. Those inside had rallied and killed the robbers in there, and business went on as merrily as if nothing had happened.

Portland, Mich., Aug. 9, 1882.

S. C. PERRY.

This has been given before, friend P., but it may be new to many of our present readers. Any powerful, disagreeable scent, will have much the same effect. One friend drove away robbers by putting some bones from putrid meat about the robbed hive. After a little, the demoralized inmates will get into line and "hold the fort." Wet grass or wet cloths will sometimes do as well. I think I rather prefer the tent described in the August JUVENILE, for circumventing robbers.

A NEW SWARM SENDING OUT A SWARM.

On the 18th of June I had a new swarm. I hived them, and to all appearance they were contented; but after two days they came out and left for parts unknown. In the evening I examined the emptied hive (as I supposed), and found about one quart of bees, several pieces of comb, and some eggs; soon I noticed queen-cells started, and in due time a queen was hatched, and now it is a very good colony.

Now, as this was the first swarm that I ever had leave after being hived any time, I want to know if a queen always makes provisos for the bees that may be in the field or left behind, as this one did.

Pharisburg, O., Aug. 12, 1882. E. M. SHENEMAN.

A case like the one you mention is quite unusual; but bees will sometimes get such a mania that they will desert the hive after eggs are laid, and every thing well started. In your case it would look much like a case of natural swarming, within two days' time after the swarm was hived. Had they all gone, and left no part of the swarm at all, it

would not have been so strange. I think in this case it was more accident, than that the queen had any purpose of providing for those that were left.

THE FIRST COMPLAINT.

I have been using Bingham's smoker for the last year, so highly recommended by him ("never the first complaint, never goes out, burns cord-wood, etc"). I have been more perplexed with it than any other. It goes out easily, is hard to start, heats awfully, the leather has broken, also the spring. If mine is the first complaint, let it go so.

Honey has been coming in from basswood and clover since the 20th, very plentifully; 23d, 3½ lbs.; 24th, 3½; 25th, 3½; 26th, 3; 27th, 2½; 28th, 2 lbs.

N. A. PRUDDEN.

Ann Arbor, Washtenaw Co., Mich., July 28, 1882.

I think, friend P., your experience must be rather an exception, for friend Bingham has advertised for a long time that no complaints had ever been received; and very few indeed that could be justly called much of a complaint of his smokers have ever come to us.

MUCH TO BE THANKFUL FOR, AFTER ALL.

The report from bee-keepers generally, from this part of Indiana, is, very little or no honey. Our own 60 colonies have been very strong in bees since Apr. 1, but gave us only 500 lbs. surplus. They are now well provisioned for winter; have worked on red clover about as much as on white, all through clover season. Although disappointed in a honey crop, yet I think we have many things to be thankful for. This part of the State has a magnificent crop of wheat; the hay crop was simply grand, and most other crops are fair to good. This has been rather an exceptionally good season for queen-raising, and the demand has been fair. There being no honey to take care of, it gave me plenty of time to work in the harvest field. I do not know but I'd rather drive four horses to a binder, in wheat that will make 30 bushels per acre, than to run the "honey-slinger." However, I feel sorry for those who were depending on their bees for means of support. I hope you will arrange to attend the convention at Cincinnati, and stay through all its sessions, and not slip off as you did last year, before one can shake hands with you.

JONAS SCHOLL.

Lyons Station, Ind., Aug. 12, 1882.

Thanks, friend S. I expect to be at the convention; and if so, I will try to stay long enough to shake hands with all who would like to see me, if I do not do any thing more. Your report would rather encourage what is called mixed farming, or having some other business, rather than the one specialty of bees only.

SWAPPING COMBS WHILE EXTRACTING.

I should like to know, if in extracting it is proper to put the combs of one hive, after extracting, into some other hive. I have been in the habit of extracting from all the frames in the brood-chamber, regardless of larvæ. My plan is this: From No. 1, take all the frames that have honey; carry this in, and let my wife extract while I remove the honey from No. 2. I then carry these in for my wife, and take the empty frames from No. 1 out to No. 3. When I take the second frame from No. 3, I put one in from No. 1, until No. 3 is emptied of its honey, and filled with frames from No. 1, and so on through

the whole apiary. The last thing is to fill up Nos. 1 and 2 with the empty frames. This plan has two advantages: It serves to keep the colonies uniformly strong or weak, as the case may be, and also saves time. It is also a safeguard against keeping a colony queenless for a great while; i. e., provided honey comes in fast enough to give one a chance to extract frequently. Should the queen be looked for before the bees are brushed from a frame of brood?

I have extracted on the plan you mention, and I did not see but that it worked well generally. When a large lot of brood was given to a very weak colony, however, I think that there was, at times, a little difficulty in a few bees caring for so much brood. We afterward rather decided to leave the queen and the greater part of the brood-nest undisturbed. Where the brood-combs are all extracted, I would a little rather see the queen, to be sure she is not lost.

RIPENING HONEY IN THE HIVE AND OUT.

I try to ripen my honey in the hive as much as possible, believing it better done there than anywhere else. But, how shall we manage when it becomes necessary to extract every 2 or 3 days? Does the process of ripening close when the capping is done?

I think the process of ripening goes on quite a while after the honey is capped over. This is why old honey has that mellow taste that we find lacking in the new. If you want the honey ripened more, put on additional stories, filled with empty combs or foundation.

EVAPORATION IN RIPENING HONEY.

Some one please tell us how much thin honey will evaporate in ripening. I have 9¼ lbs. of clover honey standing in the sun, out of doors, that has lost 1½ oz. in just 10 days. I had extracted just one week before this honey was taken from the hive. It was not thick, by any means; neither was it very thin. I shall try to find out if possible the proportion of evaporation.

HONEY-PLANTS, AND THE ORDER IN WHICH THEY BEAR HONEY.

Will not friend Jas. Heddon, or some one who is well posted in the matter, give us a list of the honey-producing plants, trees, etc., in this State, in their order, also the time when they bloom, and the kind of weather favorable to each? This, of course, with your consent.

I opened a hive to-day that had a queen 4 years old. I was surprised to find 4 eggs in a cell. A good many cells had 2 and 3 eggs. I found the queen all right, only looking rather small. Now, is this her work, or, has she been superseded by a fertile worker or drone-layer?

Several eggs in a cell are an indication of something wrong with either the bees or queen. It often happens in the spring, when the cluster of bees is too small to keep the queen busy; but in your case, I think the eggs are all laid by the queen; but she has become decrepit from great age. She will likely fail very soon.

SALT WATER FOR BEES IN SUMMER.

On page 296 of GLEANINGS I spoke of small sponges filled with water for bees. The more I have to do with water for bees, the more I am convinced that they need it during the warm weather. I soon found that small sponges would not do, so I tried jelly-tumblers that hold 12 oz. of honey. I have some col-

onies that will not use a tumblerful in a day, while others need more. A piece of board (not too smooth) with the tumbler inverted upon it is all that I use to give the water. I set this near the entrance where the young bees can get it as well as the old ones. A piece of salt, the size of a large butternut, dissolved in a pailful of water, appears to be about the thing to suit them. I found last spring, that it required about half a pail of water per day for 12 colonies. Now, who can tell the amount of time and hard labor that is saved each worker-bee by this little kindness on my part? I found, by watching one colony, that the amount of water consumed caused 15 air-bubbles to rise to the top of the water in one minute.

I agree in regard to water for bees, but I am not fully satisfied in regard to the importance of salt water.

OLD QUEENS VERSUS YOUNG ONES.

Are the bees and queens raised from an old queen, as good as those raised from a young one? At what age is a queen most valuable?

I can not answer positively, but I am inclined to think there is little difference, providing the mother-queen is in full health and fertility.

EXTRACTING OFTEN TO GET LARGE YIELDS.

Will extracting often, cause the bees to store more honey; and will it pay in the end?

I am quite certain that we get much more honey by extracting as often as the combs get pretty well filled. A great deal of time is lost by any colony when they are allowed to fill every last crack and crevice before more room is given them. Perhaps adding successive stories might answer the same purpose as extracting often, and this plan enables us to get the honey fully ripened.

RELATIVE PROFIT ON COMB AND EXTRACTED HONEY.

If fdn. be used in the brood-chamber and in the sections, and if extracted honey is worth 10 cents, what should comb honey bring, to give an equal profit?

F. A. PALMER.

McBrides, Mich., July 31, 1882.

Under the conditions you name, I should say comb honey ought to bring 14 or 15 cts.

OUR NEW BELL GLASSES FOR HONEY.

Those cylindrical glasses I got of you some time ago are now filled with the most beautiful honey. I fear there may be some difficulty in getting the comb to adhere to the top of the vessel sufficiently to be retained in position, especially in the larger glasses. The comb in my 9-inch glass has dropped down in a body, without leaving scarcely any trace of where it was stuck on by the bees.

R. McCROHY.

Jerome, Union Co., O., Aug. 8, 1882.

To be sure, the honey will slip down, or at least it is very likely to, friend M., unless some other support be given than the smooth glass. In our drawings, an upright waxed stick is shown in the center; and besides this, I would recommend a board bottom to the glass, to be lifted off the hive with them, and which remains a permanent fixture. If the bees are admitted through a two-inch hole in the center, and this hole is placed over a similar hole in a clean honey-board, the whole can easily be lifted off and raised up a little until the bees have all gone out,

and then this single opening can be covered with a piece of waxed cloth, and your honey is safe from any danger, even if kept for years. Of course, it will have to be attended to if moth worms are seen inside; but of late this is so rare a thing with us that we hardly think it needs considering.

KINGSLEY'S FDN. FASTENER.

It is simply a shaft with three small wheels upon it, made of half-inch boards. Although these wheels are perfectly round, the shaft goes through a little out of the center, and of course they do not describe a perfect circle in turning. The center wheel, in turning, raises the lever that presses the fdn. in the box, and at the same time the two outside wheels come around and push the box out while it is being pressed with the lever. It is geared to a balance-wheel on another shaft, to make it run regularly. The whole thing works together in one frame, and can be run by hand, or in connection with other machinery. Free to all! CHAS. KINGSLEY.

Greenville, Greene Co., Tenn., August 10, 1882.

Quite an ingenious idea, friend K., and no doubt but that many of the friends skillful in the use of tools will profit by it. If the whole arrangement could be made of cast iron it might be quite small, and yet do the work perfectly and rapidly. Who will work it up?

TEXAS AGAIN.

We have an unbounded yield of honey this season. I never saw anything to equal it. I have 3500 lbs. of honey, and hives full again. Two hives of Dr. McCulloch made each 300 lbs. of extracted honey. Mine averaged 175. We did not make any box honey; will have to next year, for extracted is hard to sell. We shall have to get, for next year, a fdn. machine. Bees swarmed the most this year I ever knew; and when the flow of honey commenced, when they swarmed I never could find a queen-cell in the hive! I have read of such cases, but never saw it till this year. I am glad you send the JUVENILE GLEANINGS. It is my little boy's (Joseph's) GLEANINGS. It makes a kind of semi-monthly. The bee fever is raging here at an alarming rate. By another year I expect a great many to embark in the business. S. C. FOX.

Maysfield, Milam Co., Tex., Aug. 1, 1882.

SUB-EARTH VENTILATION.

The sub-earth ventilator is 6-inch tile; I think the bigger the better. Suppose it is as big as a barrel, as long as the air is pure, dry, and of the right temperature.

SMOKER WOOD — AN OFFER.

Yes, I will furnish the right stuff. Rotten maple, broken up suitable for smokers, 75 cts. per bushel; \$1.50 per bbl., at depot, so long as the supply lasts.

F. H. CYRENIUS.

Scriba, Oswego Co., N. Y., Aug. 10, 1882.

I think you mistake, friend C., in saying it does not matter how large our sub-earth tube is. If as large as a barrel, the air would not get warmed in passing through. I would by no means have the pipe larger than six-inch tile; and if that wouldn't give capacity enough, I would have two or more, laid far enough apart so that each might be surrounded on all sides with warm earth.—It seems to me that 75 cents a bushel is high, even for nice rotten maple; but I am glad

to see the matter started, even at that price. The editor of our county paper suggests, that if one wants rotten wood, he should start a paper and take subscriptions in wood. It might not, however, be of just the sort we bee-men want.

FOUL BROOD.

Last spring, 3 of my hives of bees were sick with what I supposed was foul brood. The new swarms which come out of those hives are, to all appearance, all right; they are good thrifty hives, and all the young bees seem to hatch. But the old sick hives look the same as ever; there will be from 100 to 300 dead bees in each comb. Can it be foul brood? Will you favor me with an answer by mail, if it is not out of your line of business? PAUL SCHEURING.

West Deperre, Brown Co., Wis., Aug. 7, 1882.

From the description you give, friend S., I should not call it foul brood; but if the cells of dead brood have the characteristic pin-hole in the center of the cap, and the disagreeable smell, I should call it so unquestionably.

MORE ABOUT SEALING UP HONEY-TUMBLERS.

Since the matter from friend Green, in regard to sealing up honey in the glass-tumblers, we get the following:—

In putting on the paper caps now, I complete the caps before putting them on tumblers with honey in, using for this purpose an empty tumbler having two or three thicknesses of pasteboard in the cap to prevent it from coming clear down. Then cut off close with a pair of scissors. I presume, however, that you can make such caps, or at least plain disks, much cheaper than they can be made by hand; and if so, I shall want some with my next order.

J. A. GREEN.

Dayton, Ill., Aug. 9, 1882.

Every suggestion in this matter is important, for the sales of honey-tumblers are now getting to be immense. We are just now unloading a single order of 100 gross.

WHY BEES COME TO OUR APIARIES, ETC.

I was interested in the reasons given in August GLEANINGS, why bees come to our apiaries. That bees do have certain lines of flight, is certain; and that they will go some distance out of the direct course to get into these highways, I have proved to my satisfaction by hunting bees. I have come to the conclusion, that the oft-quoted "bee-line" is not always as straight as it might be. By the way, I must tell you of my luck in finding a bee-tree a few days ago. I cut the tree and got a pretty good swarm of bees, and the first sumac honey I ever tasted. The honey had a peculiar taste, which I didn't fancy. PERRY HANSFORD.

Troy, W. Va., Aug. 8, 1882.

DRONES FROM WORKER EGGS, AGAIN.

According to the various illustrated descriptions of the generative organs of the queen bee, the eggs are formed in the ovaries; where, after becoming perfected in size and form, they possess all the requisites of the future bee, except the qualifications necessary for the development of the female sex by impregnation from the male fluid deposited in the spermatheca, at the time of the queen's mating with the drone. When the act of deposition is performed by the queen, and the passage of the egg through the oviduct, impregnation is accomplished by its re-

ceiving the male fluid as it passes the conjunction of the spermatheca with the oviduct. As the egg comes in contact with the sperm after its formation is complete, it must receive its impregnation through the shell by absorption; otherwise the embryo must receive its sex qualifications alimentively, after it leaves the egg.

In normal conditions, assuming the foregoing conclusions to be correct, may not the nurse-bees, by removing the sperm from a worker egg at the proper time, cause the production of a drone therefrom? Could they not have caused, by adding the requisite aliments, the production of a queen from the same egg? The drone ovum leaves the oviduct unimpregnated, and must remain so. Besides, it seems to be a self-evident fact, that there is never in the economy of the hive a necessity for changing the sex of a drone egg, if the condition of the colony be normal. In an abnormal condition (as in case of a fertile worker), should the bees attempt to obtain a queen from a drone egg, or larva, the act should correspond with the condition of the colony. Again, it seems the vitality of the sperm would be destroyed in an attempt to remove it from a worker ovum to that of a drone, or to incorporate it with the aliment of a drone larva. J. F. LATHAM.

Cumberland, Me., Aug., 1882.

Friend L. you will see, by the little book called the Dzierzon Theory, that each egg has an apparatus called the mycropyle, through which the spermatozoa is supposed to make its way through the shell of the egg. If the bees get the egg when first laid by the queen, it seems to me possible they might, through this mycropyle apparatus, destroy the spermatozoa, and thus reduce the egg to the condition of a drone egg; but this theory as yet seems to lack confirmation by experiment. I have never thought it possible the bees have any power to make a drone egg produce any thing other than a drone.

UNCAPPING-IMPLEMENTS; PERFECTION NOT YET ATTAINED.

I have never been able to use an uncapping-knife to my satisfaction, be it ever so bright and sharp. I tear down the cells to their base in places, on nearly every frame. I now use, with very good success, a common wool hand-card, with teeth about 7 rows to the inch, and cut down to 3 x 4 inches in size. Now, by striking with this lightly upon the caps of the cells, they are broken so the honey is thrown out with but little more effort than when the whole cap is removed with the knife, and there is no dripping of honey before the frame is placed in the extractor. A common cattle-card might do as well.

Sterling, Ill., August 18, 1882. NORMAN CLARK.

Why, friend Clark, your ingenuity beats every thing. The matter of puncturing the cells with pointed wires was discussed a great many years ago, but I believe no one ever before thought of using a common cattle-card. Our friends who wish to try it will find a very substantial one, though small, on our five-cent counter.

QUEEN-CELLS OVER DRONE LARVÆ, NOT ALWAYS SMOOTH.

You say, on p. 177 of A B C book, that queen-cells built over drone larvæ are *always smooth*. Now, I beg leave to differ with you here, as I have proof positive that such is not always the case. I inclose

you herewith a queen-cell built directly over a drone larva. You will find drone eggs, larvæ, and capped cells on the section containing the queen-cell. Directly on the opposite side of the comb from the cell sent herewith, was another queen-cell exactly a counterpart to the one I sent you. I cut it open, and it contained a full-sized *drone larva*. These cells were built in an upper story on one of my extracting combs. Now, you see, friend Root, how easily a man might be mistaken if he placed all his dependence on these corrugations. The above, I admit, is an exception, and as a rule you are right, as I have seen many queen-cells built over drone larvæ that were entirely smooth; but if we are particular, and use only cells built on worker combs, and give the colony no *drone larvæ*, then we are certain to have cells containing only worker larvæ. W. T. CLARY.

Claryville, Ky., Aug. 16, 1882.

Thanks, friend C. Since you mention it, and send a sample, I now recall to mind having several times seen these monster queen-cells corrugated in most fanciful style, and that on drone comb too. If I am correct, however, these huge queen-cells seldom, if ever, hatch out any thing, either drone or queen. I will have a clause inserted in the A B C to correct this.

HORSEMENT, AGAIN; AND — SOMETHING ELSE.

My bees are still gathering honey from horsement. A second crop came up where I had my winter wheat, and that big colony has now 20 frames of hatching brood, and they are getting ready for another 100 or 200 lbs. I forgot to tell you that my average weight for the past 20 years was 156 to 160 lbs. I was always on the grunts — headache, headache! oh the excruciating pains all caused by the use of tobacco! Now I tip the beam at 200 lbs.; headache gone, health restored, and I can truly thank God for the Tobacco Column in GLEANINGS. The money I saved by quitting tobacco pays my insurance policy, and buys the baby Amos a frock or two. May God bless you for this department in bee culture! B. F. CARROLL.

Dresden, Tex., Aug. 1, 1882.

I suppose the above should have been separated, and a part of it put in the Tobacco Column; but friend Carroll has a sort of way of running things together that makes it inconvenient to find a separating point; and besides, I don't know but the part of his letter about giving up tobacco is almost as much "Reports Encouraging" as that about the 100 lbs. of horsement honey. What do you think about it, friends?

BEEES THAT ARE TO BE BRIMSTONED.

I am just home from a trip of mercy, as well as expected profit. A man gave me 10 swarms of bees, their brood and empty combs, for my taking the honey out of his box hives for him. He intended to kill his bees before I proposed to take them out of his way. He has about 15 colonies yet that he intends to keep.

PEAS FOR BEES, AGAIN.

Our Whippoorwill peas are just roaring with bees from early to late. Hurrah for the JUVENILE!

A. R. NISBET.

Dobysville, Clark Co., Ark., Aug. 1, 1882.

That is right, friend N., save the bees. I know of no nicer and cheaper way to get bees than by taking those that are to be

brimstoned, and feeding them up. Put them on sheets of wired fdn., and then give them sugar and water, until the fdn. is built out and filled with brood, and then keep on feeding, until the combs are bulged with capped stores. It will take, if you have no fall honey, about \$2.00 worth of sugar to carry a destitute colony through; and if you give them an Italian queen when you start feeding, you will, before winter, have a colony of Italian bees worth something like \$10.00 in the spring. Now is the time to commence with these destitute swarms.—I am very glad indeed to hear of reports from varieties of peas that yield honey. By the encouragement of raising food products that yield honey, we may have an addition to our bee forage that will be lasting; for when a crop will pay, even moderately, the honey will be so much clear gain. Who else has seen bees working on peas? and where can the peas be obtained, and how and when are they to be sown? This matter, if developed, may soon place honey-bearing peas on a footing with buckwheat.

HOW TO GET HONEY DURING A POOR SEASON, ETC.

Perhaps you would like to know what we are doing out this way. Bees starved till about the middle of June. Reason, wet and cold; but lots of white clover. I never saw bees carry in much more honey than they did the first day that they got a sip at the white clover. Then a rest of about two days, on account of rain, and about that rate till basswood; then they got about 10 or 12 good days, then they piled in the honey and swarms all together. I had not room for them, so I had to put back a great many of them, which I don't really think is the best plan. Get them good and strong, and at work; then if they want to swarm, let them; then hive them on about 4 combs or frames of wired fdn.; fill up with boxes at the side, and a story on top; and if it is just before basswood, they will fill the hive in about ten days. Then you want a laying queen to put into the old stand, and honey business will go straight on.

FERTILE WORKERS.

I presume I have a case of fertile workers. I hived a swarm about two weeks ago, and I shook the bees out of the cover on to the ground. I saw the queen rise and fly, but supposed she would come in all right, and paid no more attention to them till last Saturday, when, passing by them, I thought they were very quiet for such a swarm of bees, so I examined them to see what was the matter, and found two frames filled with eggs, all the way from one to 5 or 6, and a few just hatched, with lots of queen-cells started. They had 4 or 5 eggs apiece, some of them, and I could find no queen or particular bee that acted as such, so I thought I would try them a little further, so I got a laying queen and let her on to the comb. They seemed to like that, so I closed them up to await further development.

18th.—Looked at this swarm this morning; they have accepted the queen all right; the eggs are hatching out; some cells have three worms in them, and some two.

Shirland, Ill., Aug. 18, 1882.

V. W. KEENEY.

A laying queen will usually be received where there are fertile workers, I believe, but not always. They seem to receive them all right; but the next time you look for them, you find the same old order of things,

and the queen gone. In your case, you seem to have been more fortunate, as you say the queen has commenced to lay.



TEXAS is overrun with honey. No sales at all as yet; 125 hives yielded us about 15,000 lbs. of honey. J. L. CALDWELL.

Marlin, Texas, Aug. 9, 1882.

I have one colony of bees that are orphans; please send a \$1.00 mother by return mail. H. C. WARE.
Port Byron, N. Y., Aug. 9, 1882.

I want a smoker that I can light with a match, as it is so much handier. ROBERT DOWNS.
Naugatuck, Conn., Aug. 8, 1882.

[So do I, friend D.]

I have just been to Toledo with honey, 400 lbs.; sold at 20c.; first in market, all white, in 1-lb. sections. JOHN F. TEMPLE.
Ridgeway, Lenawee Co., Mich., July 18, 1882.

HORSEMINT, AGAIN.

The honey flow was never better. We are having plenty of rain; crops never better. I can send you plenty of horsemint seed. It is our best honey-plant. F. P. CLINE.
Mesquite, Dallas Co., Tex., July 12, 1882.

I will furnish rotten elm wood for smokers, fifty bushels or over, put up in sacks, and delivered on cars at Sinclairville, for 40 cents a bushel. Less quantities, 50 cents per bushel. I will send samples, if you wish. ADDISON LAKE.
Charlotte Center, Chaut. Co., N. Y., Aug. 20, 1882.

ALSIKE CLOVER.

The alsike clover, the seed of which I got of you, has proved a good thing for the bees this season. It is far more fragrant than the ordinary white clover. It has been alive with bees ever since it blossomed, while there are but few to be seen on white clover. J. W. MARTIN.

Kimbolton, Guernsey Co., O., August, 1882.

CHAFF HIVES FOR COMB HONEY.

I have taken off some very nice white-clover honey, and had 23 young swarms. I find that those that I chaffed down and left there have done a great deal better than those I did not. I am selling at 18 cts. per lb. in 5x5 boxes; extracted, 12½ here at my yard. I can not keep it in hand. Some of my neighbors have had no swarms yet. I had the last the 14th.

A. F. EILENBERGER.

Laddsbury, Bradford Co., Pa., July 17, 1882.

ONE OF THE A B C CLASS.

I think my bees have done well this season, *considering*, as two years ago I did not know a drone from a worker bee. I have taken 50 lbs. of nice comb honey in section boxes from two swarms, and think they have fully half as much more at this time (but

this may not seem much to you). A little over one year ago I accidentally got hold of your A B C book, and then your bee journal, and then I learned pretty fast.

E. HANCHETT.

Cleveland, O., Aug. 15, 1882.

I started out with 12 swarms; increased to 25, making lots of honey. It sells for 18 c. comb and 15 cents extracted. I have taken over 400 lbs. in three weeks, and building up strong colonies fast.

Shell Rock, Iowa, Aug. 1, 1882. J. E. JEWELL.

Do not be uneasy about my sending you any more queens at present. I have this week received orders for nearly 100 Holy-Land queens, as high as 26 in one day. How is that?

I. R. GOOD.

Nappanee, Ind., Aug. 5, 1882.

CHAFF HIVES.

Twenty-two colonies of common bees in your chaff hives are making more honey than I can attend to. I have used up the 1000 sections I got of you, besides 900 I made myself.

J. BALL.

Chillicothe, Wapello Co., Iowa, Aug. 3, 1882.

Bees are booming here. About half died last winter. The surviving ones have swarmed from three to four times. The swarms have filled their hives, and have plenty for winter.

ALBERT L. MARTIN.

Leonardsburg, Delaware Co., O., Aug. 11, 1882.

TWO QUEENS IN ONE CELL.

Not long ago I was overhauling a hive, and came across a very large queen-cell, which I opened, out of curiosity, and there were two queens in it. I have heard of two queens in a hive before, but never two in a cell. It may not be new to you though.

New Orleans, La., May 6, 1882. D. MCKENZIE.

[We have never before, that I know of, had a case of two queens in one cell.]

TOADS EATING BEES.

The first week I had my bees I saw a number of toads around near the hive, and thought I would watch them one night; and about dark three hopped up near the alighting-board, and every bee that ventured out was snapped up in a hurry. I used to be a friend to toads; but since then I have killed all that I have seen near the hives.

G. W. STEPHENS.

Little Britain, Ont., Aug. 17, 1882.

SWALLOWS EATING BEES.

Are swallows enemies of bees? and will bees be crosser after a hive has been opened, and when, in so doing, a great many are killed and jarred and stirred up?

ALBERT DAUB.

Eau Claire, Wis., July 23, 1882.

[Swallows sometimes eat bees, and it may be that some kinds of swallows are worse than others. I rather think mashing bees does make them cross, friend D., and from the way in which you ask the question, we might think you had had a little experience on the point.]

ALL IS WELL THAT ENDS WELL.

I received the queen all right. I introduced her according to instructions. The bees did let her out. I left her in the cage for over two days. I got in a hurry then, so I let her out on a frame of brood covered with bees. She ran among the bees, and away she went in the air. I stood and looked, amazed; thought my queen had left for A. I. Root's again, but in about 5 minutes she returned and went into the hive all right.

W. C. LOUNSBY.

Wheatley, Ont., Can., July 29, 1882.

ALSIKE CLOVER.

There is a great flow of honey from alsike. Some stocks fill an upper story in 8 days, all capped over. A swarm of 6 lbs. of bees, put into a Simplicity hive last week on combs and fdn., filled up below and went into the upper story in 8 days.

JAMES H. TILLY & BRO.

Castle Hill, Aroostook Co., Me., July 17, 1882.

SYMPHORA CARPUS, PEPPERY HONEY, ETC.

Do you or any of the bee friends know if elm or iron-weed honey is strong or peppery? Our honey we get now is from buckwheat, sumac, and a little bush wood I don't know the name of. It has little white blossoms, larger than buckwheat, and red berries. Bees work on it from daylight to dark. Our bees are Italian.

GUYTON BROS.

Waco, Texas, Aug. 18, 1882.

[Who can answer about the peppery honey? The bush mentioned is probably *Symphora Carpus*, or buck-bush.]

PENITENCE.

I have 11 good strong colonies—five in Langstroth hives, three in box hives, two in poor frame hives, and one in nail-keg; and if I am forgiven for this I never will put another swarm in a nail-keg. Some of my bees are nice two-banded yellow bees, and some are natives.

LOWER VENTILATION.

In 1880 I wintered two colonies in box hives that were open at the bottom, and set on a bench two and one half feet high from the ground.

Sunbury, O., Aug. 15, 1882.

J. L. DAVY.

SMOKER-SPRINGS, ETC.

I have used three different kinds of smokers. The chief fault in all seems to me to be in the bellows. The springs to mine broke before they had been in use six months. Why don't you put the springs on the outside, so that they can be replaced without taking the bellows apart? or if they must be on the inside, would not a wire spring, similar to that on the Star saw-set, last much longer? Another objection is the hinge to the bellows. As the boards of which it is composed keep working backward and forward on each other when in use, this tears the leather out at the corners of the bellows.

Bangor, Ia., July 24, 1882. M. A. JACKSON.

[One would almost think, friend J., that our young friend "John" had been reading your letter, for I believe he has "cured" both of your objections.]

THE NEW FOLDING TENT.

Will you please inform me of the height of the tent described in JUVENILE GLEANINGS for Aug., and also the square feet it occupies on the ground? Also tell me what becomes of the bees which fly from the hive when the tent is over them, as well as what those do which return from the field when the tent is over the hive.

G. M. DOOLITTLE.

Bordino, N. Y., Aug., 1882.

[The tent stands about 6 feet high, when spread so that the base occupies 5 feet each way; but if not spread quite so much, the height would be more. The bees on the inside cluster toward the top of the tent, and those outside either circle around until the tent is taken away, or alight on the outside. As soon as the tent is lifted, there is a scrambling of both parties to take up their regular business. Have you never used such a structure when robbers were bad, friend D.? We could never "keep house" without one.]

LOCUST SEED; WHEN TO PLANT, ETC.

In answer to sowing locust seed, I think the proper time is as early in the spring as possible, as I have several large trees standing close to my garden, and the seeds blow off during March, generally, and they come up very thick every spring in the garden. I can furnish young locust-trees from one foot up, as they are plentiful here, and also seed when it is ripe. I will furnish these trees at the same price you furnish basswoods this fall. S. P. RODDY.

Mechanistown, Md., Aug. 8, 1882.

A WHEEL ADDED TO THE BUTTON-HOOK SOLDERING-COPPER.

I think I can tell you how to make something which will be better than a button-hook or a soldering-copper for fastening fdn. to the wires. Take an old-fashioned copper cent or penny-token. Drill a small hole through its center, and file a shallow groove around its edge, making it like the wheel of a pulley. Fasten it in the end of a tin handle the same way as the Carlin fdn. cutter. Heat the copper over a lamp or oil-stove, and run it along each wire as Blondin ran his wheelbarrow along the tight rope over Niagara. J. W. HARKNESS.

Keeseville, Essex Co., N. Y., Aug. 5, 1882.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

IF I should send in a report you would not sleep till you had put me in Blasted Hopes, so I will keep still. One peck of bees on the outside of a Gallup hive, halloing, "Boss! boss! halloo!" Well, go and see what was wanted. What should I see but those "blessed bees" mightily tickled, crossing their legs, and asking the old boss if he has got lots of stores for winter. Well, what could the boss do or say, except that he had not got a pound of honey, and they would return the compliment by saying, "We have dead loads of it, and don't you forget it?" H. B. POMEROV.

Fayette, Fulton Co., O., Aug. 7, 1882.

We have 24 swarms of bees, very little honey so far. We think bees are much trouble and very little profit, saying nothing about expense. But I think their company is worth more than it costs.

E. A. KIRKPATRICK.

Bowling Green, Pike Co., Mo., Aug., 1882.

I have paid \$20.00 for queens this spring, and have but one and one cripple, and I do not want to raise queens from them. Really, with all my losses, and on bees and queens, besides some other things, I began to feel something as the young man in Onionville did over his small onions. WM. H. BALCH.

Oran, Onondaga Co., N. Y., July 14, 1882.

The enameled cloth I must have by next week Thursday or Friday at the latest, because I shall go out on a fishing excursion and want to use the enameled cloth for a rain-proof tent. Of my bees, I guess I rather keep still; for the less said about them, the better. I have been in the bee business for nearly fifty years; but of all poor seasons, this seems to be the poorest, and it would go hard with me if I had no other business to fall back upon. But I thank God I have, and so I must not grumble.

Batavia, N. Y., Aug. 5, 1882. CHAS. KLIMITZ.
[Is it fishing that you are going to "fall back upon," friend K.?]]

Tobacco Column.

IHAVE been using tobacco since I was ten years old, and now send you my promise to quit it; and if I should begin again, I will pay you for three smokers. My bees are doing well; wintered 5 colonies without loss. R. C. GAY.

Pontotoc, Randolph Co., Miss., July 4, 1882.

Glad to hear it, friend G., and may God be with you!

By the help of the Lord I have quit using tobacco. Please send me a smoker; and if I ever use any tobacco again, I will pay you for it. MOLLIE DAVIS.

White Sulphur Springs, Ga., Aug. 4, 1882.

HONEST, THOUGH VANQUISHED.

Inclosed is one dollar, to pay for smoker got by me one year ago on tobacco pledge. M. L. THOMSON.

Earlham, Madison Co., Ia., July 18, 1882.

As I have reformed from the use of tobacco, please send me a smoker (Clark's), and when I feel like smoking and chewing I will pay you for it.

F. H. TOWER.

Beaver Center, Crawford Co., Pa., Aug. 16, 1882.

I overcame chewing, and it is almost two months since I took my last smoke, and I am fully convinced that, by trusting and confiding in the Source which I have, I shall never be molested nor tempted by that detestable habit. RICHARD SCHREY.

Pottstown, Mont. Co., Pa., July 25, 1882.

I have just started on a small scale in bee-keeping. I have used tobacco since I was in my 22d year, and I am now in my 49th. If you see fit to send me a smoker I will abstain entirely from the use of tobacco; and if at any time I resume the use of it, I will pledge you my word that I will pay you double the price of it. I smoke, and chew also; but to-morrow morning or to-day — good-by, tobacco.

Hayt's Cor., N. Y., July 31, 1882. C. B. EVERETT.

One of my friends seeing me use your smoker on my bees to-day, at once took a great fancy to it. I told him how he could become the possessor of one. He has been using tobacco for a long time, both chewing and smoking. He keeps a few colonies of bees, and will stop using tobacco if you will send him a smoker. His name is Reuben Floher, but he wants you to send smoker in my name, and if he goes back to his tobacco I will pay you for it.

DANIEL GOOD.

Emigsville, York Co., Pa., Aug. 1, 1882.

This is an excellent way to fix the matter, it seems to me, for you get the whole matter in the hands of a friend; and if you ever get back to tobacco again, why, this friend will see that the smoker is duly paid for. Your friend gives you the benefit of his sympathy and counsel, and stands responsible for you. Here is something later:—

The smoker ordered from you last week for Mr. Floher has been received; he is much pleased, and has laid aside his tobacco. I hope he will keep it up. The smoker for the amount inclosed is for a man who will pay for it, and stop using tobacco any way.

DANIEL GOOD.

Emigsville, York Co., Pa., Aug. 11, 1882.

If I understand you correctly, you will send me a smoker if I will give up the awful habit; and as sure as I put another pipe into my mouth you will receive your 75 cents.

CLINTON HOYER.

Lima, Allen Co., O., Aug. 12, 1882.

By the help of the Lord I have succeeded in quitting the use of tobacco. Please send me one of your smokers; and if I ever commence using it again (which I never intend to do), I will send you the money to pay for it.

JOHN W. ROWE.

White Sulphur Springs, Mer. Co., Ga., July 24, 1882.

I see by GLEANINGS that you give a smoker to all who quit using tobacco. I quit the use of it in all shapes and forms June 1, 1882, and if you will send me a smoker I will pledge myself to pay you twice the retail price of it, when I again take my first chew, or smoke my first cigar.

O. C. HOLROYD.

Bradrick, Lawrence Co., O., Aug. 8, 1882.

Send a smoker—the one you prefer, perhaps — not the one that “snorts fire,” but the one you can recommend. You must take the money for it, as I can well afford to pay for it, having left off the filthy habit of using tobacco over forty years. At 10 cents apiece it would pay for many smokers. But, enough about the bad practice. I am glad to see one gentleman trying to reform mankind.

T. P. SMITH.

Parowan, Iron Co., Utah, June 30, 1882.

FROM OUR FRIEND WHO FIRST STARTED THIS DEPARTMENT.

Perhaps you recollect that I was the one who put it into your mind (or heart) to start the Tobacco Column. Well, I don't use any tobacco yet, and I am glad to know that now and then a man has courage to follow my example. I am also glad to know that occasionally there is a man who is not ashamed to say to the world that he has a conscience, and that he lets it speak when he is making a trade as well as when he is at church. May God bless you in your business, also in your efforts to benefit your fellow-men!

H. M. SMITH.

Frankfort, Mich., July 12, 1882.

Have you got a great big smoker to send me? I have quit using tobacco. But, let me explain. I have used tobacco for the last 25 years; commenced fooling with it when ten or twelve years old, and the last ten years, to great excess — so much so that my life became a great burden to me, and my mouth seemed hardly large enough to contain a good chew for my craving appetite; and on the 17th day of last April I threw out my last chew, and resolved, by the help of God, it should be the last. Now, I have tried many times to quit, but always in my own strength, and failed; but this time I relied upon a higher power than my own. “Nay, in all these things we are more than conquerors through him that loved us.” Now you can see that I did not quit the filthy weed for the purpose of getting a smoker, and I do not ask it.

W. P. TURNER.

Hopkins, Nodaway Co., Mo., Aug. 8, 1882.

Nevertheless we send a smoker, friend T., and are glad of the opportunity.

May God prosper the tobacco reform which you have started, and may those who are being saved from the pernicious weed join hand in hand in one mighty army till our influence shall be felt from center to circumference; and may the day speedily come when a lady or gentleman can step into our

stores, postoffices, or cars, without being annoyed by the fumes of tobacco. I have not used the weed for some 7 or 8 years (don't send me a smoker), and to this day I look back with regret to my schoolboy days when I thought it grand to smoke a cigar. May the Lord enable me to so train my little Blue Eyes, who is sitting by my side, playing with his toys, that he will look on its use as an evil, and dishonorable.

Sellersburg, Ind., July 11, 1882.

A. L. CRIM.

SOMETHING ABOUT SNUFF.

An old lady, 76 years of age, has been a Christian after the old Methodist type for years. For some time her mind has been in a sad condition. She was fearful lest she should at last become a castaway. As her pastor, I called on her often. I was at last convinced that the excessive use of snuff was injuring her soul, as well as her bodily health. When a favorable opportunity came I told her my conviction. After much thought she made the following pledge: “The Lord being my helper, I will never take another pinch of snuff.” Weeks have passed, and she has not had the least craving for it. She has been often tempted by old friends. One instance I will relate: A friend sent her a quarter of a pound of the delicacy. “I can't take it, I don't want it, and I won't touch it!” was her prompt decision; then she added, “Take it home; it will be good to put on the calves when they get lousy.” The effect of the above pledge is very gratifying. The old light and peace return. Surely, as Our Homes column was headed last month, “It is not by might nor by power, but my Spirit, saith the Lord.”

C. B. PERSONEUS.

In GLEANINGS I see a Tobacco Column, which I deem almost equal to the temperance cause. It was not much trouble for me to become a temperance worker, but the tobacco, I think, by God's grace I have conquered at last. I used to chew it, and did so for quite a long time. I got “shut” of that by smoking cigars, which proved to be the greater evil. Often when I was instructing my class of young men in Sabbath-school against the evils of intemperance, I was compelled to say something about tobacco, which I could not do with a clear conscience, as I smoked the ugly weed. It came very handy to smoke the little stingers back; but friend Root is going to supply all the old tobacco veterans with a good bellows smoker, and I hope he will continue to add such to his list until there will not be one left to use the filthy weed — who teach God's word, at least. And I would say to all my fellow bee-keepers, that there is more pleasure and honor in abstinence from tobacco than to be its slave. I used it for five long years, and once argued that it would be impossible for me to quit its use; but on the last day of 1881 I was thinking what sacrifice I could make for the Master, or vow that would be for my good or for the benefit of any one, to begin the new year with. I looked upon tobacco as being one of my worst sins and enemies, and resolved then and there to leave it off, and to teach others the great evil thereof. I have now lived almost seven months without, and I feel much happier; and the “little wife,” oh how she rejoices!

S. I. SMITH.

Goldsmith, Ind., July 25, 1882.

May God bless the little wife, and her husband too, in his determination to give up tobacco for her sake and for the Master's sake, friend D.

Our Homes.

Lead me, O Lord, in thy righteousness, because of mine enemies; make thy way straight before my face.—PSALM 5 : 8.

YEARS ago I got hold of that pleasant book, by Andrew S. Fuller, entitled, "Fuller on the Grape," and I was captivated by the way in which the author tells us how to train grapes by a fixed system, so that the naturally snarly, uncouth grapevine may, with a little trouble, be made to assume a fixed and regular form, and that the same process may be applied to any old vine, so as to make a thing of beauty out of the most irregular product of the vegetable kingdom. Not only is the vine made pleasing to the eye, but, in the new form, where each vine is made exactly like every other one, it bears large amounts of fruit, and the fruit is also arranged with such regularity that the vine-grower may tell almost a year ahead just how many clusters he will have on each vine. You may be sure I had very soon a lot of vines in training, and I found it exactly as Fuller had taught, and there seemed to be nothing more to do, to have plenty of grapes and a nice vineyard, but to just keep doing the same thing over and over. It is true, friends, there is nothing more to do to raise grapes, and I might almost say, there is nothing more to be done to build up a Christian character. When I got as many as a hundred grapevines, I found it was a deal of work to look after them all; and as different varieties of grapes developed different phases, it became quite a task to have the whole vineyard always present a pleasing appearance to the eye, and to bear fruit uniformly. Did you, my friend, ever try to live such a life as to have it fair and blameless in all eyes, and to have it, at the same time, bearing some good fruit every day? I once spoke to a friend of mine, who was quite well read in fruit-growing, and asked him if he could point to me an author who would give directions for growing all kinds of fruits with the system and certainty that friend Fuller has pointed out for the care of grapes. He said it had never yet been done. Books there are on peaches, and books on apples, but no one has, so far as I know, ever reduced the care and culture of these fruits to such a system that any boy could take the book and know just what to do every time. He could probably succeed, after years of care and study, with the aid of the book, but it must be a succession of steps, and many of them, through painful failures, before he reaches even moderate success. I believe it is very much so with the work of building up a Christian character. No doubt many of you, my friends, have longed and prayed with David, "Make thy way straight before my face." Who is there, who looks on these pages, who has not said, over and over again, "Oh that I knew just what is best in this crisis"? The children of Israel, in olden time, had a cloudy pillar by day, and a pillar of fire by night to guide their footsteps, and it has often seemed to me it would be such a happy life to lead, to have

only to glance up to that pillar, to know at once exactly what is the right and proper thing to do.

It seems to me there are two classes of people in this world,—one class who want to do right, and another who do not care particularly whether they do right or do wrong, so they can have the best of every thing and with the least trouble. The latter class, I presume, know nothing of the trials of those who "hunger and thirst after righteousness." Did you never think what a wonderful expression that is, *hungering and thirsting after righteousness*? It came in the first part of our Savior's first great sermon. *Hungering and thirsting after righteousness* is climbing up toward God, for God is all righteousness. Right near this little text, our Savior says, "Blessed are the pure in heart, for they shall see God." Both these texts give us the promise, that one who is really in earnest about trying to do right shall not go far astray, for the one tells us we shall eventually see God; and the other, that this *hungering and thirsting* shall be fully satisfied, or that we shall be filled. Filled with righteousness! is it not a promise great enough to encourage us to hold on?

Is it an easy thing to do right? In one sense it is, and in another it isn't. It seems an easy thing to want to do right; but when we buckle right down to the business of always wanting to *do* right, no matter what temptations may stand in the way, I tell you it is a great task. Then again, when you want to do right you many times make mistakes. What one thinks right, another doesn't; and who is to decide, where both are honestly trying to do that which they think right? The way the Bible points out in such matters is to leave it to some mutual friend; and if both parties have God for a mutual friend, will he not guide them to a happy settlement of their different ways of looking at things? To be sure, he will; and those who make a practice of going to God in prayer for guidance in matters of difficulty will very soon so nearly agree that we virtually say that God has guided them in straight paths. It will not do for each one to say he is guided by God and his own conscience alone, and thus ignore the opinions of those about him, for we meet God through our fellow-men, as surely as we meet him in the solitude of our closets. Jesus said we are to love God with all our heart and soul and strength; and had he stopped there, we might possibly have had a chance to claim that we need not consider our fellow-men; but almost right in the same breath he says, "*And thy neighbor as thyself.*" I believe this command holds good all the way through, friends. If you are going to strive for God's greatest blessings, you must love your neighbors; and even should they prove unlovable, and exceedingly trying, you must love them still, and keep on trying to fulfill the spirit of this command. The straight way that God points out to every Christian will surely lead into pretty close companionship with the people about and near him. If he can not get on, and see God through them, he probably can't anywhere. Quite a number have written me that they would like to

come and work for me, for that, after having read these Home Papers, they feel as if they could really enjoy trying to live a Christian life, if they could have the atmosphere and surroundings of such an establishment as ours. They often tell of the low state of the Christian element where they are, and of the difficulties that surround one who tries to climb up higher, with so little encouragement as they get from such surroundings. My friend, such feelings, if you have ever had them, come from Satan. If you are disgusted with the state of affairs where you are, you will most probably be so here. Those who meet me during my every-day life do not find me much if any different from the common run of people, and, with sadness I say it, perhaps with no more spirituality. The point I wish to make is this: God does not think it best to make your path to the celestial city a straight and easy one; and it would surely spoil you for a good and tried soldier of the cross, if it were so. Nay, further: he has very likely seen fit to leave your path to a certain extent obscure, so that you do not even know which is right at all times, nor which is wrong, without coming to him over and over again, and also going to your fellow-men over and over again. I know this is humiliating, and, in a sense, discouraging; but we need humbling, and I am not certain we do not need repeated discouragements. We need to lose courage in trusting our own weak judgment, but never in trusting God. Were this not so, we should get proud. You have, many of you, great faith and confidence in me. Do you not know that, if it were not for discouragements and difficulties I should be almost sure to get proud and overbearing? May God forgive me for getting so sometimes, as it is. If my way were plain, and I always did every thing wisely, or I knew right from wrong without asking God or my fellow-men for advice and counsel, that very wisdom, in the hands of one weak human being, would be to my harm.

At our Sabbath-school a short time ago, the matter of answers to prayer was being discussed. One whom I have learned to respect, and whose opinions I value most highly, said God could not answer a prayer to the effect that all difficulties might be removed out of our way. Did you ever think of that before, my friends?

Should you ever come here to Medina, you would likely find a few who would tell you that I had helped them on the way to eternal life, and those few would be the ones whom I have met in our county jail. I found them in trouble, and eager to listen to me, even when I talked of God and the Bible; and for some reason that I don't quite understand myself, I can always talk to those in trouble in a way I can not to those who have liberty and opportunity to go about and talk to whom they choose. Perhaps, too, God has called me to this particular labor, and has endowed me with a gift for prison work.

Last Sabbath evening, after the young people's prayer-meeting, I was told there was a horse-thief in the jail. A "horse-thief!" How the words strike on one's ears! The people, the papers, laugh and joke at

such an event, and hardly seem to think any thing more is demanded, but to rejoice that the thief is caught. I, too, rejoiced that the thief was caught; but as I remembered the sad stories I had heard from similar ones thus situated, I longed to sit down by his side in that lonely cell, and see if there was not, after all, away down deep, a human heart in spite of the name he had perhaps justly earned, of being a horse-thief. He was glad to see me. In fact, after I tell my errand, and make them understand the nature of my work, these poor fellows are always glad to see me. I told him I knew little of the laws of our land, and, in fact, they were outside of my line of work. It was the laws of God I had come to speak with him about. There was little for him to debate about in his own mind now, in regard to the way he should take, for, to human eyes, that way was straight enough before him now, and it led to the penitentiary and years of servitude. Why should he or any one else think of such a piece of folly as stealing a horse, with the idea that the money that came from it could bring one spark of happiness, whether he were caught or not? Gently, gently, friends. In our blind ignorance of the hearts and lives of others, how often we unjustly condemn! He was guilty thus far: His home was in Wisconsin, where he lived with his brother, the children of Christian parents; but, like many other boys, they got into bad company, and learned to drink, swear, and serve Satan. They had planned to come to Ohio to hunt for work, and his brother purchased a horse and buggy, saying he could probably sell it for as much, or more, after they were through the trip.

After the horse and buggy were sold, our friend learned, for the first time, that it was only hired from a livery stable. He plead with his brother to write at once back to their father, and have him purchase the outfit of the livery-man, and save them from trouble. The brother would not, and threatened him if he gave any clew to their whereabouts. What was his duty? My friend, would you hand a brother over to the penitentiary, if his secret were intrusted to you? For three long years he held this secret, and it made him unhappy and miserable. If they were discovered, of course he shared the punishment as an accomplice. He had no witness to prove that he was not one. He dared not write a word home, but remained a poor castaway from friends and kin. At length he confided the secret to a man he worked for, and asked his advice. After a time he had trouble with this friend, and before he had time to think, the message flew on the wires, an officer approached, and, with the irons on his wrists, he was a prisoner. In one sense it was a relief to him. Now he could write to his mother, without fear, and he had written to her just before I found him. His brother had left him in anger, some time before, and there was no hope that he would come to his deliverance. The scorn and derision of the world were turned upon him. His past life had been rather bad, so even that could not be offered in his defense. Every avenue was cut off. He

could not drown the thoughts of the future in drink, as men foolishly try to do sometimes. I opened the Bible and read,—

Come unto me, all ye that labor and are heavy laden, and I will give you rest. Take my yoke upon you, and learn of me; for I am meek and lowly in heart; and ye shall find rest unto your souls. For my yoke is easy, and my burden is light.—MATTHEW 11: 28-30.

He had learned the same verses years ago in the Sunday-school, but he never understood their meaning until now. I turned the Bible and read to him in different places. How bright and hopeful, and how full of comfort seemed those words! they were so to him, and so to me. Thank God there is a haven of rest, always open to such as he. In his traveling about in that uneasy way he had once sold Moody's "Best Thoughts and Discourses," but he never read it, even when he carried it about. Now he could read it, just as he could read his Bible. He even began to get glimpses, during that one short Sunday evening, of the great truth, that troubles, and this great trouble, are sent by God in loving kindness. It was better, far better, that he had been stopped by these iron bars and stone walls. Even the world's scorn would not harm, with Jesus by his side. I told him more trials would come, and that he would find it hard work to hold to the cross and lead a Christian life, but that with each struggle and trial, would come a corresponding reward, sooner or later. The sunshine that comes from the rifts in the clouds through which we catch faint glimpses of heaven, are all the brighter and sweeter because of the dark clouds that have hovered over and threatened us for days, and it may be weeks, past.

"Friend H., which would make your mother happier, to know that you had become an earnest and humble Christian, or that you had become President of the United States?"

"To know that I had become a humble and earnest Christian."

"And who is there in this world that is a better friend of yours, or whose judgment is wiser and truer, in matters that pertain to your highest good, than your mother?"

"No one."

"Then by your own acknowledgment, my friend, I present to you to-night, in this prison, the offer of a position in the army of the Lord, that is above and beyond any that man can confer; for it gives you not only peace and happiness here in this world, but a crown of glory and eternal life in the world to come."

Dear reader, I extend to you the same offer. It is not an offer coming from me, but from God your Creator. The offer has been open since the foundation of the world. It is not an offer of an easy time, free from hardships, but it is, on the contrary, a life full of toil and care. It is a life full of disagreeable duties, or duties that the world may term such. It is a life full of perplexities and difficult places, where your way is a great many times not plain; but if you push ahead as far as you can see, a way will be always opened up to you, and you will eventually go on rejoicing. It is a life wherein you will often be called upon to approach,

people you feel you want nothing to do with and, further still, you will be called upon to "do good to those who hate you;" but if you push forward, you will find you go not alone. If you evade any of these calls, or shrink back from your duties and responsibilities in a cowardly way, darkness and doubt will come, for God wants none but the true and the brave. The enemies you will have to meet are principally those in your own heart; and if you make them come down under your foot, you have little to fear from any other. You may set it down, that when any Christian has much difficulty with his near neighbors, it is an indication that these foes in his own heart are unconquered.

Many times we are tempted to wish the way God has laid out were not such a very narrow as well as straight way. We chafe against being hampered and pressed up against so closely on all sides. And yet we know by experience that there is no true happiness except by holding close to the promptings of that still small voice of conscience. The temptation is often very great to waste a little time, instead of holding on steadily to the duties we know ought not to be neglected; but we know by past experience, that this little indulgence brings a lack of Christian peace and enjoyment, just as a faithful holding-on to even tiresome duties brings peace and happiness after the task is over. The consciousness of something constantly on one's mind that ought to be attended to, and yet is not, is anything but a pleasant feeling, and yet how often we do this, over and over!

To those who are already professing Christians, I would say, Do not be uneasy, if God does not see fit to make your path clear and plain. How much progress would a child ever make in mathematics, if his teacher should perform all the examples for him, or spare him the mental labor and discipline he would get from working them out for himself? How long would an inventor enjoy his work, if the results he achieved were not dug out, little by little, by hard labor? Well, so it is in the task of building up Christian character. Difficulties, and nothing but difficulties, can give us the growth and discipline that fit us to be useful here, and, for aught I know, to be of use in the world to come. Not that one should rush into difficulty, nor that he should by any means bring difficulty upon himself; for one who would do that could not be a Christian; but when, after doing the very best he could, difficulties meet him, thick and fast, he swerves not a particle, but, with a prayer for help and guidance, braves it through. Fight, if fighting seems to be the thing, but let it all be done on the line of doing good to those who hate you, and never for an instant lose faith in the rules laid down by our Savior for meeting and conquering evil.

A few years ago, when our present factory was in process of building, one day as I was going home to dinner, the weight of cares and the number of difficulties ahead seemed so great as to be more than I could bear. As I had the whole street to myself, I talked aloud to God, and told him of my trials, and plead with him to show me if it was

his will that I should go on with this great amount of work, that I seemed breaking down under. It seemed to be his will that I should go on; but, like Paul's thorn in the flesh, there seemed to come a promise that he would guide, if I kept on and did the best I could. I remember soliloquizing aloud, at the time, to the effect that, if I came through with all these cares and trials successfully, no one ever need despair, who is putting his whole trust in God. I can look back now, and review these answers as they came, one by one. The building is completed, and now no mortgage rests on it or on any of the property I own. The apiary of 500 hives, for queen-rearing, which was then one of my perplexing problems, is finished, and in working order, and succeeds beyond what I scarcely dared hope for. The economy of labor is such that a single man can attend to the whole, the greater part of the year. The A B C book is finished, and now goes almost daily to every part of the world, where the English language is spoken. My health, that so many times threatened to give away, is now better than it ever was before in the world, and I not only keep up the GLEANINGS, but, through God's mercy, have, during this past summer, been enabled to give the children a bee journal too, at the middle of every month. As often as health seemed to give away, I have prayed for wisdom in the care of it, and a pathway has been opened. Although I do a large amount of writing, besides reading all your letters, I am almost every hour out in the open air, among the honey-plants, and fruits and vegetables. Last, but not least, God has led me through the tangled and perplexing matter as to what was the path of duty in regard to friend Burch's failure. All claims have been settled except one, if I am correct, and in a way that few, if any, can find a word of fault. I have lost some money, but the money belonged to God all the time, and I am not afraid to let it all rest in his hands, or, if he wills, to hold it to be used as he directs. He has sent me difficulties and trials, but he has led me through them. Would it have been better for me if he had, in answer to my prayers, taken these difficulties away, instead of having helped me to fight my way through them? Would I have been better prepared to help you, my friends, through the difficulties you come to me with almost daily?

Blessed be the name of the Lord!

But let all those that put their trust in thee rejoice: let them ever shout for joy, because thou defendest them: let them also that love thy name be joyful in thee. For thou, Lord, wilt bless the righteous: with favor wilt thou compass him as with a shield.—PSALM 5: 11, 12.

“Remindery.”

Our Department for duties to be attended to this month.

DURING this month, beginners had better get their stocks in wintering trim. Old hands may wait a month later, if they choose. What I mean by wintering trim, is to unite, or, by other means, make

every hive a full colony. At the same time, feed until they have their combs bulged with sealed stores. No colony that is to be wintered ought to be queenless this month. If you wish to sell queens this month, unite the colony that was rearing queens, with one that had a queen during the month, that the wintered colony may have no break in having bees of all ages. For instance, it is well agreed that colonies made up of queen-rearing nuclei do not winter as well as one that has had a queen, producing young bees right along day after day, through the whole fall. The united nuclei having been, many or all of them, without a laying queen for a considerable part of the time, will have plenty of bees, perhaps, but the ages do not come right along like the normal colony, and therefore we may find them, say next April, with a few bees of so near an age that they die off all so near the same time, the bees seem to be gone all at once. Avoid such a contingency, by having young bees hatching out every day during this month and the next, in all colonies that are to be wintered. If honey is coming from the fields to keep up this brood-rearing, well and good; but if it isn't, feed. Feed granulated sugar; and at present I know of no simpler and cheaper plan of feeding than the bread-pan feeder described and illustrated about a year ago. The general advice I would give would be to winter in chaff hives, on their summer stands, and I would put them in these chaff hives now. If you make your own chaff hives, now is a good time to save up nice clean soft chaff. Pack it in large sacks of burlap, and put overhead in the barn, where it can be kept clean and nice until wanted. Have your bees, hives, and every thing else, ready for winter long before frost comes, and have them not only in fair order, but have every colony extra good, and then you can take the weather as it comes, expected or unexpected. It may be well to keep in mind that we always have some weather we didn't expect; therefore, be ready for it.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, SEPT. 1, 1882.

Blessed are they which do hunger and thirst after righteousness; for they shall be filled.—MATT. 5: 6.

WE have to-day, Aug. 29th, 5260 subscribers.

WE have now on our 10-cent counter, rope halters, surprisingly good, and well made for the money. If a sample is wanted by mail, the postage will be 8 c.

THE smoker-spring, illustrated in the Aug. JUVENILE, should be oiled when it is first put on; and, in fact, any smoker-spring should be kept well oiled if you wish it to work nicely, and not break.

I WILL pay 10c for extra nice clover or basswood honey, delivered here, until further notice.

As we go to press, more reports come of the bees booming, and the woods roaring with honey-dew. How wonderful are thy works, O Lord!

THE clerk who opens the letters says, please don't send any more bees and queens in letters. When they reach us, they are a nasty, mashed-up mess.

ALMOST every letter tells of bees a booming, and we are sending out sections, fdn., and extractors, almost as we do in June, only we send them by next train usually.

MRS. HARRISON sends the following, just as we go to press:—

Our bees are booming; they have stored 1000 lbs. of comb honey during the past ten days, and still it comes. It is the best continuous flow I ever saw in August.
Mrs. L. HARRISON.
Peoria, Ill., Aug. 25, 1882.

By one of my blunders, the price of Harmony of the Gospels was put 25c, when it should have been 35. Will the friends who have sent 25, please send the other 10 cents the first time they order again, that I may not lose on the little books which, I think you will all agree, are very cheap indeed at 35 cents?

FRIEND CARROLL writes us it was a "mistake in the printing" that gave the impression that the queen that produced so much honey was a granddaughter of the Hayhurst Cyprian queen; and, in fact, the matter is stated plainly, when we come to look at it, that she was a daughter of a dollar queen we sold him in August, 1880. See page 376, Aug. No.

THERE is a great deal more carelessness, in this world, than downright dishonesty, but the two run so closely together, it seems, many times, hard to tell where one commences and the other ceases. One who hungers and thirsts after righteousness, can not very well be careless with the money or property of others, when entrusted to his care.

FRIEND KINGSLEY, of Greeneville, Tenn., sent us some of the largest and handsomest worker bees we ever saw, which he calls "Kingsley's improved Holy-Land bees." They look a good deal like our bees from the "honey queen," but are, if any thing, a little ahead. I am inclined to think a cross between the Italians and Holy-Lands is, in many respects, ahead of either races, pure.

I HAVE paid the three unsettled claims mentioned last month, and one other, so that I have now paid out altogether in settling Mr. Burch's debts as follows:

Byron Walker,	- - - - -	\$115.50.
W. E. Griggs,	- - - - -	10.50.
A. F. Stauffer,	- - - - -	132.50.
R. H. Gager,	- - - - -	6.76.
W. N. Ramsey,	- - - - -	25.00.
R. Johnson,	- - - - -	40.00.
W. Dickerson,	- - - - -	14.00.
H. J. Alvis,	- - - - -	6.65.
Total	- - - - -	\$350.91.

Two kind friends have sent me money to help pay what I have lost in the Burch business, with a suggestion that my friends may be allowed to make it up to me. While I thank you, and thank God for this new evidence of his kind, loving care, if these same friends will excuse me, I would rather place it to their credit until they need something from us. He will send me all the means I need to do His will.

By buying 100,000 in one lot, we have been enabled to furnish the good strong envelopes, such as we use in our correspondence, for only 5 c. per bunch of 25;

10 bunches for 45 c., or 100 bunches for \$4.00. Your business card will be neatly printed on them for 30 c. per hundred; \$1.00 per thousand, or \$3.00 for 10,000, additional. As they are a pretty heavy envelope, the postage on them is 4 c. a package of 25.

We are glad to announce to the juveniles, that the "wheelbarrow" has been replenished with 2000 nice new 5 c Sunday-school books; 500 each of "Sheer Off," "Silver Keys," "Rescued from Egypt," and "Pilgrim's Progress." We have also got a lot of "Ten Nights in a Bar-Room," by T. S. Arthur, which we sell at *three cents each*. Any of the above will be mailed on receipt of the price, and two cents more for postage and packing.

ANOTHER DRONE-TRAP.

It seems to have become quite the fashion to destroy the drones from all hives, where they are not wanted, and doubtless it is a good move in the right direction, in the way of getting improved stock. The Jones bee-guard is for the purpose of fastening the drones either out or in the hive; but somebody suggests, if you fasten them out, all they have to do is to fly to some other hive and go in there. To prevent this, our friend J. D. Black, Brandon, Iowa, boxes them up so they can't get off to do mischief elsewhere. The entrance to the hive is closed so as to just let the workers pass, and then a tin tube conducts the drones into a box covered with a strip of glass. At each side of the glass strips are spaces to allow workers to get out should they by mistake take the tube; but the drones can not follow them, neither can they go back into the hive by the tube, for the end of the tube projects into the box a little way. No doubt but the device will work, but it seems to me a little complicated. If I am correct, the idea is quite an old one.

HONEY-DEW.

A FEW days ago, a neighbor came over to inform me that they had had a honey shower, and that he saw the honey fall from the air, and his bees were just making the woods roar in getting it off from the leaves. I went over, and, sure enough, there were traces of it on the leaves of all kinds, but it had dried up so the bees were not working on it. He said, at the time it fell he heard it on his hat, and felt it on his hands; but when asked if he had tasted it on his hat or hands, said he did not. This was about five miles north. Neighbor Rice, who lives about nine miles south, came up about the same time, and said his bees were also getting honey-dew, and that it was around them everywhere. In going from home a mile or two, he found it just the same, but that it was chiefly on the maple-trees. Although our bees are working more than usual for August, and do not trouble us at all in the way of robbing, or coming into the factory, I can not find they are working on the trees at all. The honey seems to me about like that from red clover. Please go out into the woods, about seven in the morning, friends, and see if your bees are working on the maple leaves. If they are, please investigate. If honey really does rain down from the clouds like the manna of old, we should really like to know it.

THE NEW JONES PAILS AND BOXES, AND LABELS FOR HONEY.

FRIEND JONES has sent us samples of his improvement in honey-pails. The cover goes on exactly like the cover on the ordinary quart tin fruit-can. This enables us, by the use of cement, wax, or a mixture

of rosin and wax, to make the package honey-tight, without any soldering, and therefore the same can or pail can be opened without in any way hurting or injuring the pail, admitting of using it many times over for honey. Our quotations for his new labels, as given in the August JUVENILE, were, by an error, too low. The prices will be per thousand as follows: For 5-lb. pails, \$9.50; 2½-lb. pails, \$6.50. These two sizes of pails are made with our common fruit-can top and bottoms, as mentioned above. The 5-lb. pail is 6¼ inches high, and the 2½ lb., 3½ inches high. Diameter of both, 4¼ inches. The bails are attached to the top piece only, and lie down flat, so as to be entirely out of the way in packing. Labels for the 1-lb. and ½-lb. boxes are \$1.00 and \$2.00 per thousand respectively; the diameter of these two is 2½ inches, and the height respectively, 4¾ and 2¼. The ¼ lb. and ½ lb. are the same as heretofore, and the labels cost \$2.00 and \$1.00 per thousand respectively. Round labels, for the cover, are \$1.50 per thousand. We can furnish these pails and boxes at the prices given in our price list. Jones pails at the same rates as the Dudant pails. None of the new labels are yet received.

OBITUARY.

TO THE MEMORY OF MR. A. F. MOON.

ON the calm and beautiful summer morning of August 2d, 1882, while the dewdrops still sparkled like gems among the flowers, and the birds sang out their joyous lay like the first sweet voice of spring, the messenger of death stalked into the peaceful little city of Rome, Ga., and the reaper laid his hands upon our suffering friend, Mr. A. F. Moon. In a few short hours his pains on earth were ended, and his spirit had wafted its flight to the bosom of Him who gave it.

Mr. Moon came to the city of Rome several years ago from Michigan, and engaged extensively in bee culture. He established and edited the *Bee World* for a number of years, and will ever rank high on this continent in the annals of his vocation, and be looked upon, in the memory of the well-informed lovers of scientific apiculture, as the father of that new industry in the Empire State of the South. He had the misfortune of injuring his ankle a few years since, which finally rendered necessary the amputation of his limb; but he continued to grow worse, until it again became necessary to resort to the surgical knife; but, alas! he was beyond the power of physicians to cure, and lingered but a few days longer, when death gave him that relief that he failed to find in life.

I hope, dear readers, that many of you of the bee-keeping fraternity feel and know in your own hearts the worth of our deceased friend, and realize that (as a bee-world) "a great man has died in Israel." Mr. Moon contributed largely to the interests of the bee-keepers of our country; and when I was but a lad taking my initiatory lessons in the sweet science, I often reaped the benefits of his friendly advice. Though I am but a youth now, and chronicle with sadness his untimely death, when years have past, and he shall quietly sleep beneath the sod while the golden-banded Italians sip honey from the flowers which weep over the grave of their master, my memory will still respect him as a friend, and honor him as a pioneer in the science of apiculture.

CHAS. R. MITCHELL.

Hawkinsville, Ga., Aug., 1882.

I have for several years had a very pleasant correspondence with Mr. Moon, and he has often spoken of his misfortunes and his waning health. Our readers will remember the last letter from him, given in the Home Papers of the June No. He felt then that death was staring him in the face, and that plaintive "what shall I do?" has rung in my ears many a time since then. Let us hope that his extremity was God's opportunity, and that, through death, he has passed into that eternal life.

A great sorrow has fallen upon our household. Little Thekla, who came to us in our Cyprus home, closed her eyes in death on the 5th of July, at Beirut. She had been with us but ten months, yet her sweet face and gentle, playful ways had taken complete possession of our hearts. She was always such a happy little body that our home seems very lonely without her, and our hearts are sad indeed. With kindest regards,

FRANK BENTON.

Larneca, Cyprus, July 31, 1882.

May God help you in your bereavement dear friend, in your far-away home, and may this affliction tend to draw you toward Him who giveth and taketh away.

Conventions.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1882.
Sept. 19.—Central Michigan Bee-Keepers' Association at Lansing, in Capitol Building.
Oct.—The Union Bee-Keepers' Association of Clackamas Co., Oregon, at Oregon City. (Date of month not given.)
Oct. 3.—The North American Bee-Keepers' Society at Cincinnati, O., in Washinton Park Hall.
Oct. 18.—The Union Bee-Keepers' Association of Maryland, Virginia, and West Virginia, at Hagerstown, Md., in court-house.
Nov. 1.—New Jersey and Eastern Convention at New Brunswick, N. J.

The Central Michigan Bee-Keepers' Association will meet September 19th, at Lansing, in the Capitol Building. We call the meeting two weeks before the annual fair of the Central Michigan agricultural society meets, for the purpose of making the final arrangements for a large exhibit of bees, honey, and apian supplies. A cordial welcome is extended to bee-keepers everywhere. The meeting will be of especial interest, and a large attendance is expected.
E. N. WOOD, Secretary.

Friend Cook sends us the following:—

THE NATIONAL CONVENTION.

The next meeting of the National Bee-keepers' Association promises to be a grand success. Such men as D. A. Jones, A. I. Root, James Heddon, O. O. Poppleton, and Dr. J. P. H. Brown have already promised attendance.

It is expected that the association will visit, in a body, the apiary of Mr. Hill, of Mount Pleasant, which is one of the best conducted in the United States.

Mr. D. A. Jones will exhibit specimens of the bees of the Indies, including the famous *Apis dorsata*.

There will also be exhibited at each intermission, microscopic preparations, showing structure of the sting, mouth-parts, etc., and of the so-called dry feces of bees.

Let some bee-keeper of each leading city look after railroad rates. It will be the last week of the great Cincinnati Exposition. This is a great attraction, and will make it easy to secure reduced rates. Round trip tickets from Detroit are promised for \$5.00.
A. J. COOK, President.

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BEES FOR SALE!

One-half of my stock, pure Italians; the rest mixed. They have from 30 to 60 lbs. of honey to colony — an average of 40 lbs. Will sell in lots of 10, at \$5.00 per colony; 1 to 5, \$6 00; from 12 to 16, \$4.75 per colony. Or I will trade for first-class jewelry. Safe arrival guaranteed, and money refunded if bees don't come up to advertisement. I am a partner of my father, W. P. HENDERSON. For other particulars and circulars, address R. M. HENDERSON, Apiarist and Farm Gardener, Murfreesboro, Tenn.

TOO UTTERLY CHEAP
 ONE Dollar sent to the Apicultural Pub. Co., Oakland, Cal., before Dec. 10, 1882, will pay for the CALIFORNIA APICULTURIST for 16 Months, commencing with September, 1882. It is the most attractive, most practical, and best edited bee journal in the World. *Clubb'd with GLEANINGS for only \$1.75.*

FRUIT EVAPORATOR.

To be used upon a common cook-stove. Capacity, three to five bushels per day. Price complete, \$10.00. In the flat, partly put together, \$6.00. A few agents wanted for the sale of this Evaporator. For particulars, address JOHN H. MARTIN, 82d Hartford, Wash. Co., N. Y.

BEES AND QUEENS FROM MY APIARIES.
 QUEENS AND NUCLEI IN SEASON.
 Circular on application.

J. H. ROBERTSON, PEWAMO, IONIA CO., MICH.

BEE-KEEPERS' SUPPLIES. Every thing used.
 LEWIS & DETWILER, Manufacturers,
 51fd Toledo, Ohio.

100 Colonies of ITALIAN BEES FOR SALE IN SIMPLICITY HIVES!

ALBINO, CYPRIAN, AND ITALIAN QUEENS; ROOT, VANDERVORT, DUNHAM, and GIVEN FOUNDATION FOR SALE, with every thing needed for a first-class apiary. Send for a circular, to 3-2d E. T. FLANAGAN, Box 819, Bellevue, Rose Hill Apiary, St. Clair Co., Illinois.

TO CLOSE OUT HIS SEASON'S STOCK, J. P. MOORE, Morgan, Pendleton Co., Ky., offers queens at these low prices: Dollar queens, 75 cents; Tested, \$1.30. Full colonies at bottom prices. Circular free. 10d

H. P. BOOKWALTER ENGINE! In good order, for sale cheap, by WATTS BROS., 91fd Lumber City, Clearfield Co., Pa.

GERMAN CARP!
 For stocking ponds; also Golden Orfes, a variety of Goldfish, etc. For particulars, address MUTH & ECKARDT, 8-10d Mt. Healthy, Hamilton Co., Ohio.

BEE-KEEPERS' SUPPLIES. Every thing used.
 LEWIS & DETWILER Manufacturers,
 51fd Toledo, Ohio.

FIX UP STRONG FOR WINTER NOW!
 Bees by the pound delivered at Express Office at 50 cts. per lb. With every hive taken up I will include a hybrid queen free, if wanted.
 J. J. KISER, Des Moines (E. S. Sta.), Iowa.

HEADQUARTERS for the GOLDEN ITALIANS and the ORIGINAL ALBINO BEES and QUEENS. Send for circular.
 J. M. C. TAYLOR,
 31fd Lewistown, Frederick Co., Md.

BRIGHT ITALIAN QUEENS!

I am now running 200 nuclei, and having filled all my orders, can now send queens by return mail. All queens warranted purely mated, \$1.00 each; six for \$5.00. Tested, \$1.50. J. T. WILSON, 91fd Mortonsville, Woodford Co., Ky.

BEE-KEEPERS' SUPPLIES. Every thing used.
 LEWIS & DETWILER, Manufacturers,
 51fd Toledo, Ohio.

W. Z. HUTCHINSON,
 Rogersville, Genesee Co., Michigan,
 has no queens for sale now, except tested Italians at \$1.50 each. But he has plenty of these, and can send them by return mail. 10d

TIN POINTS FOR GLASSING HONEY.
 Cut by machinery; are much cheaper and better than hand-cut, and perfectly straight; 1,000 to 5,000, 25c; 6,000 to 10,000, 22c; over 10,000, 20c; 6c per 1,000 extra by mail. Samples for 3c stamp.
 W. C. GILLETTE,
 6-10 LeRoy, Genesee Co., N. Y.
 The above may be ordered from here when more convenient. A. I. ROOT.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 10fd
- *Paul L. Viallon, Bayou Goula, La. 10fd
- *S. F. Newman, Norwalk, Huron Co., O. 10fd
- *Wm. Ballantine, Sago, Musk. Co., O. 10fd
- *D. A. McCord, Oxford, Butler Co., O. 3-2
- *Jas. A. Nelson, box 83, Wyandott, Wy. Co., Kan. 5-5
- *S. W. Salisbury, Kansas City, Jackson Co., Mo. 5-10
- *C. G. Dickinson, Sou. Oxford, Chen. Co., N. Y. 6-12
- C. R. Mitchell, Hawkinsville, Pulaski Co., Ga. 8fd
- E. B. Vincent, Sunman, Ripley Co., Ind. 8-10
- *F. H. Scattergood, New Garden, Col. Co., O. 10-11

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 10fd
- S. F. Newman, Norwalk, Huron Co., O. 10fd
- F. A. Snell, Milledgeville, Carroll Co., Ill. 3-2

Department for those who wish to be considered SQUARE MEN.

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

If thou bring thy gift to the altar, and there rememberest that thy brother hath ought against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.—MATT. 5: 23, 24.

We whose names appear below do not know that we have a single dissatisfied person with whom we have had deal; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- I. R. Good, Nappanee, Elkhart Co., Ind.; 9fd
- E. M. Hayhurst, Kansas City, Jackson Co., Mo. 9fd
- E. A. Thomas & Co., Colerain, Mass. 9fd
- J. P. Moore, Morgan, Pendleton Co., Ky. 9fd
- G. W. Stanley & Bro., Wyoming, Wy. Co., N.Y. 9fd
- Bright Bro's, Mazeppa, Wabasha Co., Minn. 10fd
- T. C. Crilly, Grafton, Lorain Co., O. 10fd
- S. C. Perry, Portland, Ionia Co., Mich. 10fd
- D. E. Best, Best's, Lehigh Co., Pa. 10fd
- A. B. Miller & Son, Wakarusa, Elk. Co., Ind. 8fd
- S. D. Buell, Union City, Branch Co., Mich. 10fd
- R. Stehle, Marietta, Wash. Co., O. 10fd
- Hiram Roop, Carson City, Montcalm Co., Mich. 3-3
- J. H. Myers, Saratoga Springs, Saratoga Co., N. Y. 9fd
- Byron Walker & Co., Capac, St. Clair Co., Mich. 9fd
- J. A. Osborne, Rantoul, Champ. Co., Ill. 9fd
- Chas. D. Duval, Spencerville, Mont. Co., Md. 9fd
- J. T. Wilson, Mortonsville, Woodford Co., Ky. 9fd
- C. W. Phelps, Tioga Centre, Tioga Co., N. Y. 7-9
- J. J. Kiser, Des Moines, E. S. Station, Iowa. 10fd

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—The demand for extracted honey is very good in the small way (1-lb. jars principally), and it was slow for jobbing lots during the last few weeks. Prospects for a good fall trade were never better. It brings 7@10c. on arrival. Arrivals eclipse all previous seasons in quantity and quality. There are some arrivals of comb honey, which is held too high, and sales are consequently slow. Choice white brings readily 16@18c. on arrival. *Beeswax* is scarce, and brings 20@27c.

Cincinnati, O., Sept. 18, 1882. CHAS. F. MUTH.

CLEVELAND.—Honey.—Is in fair demand at 21@22c per lb. for 1-lb. sections of best white; 19@20c for 2-lb. Second grade, 19@20c per 1-lb., and 17@18 for 2-lb. Extracted has been selling at 14c in small 5-lb., and also larger tin cans; but barrels have not moved at all; we are asking 11@12c. *Beeswax*—25@28c.

Cleveland, O., Sept. 21, 1882. A. C. KENDEL.

CHICAGO.—Honey.—The honey and beeswax market remains the same as in my last quotations.

Chicago, Ill., Sept. 22, 1882. ALFRED H. NEWMAN.

BOSTON.—Honey.—1-lbs., 22@23c.; 2-lbs., 20c., and extracted, 12c. *Wax* scarce and high.

Boston, Sept. 23, 1882. CROCKER & BLAKE.

DETROIT.—Honey.—The honey market is not very active, as the weather continues warm, and fruit is still plenty. A good article is worth about 17c. I have just sold some that was extra choice for 18c. I have a consignment of dark honey, for which I have so far been unable to obtain 15c. *Beeswax* is selling at 20@25c.

Detroit, Sept. 25, 1882. A. B. WEED.

[But, friend W., you haven't told us whether you are talking about *comb* or *extracted* honey.]

NEW YORK.—Honey.—In reply to your postal of the 20th, permit us to quote 1882 crop of honey as follows: Best white in one-pound sections (no glass), 21@23; fair, 19@21; best two-pound, glassed, 18@20; fair, 15@17; best buckwheat in one-pound sections (no glass), 11@15; fair, 12@13; best two-pound, glassed, 13@14; fair, 11@12; best white extracted, in small barrels, 9@10; dark, 7@8. *Beeswax*, prime quality, 30c.

The new crop of honey is only commencing to arrive.

H. K. & F. B. THURBER & Co.

New York, Sept. 23, 1882.

We have about 2000 lbs. of extracted white-clover and basswood honey, in kegs holding 175 lbs., and in barrels holding from 265 to 550 lbs., for which we will take 10c per lb., and deliver free on cars or boat at Dubuque; kegs and barrels thrown in.

Durango, Dubuque Co., Iowa, Sept. 14, 1882. CHARLES HERMANN & BRO.

I have 10,000 lbs. of *light* extracted honey, in iron-bound, waxed, oak, 42-gallon barrels, all or any part of which I will deliver free on board of cars at Lewistown, Ill., for 9½ cents per lb., and barrels thrown in. Will send sample if desired.

RUFUS PORTER.

Lewistown, Ill., Sept. 21, 1882.

The Excelsior Poultry Yards

are always well stocked with Pure Bred Poultry and Italian Bees. All kinds of Job Printing done. Circulars free. Address

10-9d J. T. FLETCHER, West Monterey, Pa.



Vol. X.

OCT. 1, 1882.

No. 10.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. ABOVE ARE ALL TO BE SENT TO ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 35.

SOME time last spring I mentioned in my "Notes," that I was making a new foot-power buzz-saw, and, when it was finished, I would tell the readers of GLEANINGS how it pleased me. That somebody has been waiting for me to "tell," will be seen by the following:

Friend Hutchinson:—If you will send me a clear description of your home-made buzz-saw (it must be plain enough so that I can understand every piece), I will send you \$1.00. H. C. GRAEPEL.
Westphalia, Knox Co., Ind., Aug. 16, 1882.

Mr. W. Z. Hutchinson:—I have waited long and patiently for the description of that foot-power saw you told us about in the April No. of GLEANINGS, and promised to describe when finished. Will you be so kind as to redeem your promise? Also, if it is not asking too much, would you describe your *modus operandi* of burying bees in clamps? I am sure you will benefit many young bee-keepers besides myself, by describing these in GLEANINGS.

F. S. MCCLELLAND.

New Brighton, Pa., Sept. 8, 1882.

HOME-MADE FOOT-POWER SAW.

Those who are thinking of making a saw should send for the Nov. No. of GLEANINGS for 1878 and 1879, as these numbers contain descriptions of the saw that I first made. In this article I shall not go so much into detail as in the former descriptions. The framework of the saw that I now have is made similar to a cross-legged table. It is made of 3x3 oak scantling. The legs are 5 ft. 6 inches long, and cross each other 3 ft. 4 inches from their lower ends. Where they cross, a perpendicular slot, $\frac{3}{4}$ of an in. deep and four inches wide, is made upon the inside

of each leg, and into this slot is fitted a piece of hard wood 4 inches wide, 1 inch thick, and 1 ft. long. The bolt that passes through the legs where they cross also passes through a slot cut in this piece of hard wood. Through the lower end of this piece of hard wood is a hole in which runs the iron gudgeon on the end of the mainshaft. Of course, each pair of legs is furnished with such a piece of wood. Each pair of legs is 2 ft. 7½ inches apart at their upper ends. The length of the frame,—that is, the distance from one pair of legs to the other pair is about 5 ft. The tops of one pair of legs are fastened to the tops of the other pair by pieces of 3x3 oak scantling, bolted on. These pieces of 3x3 scantling are about 5 ft. long, 2 ft. 7½ inches apart, and parallel with each other. Upon the tops of these parallel pieces, and at right angles with them, are bolted two pieces of 3x3 scantling, 3 ft. 1½ inches in length. These last-mentioned pieces are also parallel with each other. The one at the left, as one stands in front of the frame, is 13½ inches from the end of the framework, and the other piece (the right-hand one) is 2 ft. 3 in. from the front end of the framework. They are 14 inches apart. It is upon the top of these pieces, midway between their ends, that are bolted the boxes, or set-screws, of the saw-mandrel. The saw-mandrel is of steel, one inch in diameter, and about 13 inches in length. It is pointed at the ends, and runs in set-screws. It has a 3x3-inch iron pulley. The saws are 8-inch. Oh, yes! the mandrel was bought second-hand, at a machine-shop. The large band-wheel is 46 inches in diameter, and 8 inches across the face. It is made of fellows 3 inches wide, sawed from a pine board. The

spokes are made of two pieces of pine board, 8 in. wide and 44 inches long. They cross each other at the center, and their outer ends enter mortises cut in the inside of the rim of the wheel. At the center, where they cross, is a 3x3-inch square, mortised for the main shaft, which is a 3x3-inch scantling 4 ft. long, to pass through. The wheel is held in place upon the shaft by a key which holds the spokes firmly against some pieces of planks that are spiked upon the sides of the shaft. Around each end of the shaft is an iron band, and in each end is driven a gudgeon of $\frac{3}{4}$ round iron, and upon the end of each gudgeon is a 2-inch crank. That part of the treadle upon which the foot is placed is 5 ft. 2 inches long, and comes up behind the operator. To each end of this is fastened a bar of wood 4 in. wide, 1 inch thick, and 5 feet 3 inches long. These last-mentioned bars extend to the back part of the frame, and are fastened to the lower ends of the "hind" legs of the machine, where they turn upon the bolts with which they are fastened. These bars pass directly under the cranks upon the ends of the shaft, and are connected with them by pitmans.

To the top of the framework, and at the back side, is fastened the saw-table proper. Through one of the 3x3 pieces that support the saw-mandrel, extends a screw with a crank upon its lower end. This screw is to raise or lower the table. From the floor to the top of the saw-table it is 4 feet 6 inches. As this is too high to work with ease, there is a bench 13 inches high to stand upon. The treadle, when it is the lowest, is on a level with this bench.

For making a few hives, or for light sawing, or odd jobs, foot-power saws are all right; but for heavy sawing, or for making many hives, they are *too hard on the legs*. I am thinking quite strongly now of building a home-made windmill on top of my shop, with which to run my saw.

WINTERING BEES IN CLAMPS.

I had such good success in wintering my bees in clamps last winter that I shall bury at least 25 colonies the coming winter. Upon a dry sandy hill I dug a trench 6 ft. long, 2 ft. wide, and 2 ft. deep. This trench I filled with straw. I then laid sticks across the trench, and upon these sticks I placed the hives. The bottom-boards of the hives were removed. I then built a pen of rails, and pieces of rails, around the hives. The space between the hives and the sides of the pen was about one foot. This space was filled with straw, and straw was also placed over the hives to the depth of one foot. Rails were then placed over the straw that covered the hives, and the whole pen was then covered with straw to the depth of one foot. Earth was then thrown on to the depth of about 18 inches. No holes were left for ventilation.

THE NEW FEED FOR QUEEN-CAGES.

Since last I wrote I have had no more losses in shipping queens. Friend Hayhurst wrote me for a sample cage. I sent him one containing a queen and ten bees; here is what he says about it:—

Friend H.:—Yours of the 12th inst. is received, also the cage of bees, in excellent condition. About one-third of the feed was taken out. From the amount of dry sugar in the cage, I judge that the bees lick up the honey, and let the sugar "slide." I will write you further in regard to the matter. It is late Saturday night, and I am awful tired. Please accept thanks. E. M. HAYHURST.

Kansas City, Mo., Sept. 16, 1882.

That is it, friend H.; they squeeze out the juice and spit out the "shucks." Honey soaked into su-

gar does not dry up, become "gummy," and sour, as it does in a sponge.

TIN PAILS FOR HONEY.

The 220 little tin pails came the other evening, and each of our little girls went to sleep with a little new pint tin pail in her hand. I guess the honey in them will sell all right; that is, if appearance counts for any thing. After they were all labeled, filled, and "stacked" up, one of the little twins volunteered the remark, "They look nice."

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., Sept. 20, 1882.

THE HONEY CROP OF CALIFORNIA.

ALSO SOMETHING ABOUT GOING TO CALIFORNIA TO KEEP BEES.

UNLESS we have abundant and heavy rains this winter we need not look for much honey next season. The ground has not been thoroughly wet to any depth for at least two years, and it must be wet thoroughly, or we need not expect honey. Now, I am asked by eastern correspondents if there are no places in California where the honey crop is sure every season, and my reply is, yes. But the bees and fruit can not be kept together. We have good localities for bees where the business is stock and dairying, but the honey is of about the same quality as your buckwheat and goldenrod honey. In order to have genuine good honey, it must be made up in the mountains. There are a great many bees kept in Tulare and Kern Counties, and, in fact, many parts of the State; but in the two counties mentioned, where the bees and stock are kept, they keep the fever and ague also; and I have always said that I would not live in an ague country, and I say so yet. Thousands of stocks of bees, no doubt, will starve to death this coming winter, and those that just barely rub through will be entirely worthless until they are requeened; for a stock of bees kept in a starving condition for 6 months ruins the prolificness of that queen ever after; at least, that was my experience with the first lot of bees in this State.

E. GALLUP.

Santa Ana, Cal., Sept. 5, 1882.

A RAMBLING TALK ABOUT QUEEN-CAGES.

CAUTIONS AND SUGGESTIONS BY FRIEND DOOLITTLE.

HAVING received a number of queens through the mails the past season, by way of exchange and otherwise, I thought a description of some of them and their contents, as well as to compare their merits as law-abiding cages, would not be amiss at this time. I may also make a few remarks as to the condition of the queens and bees when received, and also in regard to candy for mailing-cages. At the outset I will say, that not one of the cages received, of the many different styles, is according to the ruling of the Postmaster-General, and some are in open violation of the law forbidding liquids being carried in the mails. The first cage received, which I will call No. 1, was what is known as the Peet cage, as made by J. H. Nellis, having a tin slipping in grooves on one side, and wire cloth on the other, over which was nailed a thin board having $\frac{1}{8}$ -inch blocks under it at each end. This cage was provisioned with what is known

as the Viallon candy, and came over 1000 miles the fore part of May. Not a bee was dead, and the candy was soft and fresh as when made. Enough was left (not eaten) to last them twice as long as they had been *en route*. The next two queens I received were in the same style cages; but instead of using the Viallon candy, a candy made of white sugar was used in connection with a tin water-bottle. The first of these had leaked water so that the candy had become soft, and the bees and queen were half buried in soft candy, dying probably in less than half a day after being m'led. The second contained all dead bees, caused by the candy and water-bottle getting loose and pounding the bees to death. One of these queens was replaced; but although I returned the cage, bees and all, to the other, and have written him twice, it seems to be of no use, as he does not reply. The next was in a Peet cage as made by A. I. Root, which I will call No. 2, which is so well known that it needs no description. What these bees had as food I do not know, for all was consumed, and the bees were so weak that they could hardly stand up. After giving them some honey they soon revived and were as lively as crickets. The next was received in the same kind of a cage with Viallon candy, and were in splendid condition — not a dead bee, and all bright and clean. Then came one in a cage made of a 1-lb. section box, which I will call No. 3. This contained candy made of white sugar, and a very large water-bottle. About 30 bees were put in with the queen, one-fourth of which were dead. The queen was alive and all right. Next I received a queen in a very large cage (No. 4), made by boring two 2-inch auger-holes in a block of wood, and cutting a passage-way for the bees from one to the other. In one of the apartments was a sponge filled with honey to which the bees had access. There were two dead bees in the cage, and the rest were a little smeared with honey, but not enough to harm them. After this I received two more in No. 2 cages, one of which was in bad condition, as all were dead except the queen and two bees. This cage was provisioned with Viallon candy, which was so hard the bees could not eat it. Next, about Sept. 8, I received by the same mail a queen from W. Z. Hutchinson, in his cage, and one from I. R. Good in the cage he prefers. Both were provisioned with the Good candy. I call the names of these two gentlemen, because we have so lately heard from them. In friend Hutchinson's cage (No. 5) I found a dead bee wedged into each little hole which leads to the feed, and the remainder of the bees were nearly starved from not being able to get at the feed. Upon getting the dead bees from the feed-holes, those alive made a rush for the feed, which showed that they had not partaken of food for some time.

In the cage from friend Good (No. 6), which is simply a block with 3 one-inch auger-holes bored into it, with two of the holes cut together, and a hole made in the partition (which separates the third from the others), so that the bees can have access to the feed therein. Not a bee was dead, and all were as lively as could be. However, the honey had escaped from the sugar, sufficiently to daub the outside of the opposite end of the cage from which the bees were, so as to make it any thing but pleasant for the rest of the mail. One other thing: After the bees suck the honey from the granulated sugar in this kind of candy, the grains of sugar rattle out of the cages, which makes quite a nuisance in the mail-pouches. Again, all of these cages had but a

single wire cloth on them, while, according to page 121 of *A. B. J.* for 1880, the law requires a "double wire screen, the gauze surface being $\frac{1}{4}$ inch apart" on each cage, as the conditions to secure the lawful sending of queens through the mails.

Once more, the same page says, that "sugar, as a feed for the bees," shall be used, while liquids in all forms are forbidden passage in the mails. Hence it will be seen that all but the Viallon candy, which I have spoken of, are in open violation of the postal laws. On page 181, *A. B. J.* for 1880, I find these very reasonable words: "If one deviation from the requirements of the postal law be permitted, why not another, or many of them? And then any regulation describing the cage to be admitted in the mails is a farce! If we attempt to use any other cage than one having a 'double wire screen,' having $\frac{1}{4}$ of an inch between the two pieces of wire cloth, we shall soon see the ruling of the department reversed, and the mails *for ever* closed against bees and queens."

Would it not be well for us as queen-breeders to heed the above? The cage I prefer is the one described on the above page (181), but having a double wire screen by placing a piece of wire cloth over the whole. I also prefer the Viallon candy; but as the recipe of the same as given in GLEANINGS is rather indefinite, I have experimented till I have a recipe which gives a candy which is right every time. I will here give it for the benefit of the readers of GLEANINGS: Take a stew-pan and put therein 24 ounces of pulverized sugar, 8 ounces dark-brown sugar, and one ounce of flour, when all should be well stirred and mixed together. Now add 8 ounces of good thick honey, and the same number of ounces of water, stirring all together. Place on a moderately hot stove and stir till it boils, when it is to boil one minute. Take from the stove, and set in a basin of cold water, stirring briskly till it begins to thicken, when it should be taken out of the water. Now stir till it is about blood warm, when it is to be poured into the cages. The above will fill 80 cages. If you wish less, use less of each part in the same proportion. Set the cages away 12 hours, when they will be hard enough to use, and will keep soft enough for safe shipping for two months.

As a test, I sent a queen in exchange to a person, and he sent his queen back in the same cage on the same candy, when I sent still another queen to a distant party in the same, and all went without a dead bee. I have had splendid success with this cage and candy, with the exception of an exchange I made with friends Heddon and Hutchinson, both of whom reported every bee alive and in fine condition, except the queen, and she was dead. I hardly think the candy had ought to do with the matter; but of course I can not tell. Although I have used cages of different makes the past season, I have settled down to the conclusion that hereafter I shall use only a cage and candy, which conforms to our postal laws, as does the above. G. M. DOOLITTLE.

Borodino, N. Y., Sept. 20, 1882.

I would call attention to two points in the above article. First, friend D. criticises us because we have complied with the *spirit* of the postal ruling, rather than the *letter* of the same. The letter said double wire cloth, and was so stated because two sheets of wire cloth were needed to protect the clerks surely against stings. We soon discovered this was a very unsafe way; for if a sharp corner were thrust into the wire cloths,

they offered but a very feeble resistance. By using one thickness of wire cloth, and a stout board over it, with a groove to admit air, we secured all the ruling asked for, much more efficiently, with safety to the bees, and it is easier for us to make and attach. I feel sure we have a right to do this, and I am quite willing to submit the matter to the P. M. G. Let every one who sends out queens take *very great care* that the cages shall be so no bees can ever get out into the mail-bags, or we shall surely lose the privilege we now enjoy.

I am glad friend D. has mentioned about the honey from the Good candy soaking through the paper and wood, and making the package a little suspicious, to say nothing more. I noticed the same thing, and was thinking of a remedy, when the following came from our wide-awake friend Hayhurst:—

I mail you to-day a dollar queen, in a cage that I like. It obviates the waste of honey from the "Good" feed, which sometimes soaks through the wood of ordinary cages, and daubs the mail matter.

E. M. HAYHURST.

Kansas City, Mo., Sept. 19, 1882.

In the case mentioned above, the "Good candy" was all in a little tin tube, $\frac{1}{2}$ -inch in diameter, and $1\frac{1}{2}$ long. One end of the tube was left open, and into this the bees crawled and helped themselves. The cage was clean and dry; and although I kept the bees in it a week after it was received, none have died, and no sugar rattles out. One step more, and I won't offer any more improvements for some time. We all know that tin will in time rust, and that no metal is quite as clean and pure as glass. Well, we will bring back our discarded little glass bottles, but throw away the corks, fill them with granulated sugar, then drop in all the honey it will absorb. I am inclined to think a single bottle full will carry a queen and a dozen bees over to Italy, and we will give it a trial at once. Here is something from friend Good in regard to the matter:—

On last Saturday I returned your Peet cage to you with bees in, your kind of feed removed from one of the feed-chambers, and my kind of feed put in, so you can see which feed the bees will take first. I have not the time, friend R., nor the tools, to make one of your kind of cages, but I think it will work all right if you bore the small holes, that are to hold the feed, far enough from the two, then make a small opening to admit the bees to the feed. The main thing is, to get the feed just right; if too much honey is put in, it will run out of the cage, and perhaps daub the bees; if not enough honey, the bees will dig it to pieces, as you say, and let the sugar rattle out of the cages. I believe you will have your cages all arranged to take my kind of feed before this reaches you; and if you will use it one season I will venture to say, that it will be worth many dollars to you. But I positively refuse taking the \$5.00 you so kindly offer me. If you wish to give me, or pay me for the idea, you may at some time give me a small space in GLEANINGS, for kind words from some of my customers; if you do not wish to do that, it will be all right, as I shall be amply paid by knowing that I have been of some use to my brothers, and by receiving such letters as the following is an extract from:—

The twelve queens were received in the very best of condition — not a dead bee in either cage; friend G., you are boss on shipping queens.

Dresden, Texas.

B. F. CARROLL.

Say, did you ever send twelve queens that distance and get word back, "not a dead bee in either cage"? Yes, I think you have, and you know how it makes one feel to receive such word. This is not intended for publication, by any means.

Nappanee, Ind., Sept. 11, 1882.

I. R. GOOD.

I know it was not written for publication, friend G., but as I know all will be glad to hear a word from the man who has given us this new bee-feed, I have taken the liberty to put it in. The Viallon candy was untouched in the cage mentioned, and the bees had lived entirely on the other, yet the greater part of it remained still. It is a rather nice point to get in just honey enough, and no more, and I think the little glass vial will just fix it. That is, too much will do no harm. The contraction at the neck prevents the feed from flowing out, even though it be quite soft, and it also prevents the sugar from rattling out, because the glass can not absorb the honey and let the sugar get dry, as the wood does. Since my suggestion was printed (on another column) in regard to using this candy for winter, I see the editor of *A. B. J.* has also spoken of the same.

A GLASS HONEY-PAIL.

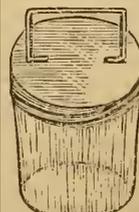
ONE MORE "NEW THING UNDER THE SUN."

LITTLE tin pails seem to be the favorite package for honey, because somehow everybody seems to have such a fancy for every thing in the shape of a pail or basket, or, in fact, any thing with a handle to it, to carry it by. It may be that thoughts of the "little chicks" at home (who have as great a fancy for little tin pails as have the twins at friend Hutchinson's), have something to do with the little pail getting the preference over the jar or tumbler; for what child is there who would not take a pail in preference to a tumbler or jar? Well, you know of late we have found the honey can be kept in a liquid state, and therefore we want glass to make it show to advantage. Can we have a glass pail? A few days ago I saw the following on a card:—

I am using a $\frac{1}{2}$ -pint jelly-cup with screw cap and handle, the neatest thing I ever saw for honey. I have had a good crop of honey nearly all sold; bees in good shape for winter (all in chaff hives).

Bell Branch, Mich., Sept 11, 1882.

M. H. HUNT.



THE NEW GLASS HONEY-PAIL.

I wrote at once to friend Hunt, asking for sample, and here it is; but I am sorry I have not as yet learned any thing in regard to the price of it. I will let you know in next *Juvenile*. The bail turns down, to be out of the way when packed, and I presume with rubbers the jar can be made as tight as the Mason jars. The cover screws on, of course, like the Mason jars, so no accident can happen by its coming off.

ARE THE CYPHS AHEAD?

MORE ABOUT THE QUEEN THAT GAVE THE 700 LBS. OF HONEY.

HIP! hip! Hold on, friend Heddon, before you dive into a poor fellow and dissect him from head to foot. My dear sir, I did not claim the greatest yield from 4 colonies the progeny of 4 queens, but my record was from a single colony. When I sent my old sombrero in the air with the shout "Eureka!" for the Cyprians, I was honest in believing my record was the best. I claim that my record *to-day* is nearly 100 lbs. better than the best from a single colony. Let me examine my apiary register, and I find the mother to my big-colony queen (the A. I. Root \$I Cyprian of Aug., 1880) leads out a swarm April 8; six days later, an after-swarm; next day, another after-swarm to which I gave two frames of brood, the other two only one on wired fdn. to fill the hive. June 11th the old (Root) queen comes out again with a large swarm, and four days later an after-swarm, to which I gave two frames of brood and 8 wired fdn. frames. The next day, 16th, No. 2 swarm sent out a large swarm. I now cut out all queen-cells to prevent any further swarms, and from these seven Cyprian colonies, all from one, I extracted, up to Aug. 8th, a little over 1000 lbs. of well-ripened mint honey, which I think equal to white clover. As before stated, I was unable, for want of means and help, to get over $\frac{1}{2}$ or $\frac{3}{4}$ of the honey that my bees could have stored. I am fully satisfied, that had I worked these seven colonies as I did my big colony, I could have taken a ton of extracted honey.

Dr. Farley, of Raleigh, Navarro Co., Texas, has a colony I sold to R. A. High that has sent out 9 swarms, and the old queen takes the tenth swarm to the woods, and from these I think he told me he had taken about 1200 lbs. extracted and comb honey; and now I will give you what the big colony has done up to Sept 8.

At date of last report, - - - -	700 lbs.
July 30, extracted 3 upper stories, and removed 2 stories, leaving 20 frames.	8 $\frac{1}{2}$
Aug. 23, from one story (upper) extracted	49 lbs.
Aug. 29, " " " " " " " " " " " "	22 lbs.
Sept. 8.—We have had 3 rainy days since Aug. 29, and cloudy, damp weather for the past week. From one story (upper) extracted	18 lbs.
Allow for uncapping and waste, - - -	2 $\frac{1}{2}$

Grand total - - - - 800 lbs.

They had left not less than 40 lbs. in the lower story; and I am satisfied they will fill the top story again, and will go into winter quarters with not less than 70 lbs. I lost about 15 or 20 colonies by running to the woods; sold 9 full colonies; have 97 full colonies and 15 small ones; have taken over 6000 lbs. of extracted and comb honey, and not less than 5000 lbs. now in my yard, all from 36 colonies, spring count.

Let us sum up:

The first 700 lbs. sold @ 15 cts. - - - -	\$105.00
100 lbs. sold @ 12 $\frac{1}{2}$ cts. - - - -	12.50
Total - - - - -	\$117.50

The net proceeds of one hive of bees for 1882.

Many thanks, friend Doolittle, for your kind criticism, and you will see that,—

"Away here in Texas, the sun shines so brightly,
The stars in their beauty appear;
The full moon in splendor illumines the night,
And bees gather honey all the year."

Dresden, Tex., Sept. 9, 1882. B. F. CARROLL.

AN ENTHUSIASTIC A B C SCHOLAR.

ALSO SOMETHING ABOUT SOME OF THE LESSONS HE LEARNED.

I AM an A B C scholar, and love to read the reports from others more advanced in this interesting pursuit. But after reading friend Pond's communication in Sept. GLEANINGS, page 446, I thought I could make quite a different report. I have at last come to a realizing sense of the fact, that keeping all colonies *strong* makes all the difference (many times) between a fair surplus crop, and no surplus at all. I purchased my first colony of bees (blacks) in a box hive, in April, 1878. I knew nothing about bees, but began to study into the subject; got hold of a copy of GLEANINGS, got the bee fever, purchased an imported Italian queen, a lot of hives, several colonies of bees, and in the spring of 1880 had 12 fair colonies. I increased to over 30, although your advice, as well as that of others, was to make haste slowly. I thought I knew—well, considerable (if not more), and thought perhaps I should prove an exception, and get along all right. Many of my 30 colonies were mere nuclei, and you can guess the result of the winter of 1880-'81. I had five weak colonies left. I bought four good colonies, sold one, and last spring had ten colonies, most of them rather weak. The spring was very wet and cold, so I had to feed, and kept them breeding as fast as possible, treating them according to friend Doolittle's method, as given in the A. B. J. last spring. By the time fruit-blossoms opened, my strongest colony, No. 10, had ten frames well filled with brood, and I have taken from them, up to Sept. 5, over 90 lbs. of honey, 20 lbs. comb, the rest extracted, and five frames of brood and bees, giving them empty combs in return. I shall probably get 15 or 20 lbs. more if the weather continues warm the rest of this month. I get 25 cts. for extracted and 30 for comb; \$2.00 worth of granulated sugar will make syrup enough to winter them.

My 10 colonies have increased to 15 good ones, and I have taken, to date, 450 lbs. honey, mostly extracted, and expect at least 100 lbs. more. I have not fed them at all since fruit-bloom commenced; have had drones flying all summer, and plenty of them now with drone brood in most of the hives. I think they have done very well for this section. Of course, we don't get such yields as you do out west, or down in Texas. We have no basswood, and but very little white clover, in this vicinity. After fruit-bloom came blueberry blossoms, and my bees were very busy on them. Then comes white clover, which kept them breeding, and gave some surplus; then sumac, of which there is not a great quantity here; then came buckwheat, of which there was, without doubt, as many as *two acres* within reach of my bees, and the weather has been so dry it did not amount to much. They are now working on goldenrod right merrily, I assure you. I find I can get much more honey by extracting clean from the brood-chamber, because, although the honey-flow has been continuous, it has not come in with a rush; and after they have the brood combs well filled they will not exert themselves to store surplus outside, as they will to fill up after it is all taken out.

I shall winter entirely on granulated-sugar syrup. Of the four or five colonies I fed syrup in the fall of 1880, all lived; nearly all the rest died. I nearly forgot to mention that one of my neighbors has taken

over 70 lbs. comb honey from one colony this season, stored in 1-lb. sections in wide frames each side of brood-nest. I found, while extracting last week, that a part of the honey was candied in the cells—something I have never seen before.

I would say to friend Thorn, my bees have worked on sumac blossoms every year since I commenced bee-keeping. Any time from morning till night I could count from one to ten bees on nearly every bunch of blossoms. I think they must get considerable honey from it.

R. J. FOX.

Natick, Middlesex Co., Mass., Sept. 18, 1882.

FRIEND BOOMHOWER'S REPORT.

ALSO HIS IDEAS ABOUT SEVERAL MATTERS.

WITHOUT a doubt, this has been one of the most unfavorable seasons ever experienced by bee-keepers in this State, especially in this part. The commencement was cold and wet, with cold rains nearly every day until about the first of July. With July came a little more favorable weather, and colonies that had good care were in fair condition for storing surplus; and had it not been for the extensive drought that set in July 5th, a good and satisfactory crop of honey would have been secured. But as it was, the red clover, which began to yield honey freely, was soon elosed by the extremely dry hot weather.

MELILOT, OR SWEET CLOVER.

This was not so much affected, and to this valuable plant we are indebted for what little honey we have, as it gave our bees work through July, when everything failed, and kept them at work, breeding and getting ready for buckwheat, which usually commences to bloom the first of August; but as I have before stated, the extreme drought kept it, and so affected the buckwheat that, with the exception of some fields that were cultivated upon wet or moist land, it was not of much good for bees; and as this is our main dependence for a fall crop, we have been disappointed, and therefore must be contented with but little. Although the season has been a short and poor one, it has not passed without teaching us some good lessons in this our favorite pursuit.

OVERSTOCKING.

I think we are benefited somewhat by having once in a while one of these short and poor seasons; it teaches us that there is danger of getting too many bees in one place, and also that it is not a good idea to count the chickens before they are hatched. Now, here is a subject that is, I am afraid, not being taken into consideration as much as it ought to be by bee-keepers; that is overstocking a locality with too many bees; and I think that where there are 10 bees for every blossom, it is not quite as good as it would be if there were 10 blossoms to one bee. Here in our locality are over 700 colonies of bees working on the same ground, and those that are surrounded have not done nearly as well as those occupying the grounds upon the outside. A yard of only 23 colonies, located out 2 miles, has made more honey than 170 colonies located here in the village, and surrounded on all sides by other bees. Now, why this difference, if we are not overstocked? In good seasons, or in a season like 1881, we would not have been very much affected; but like the one just passed, we can clearly see that there have been too many bees; and the result is, it has not been very

profitable to any of us; and my advice upon this important question is, do not overstock your locality, and intrude upon grounds that are already occupied by parties who have an older right.

HOW FAR WILL BEES WORK TO ADVANTAGE?

Much has been written upon this subject, and I have come to the conclusion, and have clearly satisfied myself, that bees will not work to advantage, nor even fly the distances that are claimed by some writers. Some claim that bees work from choice from 3 to 4 miles, and some have gone so far as to claim that they will fly 7 miles to obtain honey. Now, my idea is, that this is all a mistake, and I honestly believe that, if a colony of bees had to depend upon going 7 miles to obtain food, they would be exterminated in less than one week. My opinion is, that whoever locates his bees so that they are obliged to fly from 4 to 7 miles to obtain their supplies, will get severely disappointed, and make the business a failure in a very short time.

EXPERIENCE WITH COMB FDN.

From what I read, there is much said in regard to the different makes and kinds of fdn. now used. In the last four years I have given this matter much thought, and no little time have I spent in experimenting. I have used and experimented with nearly every make—that without wire and that with, and the result is, that I think it a bill of expense to use or make wired fdn. After using all kinds, I have chosen the fdn. made upon the Olm mill. With this I have no trouble with any sagging, and I have used it extensively the past two seasons. I also have used several hundred sheets made on A. I. Root's mill, and never had a sheet sag or fall down. The reason I like the Olm fdn. best, is because it makes such a beautiful and perfect side wall, the cells being nearly high enough for the receiving of eggs as soon as it is taken from the mill, and the ease and rapidity that fdn. can be made upon it. After the machine is started I can use it all day with nothing but cold water. After using the Olm mill for two years, I am perfectly satisfied with it, and could not be induced to exchange for any other make; and as for wired fdn., I claim it is expensive; and if the sheets are properly put into the frames, and used as I do, good fdn. is better without wire than with.

F. BOOMHOWER.

Gallupville, N. Y., Sept., 1882.

May I suggest a little more charity, friend B., in your remarks about the distance bees fly? Friend March has given us plain clear proof, as it seems to me, that bees may fly 7 miles, or even more, for stores. I should be sorry to have one of our friends say any thing that might reflect on another. I heartily agree with you, in thinking it not advisable to locate bees, expecting them to prosper, when they have even four miles to fly, as a rule. Our bees seldom work profitably when they fly over about $2\frac{1}{2}$ miles, as nearly as I can determine. — Wiring fdn. is by no means solely for the purpose of preventing sagging while the cells are being built out. It is that the combs may ever after stand shipping and handling, in any kind of weather. I am very glad indeed to hear so good a report of the mills you mention, but I more than half suspect I could make fdn. that would not sag, on almost any of the mills now in the market. The shape of the cell has, of course, something to do with it, but it is an easy matter for the maker to alter his punch, so as to make any kind of cell his customer may order.

GOOD HONEY AND GOOD QUEENS.

A Plain, Practical, Common-sense Article.

PUTTING UP EXTRACTED HONEY.

HOW shall we do it? This is an important matter; for whatever may be said of the coming bee, there seems now to be little doubt that extracted honey will be the honey of the future; it is being produced in larger quantities, and is coming more and more into demand. The *American Bee Journal*, and several respected authorities, state that the best test of pure honey is, that it granulates in cold weather, and they hint that consumers should beware of honey in glass jars which does not candy. This seems to be a little hard on some of us who have thus put up our honey for years. But as we know that their tin-can solid honey can not stand in the market with pure liquid honey in glass jars, we can afford to be patient under such insinuations. What the people want is pure liquid honey, and this they can have. The guarantee of purity must be the character and name of the producer.

About 14 years ago I put up my crop in glass jars, and had it all granulate. What a job I had heating it and emptying the bottles! The next year I put about half a barrel of white-clover honey into a copper kettle, and brought it to the boil, and ruined it. But I noticed that the change of color and taste did not take place until it had nearly reached the boiling point. Thinking that honey heated, but not boiling hot, when sealed up might keep without granulation, I tried again, and succeeded. For thirteen years I have pursued this method, heating the honey, but not enough to injure it, and sealing it in glass jars while hot. I also found that it was not very important to have any particular degree of heat. Last summer I made some experiments, putting up some at 180, some at 160, some at 140 degrees. It all kept equally well; but that put up at 180° had a slightly scalded taste, but not enough to injure it. I want to try some this summer at lower degrees of heat, and find just how warm honey must be when sealed up, to keep it from candying. The one thing necessary is to have the air all expelled before it is sealed. Now, as we can get 140 or perhaps 160 degrees of heat without fire, the next thing to do is to learn to put our honey in glass without putting it on the fire. Now, can this be done? Two ways occur to me. In both ways a tight box is needed, in which to set the jars to be heated after they are filled. Where steam is to be had, a pipe can be run through the box to get the required heat. When steam is not accessible, the box can have a glass cover like a hot-bed, and put in the sun any warm day. My thermometer set in the sun, rose to 156° last summer: under glass it would have gone higher. On any bright day in summer, we can probably get enough heat to warm honey sufficiently to keep it from granulating, if sealed up while warm.

QUEENS.

Much depends on the queen. Who has not found here and there in his apiary a colony which far outstrips the mass, while others straggle in the rear? Different causes may contribute to this result, but the one cause, always operative, is the character of the queen. For instance, I have a colony which for three years, during the lifetime of one queen, was in the vanguard; this year, with a new queen introduced last fall, it is among the stragglers. Another colony which for three years was in the rear, with a

new queen introduced late in the fall, rushed up to the front this spring. What we want is a select tested queen of this kind at the head of every colony. How are we to get this? I know of only one way; that is, to raise or buy them, and test them ourselves, and kill all poor queens and all which are only fairly good; and keep on testing and killing, until we get a first-rate queen in every hive. This killing of queens, especially fairly good ones, is sad work; but there is no other way to the best results. Suppose a man has 50 colonies with 15 first-rate queens, 20 fairly good, and 15 below the average. Suppose he raises this summer from his best queens, say 120. He may sell them as dollar queens, and net, say, \$100. That would be doing well, if he is working for honey rather than queens. Now, instead of selling his young queens, suppose he keeps and tests them, and out of the 120 he gets 35 first-rate queens. Suppose he kills off all the poorest of his old queens, and those that are only fairly good, and the 85 young ones, rejected, 120 in all killed, and secures for each of his 50 colonies a select tested queen. He makes no money on queens this summer; but will he not, in the years to come, get his money back? The man who has done this, and who has followed it up for years, is the man from whom I should like to buy queens. Where does he live? Don't all speak at once. I am working on this plan this summer.

Last year I bought, from different parties, tested queens. They were tested, evidently, only with reference to purity. Only about one out of three of them is really first-rate in all respects. I will buy no more tested queens unless they are also tested with reference to vigor, fertility, hardness, and honey-producing qualities of their workers. Queens of this kind are worth many times the price of a dollar, or ordinarily tested queens. Dollar queens from reliable parties yield about the same proportion—one first-rate queen in three; the only difference is, that some of them produce hybrids. Inferior queens are just as likely to mate with Italian drones as the superior ones. It is about time for us to stop keeping or selling to others every thing we can raise in the shape of a queen-bee. I am killing this summer, to make room for others, queens which I might have sold as tested Italian queens, fairly good ones too, and a good deal better than some I recently bought at \$3.00 and \$5.00 apiece. I do not expect to pay \$5.00 nor \$3.00 nor \$2.00 again for a queen, and find her pure, but—worthless! I dislike to pinch the head off a \$5.00 queen, but sometimes it is a losing business to keep them. When we get first-rate queens in every colony, we need not trouble ourselves about not being able to control the fertilization of young queens. Good drones will be plentiful, and the young queens can make their own selection, and will no doubt do it as nicely as any man could do.

Much depends on the drones as well as on the queen. An inferior queen, well mated, will cast better queens than a superior one mated with a less vigorous drone; at least, that is the only way I can account for the fact, that the queens I raised last summer from my best queen and colony were not at all equal to those from a beautiful queen in another colony, which was never strong in bees, and gathered no surplus honey. But a superior queen well mated is the one to raise queens from. This can be ascertained only by thoroughly testing her royal daughters. Every queen should be thus tested before we raise many queens from her, either

for ourselves or others. And we should never sell to others what we would not not keep for ourselves.

Milroy, Pa., July 5, 1882.

J. W. WHITE.

Just the thing exactly, friend W., both on queens and extracted honey. I have before stated that our customers are partial to honey in its liquid state, and I have given directions in the A B C for keeping honey in its liquid state by corking it while hot, with a cork soaked in melted wax, and I had also found out how easy it is to injure the honey by heating it a little too much, but it never before occurred to me that the heat of the sun could be sufficient to bring about this very desirable non-candyng property. Why, the idea opens a great field for the sale of extracted honey. You are right, friend W.; extracted honey is rapidly coming into favor.

Your remarks in regard to the plan to be followed to get queens for honey are more to the point, to my notion, than any thing I have ever before seen in print. It is simply to test them for honey—the only thing, or almost the only thing, that is of any real importance, when we sum it all up. I agree with you, that the greater part of the tested queens are not tested for much more than color and gentleness of the workers. Our select tested queens, we try to test in regard to the ability of the bees to gather stores; but it is a long job, and I fear very few of them would come up to your standard. Our red-clover queen was selected from over two hundred, just because of the honey her bees would gather, and our recent honey-queen was selected from over four hundred in the same way. But only just this week, the boys say they find some bees among her progeny which show the third yellow band with a suspicious faintness. Now, shall we let all her extra energy go as of no account, just for this one little matter of color? I tell you, if I were going to rear bees for honey, and nothing else, I do not know but I would just as soon have her that way as any other.

One other point, friend W. You state that you have had extra-good queens from one you know was very poor, and *vice versa*. Well, are you sure it was the drone that caused this unexpected result? May it not be, that if we could pick our drones as well as queens, we should find just about such results? By way of encouragement, I would say that I once reared some queens from one so poor she could never keep up a decent nucleus, and the young queens were all just as bad, or even worse.

THE DEANE SYSTEM FOR SECTION BOXES.

AN IMPROVEMENT ON THE PLAN GIVEN ON PAGE 129, MARCH NUMBER.

SINCE making some recent improvements to the new Deane system for comb honey, friend Root writes to know how about the expense of the hoop iron, etc. The improvements consist in having the observing-glass in the clamp $1\frac{1}{2} \times 1\frac{1}{4}$ in., and clamping the cases together by means of 3-16 iron rods with thumb-nuts. I regard friend Root's objections to the wires that I formerly used as just, for they were frail; but the action of this thumb-nut is positive; and after tightening the nut you

can handle the cases truly as a solid box. No danger of the bottom-bar of case sagging, for the clamps hold the weight of the honey, and there is scarcely any weight on the bottom-bar.

In my former article I spoke of sending the honey to market by placing thick brown paper on top and bottom, and nailing strips across; but I find we may get a thing so cheap that we may compromise its utility, and I would advise the following: After taking the honey from the hive, take off the cases, place the sections side by side, 24 in number; clamp them firmly together by means of the rod and nut; have a bottom of $\frac{1}{4}$ in. lumber, and a top of $\frac{3}{8}$ in. lumber; rabbet the sides of top $\frac{1}{8} \times \frac{3}{8}$, and let $\frac{1}{8}$ in. go down on top of sections; then screw your top on, tack in the ends $4\frac{1}{4} \times 10\frac{1}{4}$, to hold the sections in place, and the case is complete. Before tightening sections to nail on bottom and ends, put five strips $\frac{1}{4} \times \frac{1}{4} \times 4\frac{1}{4}$ between two rows of sections so they will not shake in transit.

Now, friend Root, for the comparative cost of the hoop-iron frames, etc., of the Deane system, and the broad frames, etc., of the—

ROOT, OR SIMPLICITY SYSTEM.

Nine wide frames @ 4c each, - - - - -	36
Three shipping-crates @ 30c each, - - - - -	90
Total, - - - - -	\$1 26

NEW DEANE SYSTEM.

Three pairs of clamps with glass @ $12\frac{1}{2}$ c, - - -	37½
One " " hoop-iron frames @ 6c, - - -	12
Two " " taps and rods @ 6c per pair, - - -	12
Eighteen cases @ $1\frac{1}{2}$ c each, - - - - -	27
Top ^s , bottoms, and ends, for 3 cases of 24 lbs. each 37½	
Total, - - - - -	\$1 26
Balance in favor of nobody, - - - - -	0

This is the necessary furniture in the flat, for one hive of 72 lbs. of comb honey. Now, what have each of us left, after sending our honey to market? Friend Root has his nine wide frames, and I my two hoop-iron frames, taps, and rods, and 18 cases.

Necessary cost to restock friend Root's hive:—

Three shipping-crates @ 30c, - - - - -	90
Necessary to restock mine:—	
Three pairs of clamps @ $12\frac{1}{2}$ c, - - - - -	37½
Three sets of bottoms, tops, and ends @ $12\frac{1}{2}$ c, 37½	
Total, - - - - -	75
Balance in my favor, - - - - -	15

So you see, friend Root, the original cost of mine is the same as yours, while on the restock I beat you 15c to the hive, and each of us has our honey in 24-lb. packages, the most salable shape; 5c reduction on the crate is bringing it somewhere in the neighborhood of "give away the crate," spoken of in JUVENILE GLEANINGS, August No., is it not, friend Root?

A word about your former objections: The only two that I consider valid I have met with improvements, one of which, so far as I know, is yours; viz., the glass in the clamps. The other I think fairly belongs to me. If my memory serves me right, I don't think I ever claimed the wires for trussing up the cases as new, for I think I gave friend Bingham the credit for that idea, in a former card to you, before the publication of my article in March last. Again, I would say that, with this system of mine, there is no necessity for either notching or dovetailing the cases at the joints, provided you can nail the bottom-bar exactly in the corner of ends; but as this is difficult, I notch them for that purpose and no other.

WHAT I CLAIM AS NEW.

A case without a top-bar, to be used in either

brood-chamber or on top, and only 4 sections to the case; a hoop-iron frame for suspending same in brood-chamber, and a tap and rod to clamp same together on top.

C. H. DEANE.

Mortonsville, Ky., Aug. 21, 1882.

But, friend Deane, may I suggest that our arrangement, used as you have figured yours, will be much cheaper than to use the nine wide frames? Take two wide frames, and then for the upper story use two of the combined shipping and honey crates, and we have, as the total expense for the 72 sections, only two wide frames, 8c, and two empty crates, 47c, or 55c in all, in place of the \$1.26. If we go in for cheapness, the fewer wide frames for sections the better; but as they hang right into an upper or lower story, and hold separators just where wanted, a good many hold to them, in spite of the expense. As the Deane system is now before us, the public will soon decide which they want. Before another season we shall all have ample time to study well these points. Friend Crilly, of whom I have spoken in this number, sets his one-pound sections right on the frames, and tiers them up two high, without any kind of a case or fixtures, and he gets beautiful honey.

HONEY-DEW.

SEND you some pawpaw leaves on which are drops of some sweet substance, I presume usually called honey-dew, the large drops dripping from the tall trees; the small ones — well, I will not say how they came there. The woods are roaring with bees every day. My bees are storing honey, and building out fdn. in an unusual way for this time of year. The honey crop is light.

H. R. BOARDMAN.

East Townsend, Huron Co., O., Aug. 28, 1882.

We have had the heaviest honey-dew in this part of the moral vineyard that the oldest men with whom I have talked ever saw, and it has lasted four weeks, and still continues, but not so heavily. It would have done you good to witness it. I have seen a good many men's theories on the same, and I had mine. I don't think I can tell what produces it. It is a wonderful thing, and has made bees do a good many curious things. I heard of one man being away from home, and left a window open, and a runaway swarm went into his house and found a knot-hole in the ceiling, and went to work between the joists, and some others had swarms go in between weather-boarding and studding, at a knot-hole. Lots of bees in the woods; one of my neighbors has found twelve colonies.

A. J. WOOLYERTON.

Hopkins, Nodaway Co., Mo., August, 1882.

IT DROPS OFF THE LEAVES IN STRINGS.

According to your suggestions, I have been investigating the honey-dew question. For at least a month my bees have been gathering stores from the woods, and for some time I supposed there was some buckwheat field on beyond; but upon inquiry I learned that there was none sown this season for at least four or five miles in the direction of their flight. Then I thought of the honey-dew. So, on the 4th of this month I had occasion to cross the woods, to which my bees appeared to go, when my attention was attracted by a loud humming in the

trees. Upon examination I saw a beech-tree literally alive with bees. The numbers were so great I at first thought there might be a swarm in the tree; but after watching them a little while I discovered that they were gathering something from the leaves. I pulled down a limb, and the leaves on their upper sides were dotted and splashed over with a clear sticky fluid, which was very sweet to the taste. This I decided was the veritable honey-dew, and also that it came from above, because that it was to be found on the upper surface of the leaves, and also that it had fallen, as the blotch had spread, or splashed; but how far from above it had its origin, I could not then determine.

This morning I renewed my investigations, and found large quantities of honey-dew. I even found it on a limb, on which it had dropped and collected an inch and a half long, and evaporated till it was as stiff as very thick honey. I scraped enough off to make a bunch as big as a medium-sized bean, and the leaves of the trees looked in the sunlight as if they had been varnished. That which I found to-day was not so sweet as on the 4th of September. I found it in the largest quantities on the beech. I could see very little on maple, or any other kind of timber. I invariably found limb or leaf lice close by, and in connection with it. Where the timber was entirely free from these insects, the honey-dew was very scarce.

A neighbor of mine, Mr. Bishop, tells me he found the oak leaves covered with it, and his bees left all else for it. Another neighbor told me that about the first of this month he found it on the grass in his woods pasture; he said it had the appearance of grease on the grass. Now, I never saw the lice on any kind of timber but beech, and I never found the dew very far away from the lice. I will send you some of the leaves. The leaves with the holes in, I got on the 4th inst., between one and two o'clock in the day; the others, about ten o'clock to-day, Sept. 13.

R. McCORRY.

Jerome, Union Co., O., Sept. 13, 1882.

Two pairs of beech leaves were inclosed in the above letter, so stuck together that, when separated, they drew the honey-dew out in strings, and it was as sweet to the taste as very thick honey right from the hives, for aught I could see. The honey-dew this season has been unprecedented, and several samples have been sent. Mr. J. Pierce, of Granger, Medina Co., O., had some jars of it at the fair, nearly as black as tar, but the flavor was not unpleasant. We have a jar of it now, among our samples of honey. The taste is a sort of rich licorice sweet. It is not always so dark, for I have seen some honey-dew comb honey that was rather lighter in color than the average buckwheat honey. It seems now that the great bulk of the honey-dew at least, is the work of aphides. These insects feed upon the leaves of the trees, and convert the starch and woody fiber into sugar (or honey, rather), and the operation is not unlike that which the chemist performs when he converts sawdust into starch and then sugar, only they make a short cut in the business by chewing up the leaves and exuding the sweet water, which, striking on the limbs, is in just the right shape to be evaporated by the hot summer sun, until it becomes thick honey ready for the bees. Yesterday I saw a lot of black

aphides on a stalk of buckwheat, and a lot of black ants were all over them, sucking the sweet juice as it exuded. These ants treat the aphides something as we do cows, for the cows eat the green herbage, and convert it into milk, and we follow them about for it, and draw it away as it collects. On the same ground, we need not spleen against honey from honey-dew, any more than we do against milk from cows; for the process by which it is made in Nature's laboratory is not so very unlike. Aside from the honey-dew from the aphides, we have it also as a vegetable secretion without the agency of animals at all. In this case the plant itself seems to make the change, and exude the honey, as in the case of the wheat, the catalpa leaves, and other cases that have been reported during the past few months. The idea, that honey-dew rains down from the clouds, will hardly bear investigation as yet; not that we doubt any of the statements, but that we think the observers were mistaken. A mist falls from the clouds, and it falls on the leaves that have this honey-dew dried upon their upper surfaces, and the bees are seen eagerly gathering it up; but I think every case will show that the dew, as it falls from the clouds, is pure water, and nothing more. To prove it, catch the dew, mist, or fine rain, as the case may be, on a clean tin pan, away from any trees, and I think it will be water, and no sweet about it.

BEES, BUSINESS, AND CHRISTIANITY.

ALSO SOMETHING ABOUT BUYING UP CONDEMNED STOCKS IN THE FALL.

I HAVE been a subscriber to GLEANINGS for over a year. At the time I began to take it I was wondering if a man could be much of a business man and be a Christian. GLEANINGS has answered it emphatically in the affirmative. It has done me a great deal of good, for I confess I was rather cold in regard to religion, although a professor of it.

I began keeping bees one year ago last spring, with 2 swarms in box hives; had 3 in fall; traded for 4 more; wintered the seven without loss, and in the spring I moved to this place (thinking it the best locality in this part of the country), and traded a wagon and team for 30 colonies, and material for 24 hives. The spring and most of the summer has been very poor. Bees have made only enough to live on; but the last few weeks back they have been doing exceedingly well on goldenrod, wild sunflowers, and some other autumn flowers. I think I may get honey enough yet to amount to the price of team; have got about \$100 now. I now have 52 colonies, including 5 nuclei. There is a man near me who kills the increase of about 60 swarms every fall. Would it not pay me to get them (about 40 swarms), and take some of my surplus honey, which is in Langstroth frames, and with one or two frames of candy per colony, winter them through in a cellar well ventilated? then in spring, if all my bees live, start an apiary in another place about six or eight miles from here. I intend to make bee culture my sole business.

Do you think it would be safe to take so many? Would they winter on candy alone, with a few combs with candy, to cluster on? Would it not cost about

\$2.00 per swarm for candy? Should the candy be one-fifth flour? It would probably be quite cold before I could get them.

WM. FULLER.

Brookville, Wis., Sept. 8, 1882.

Friend F., as I see it, there are few things more needed in this world than to bring religion into business, and business into religion. We want to do it, too, unflinchingly, even though some do insist that business is one thing and religion another. No matter what men may say, when they find a religion lived that makes men honest, and above any kind of prevarication, the men who have that religion will be eagerly sought for both by believers and unbelievers; and therefore the thing for us to do, if we do not wish the name of our Savior dishonored, is to make all our business transactions straight and sure. It is often urged, that a Christian is as liable to have bad luck, and be unable to pay, as any other man. I do not believe this. A Christian has no right to take the chances that another man might; for if he fails, it is not his own dishonor he has to bear, but the dishonor of Christ our Lord. Therefore, friend F., unless you can well afford to lose the 40 swarms of bees you mention, if they should all die after feeding the \$80 worth of sugar, do not go into it. If you are new at the business, try a few, say four or five, until you know what you can do. Don't take any ventures and run risks, unless you can do it without inconveniencing any other man. An old expert hand at the business could probably take the whole forty now, while it is warm, and make them winter, by giving them \$2.00 worth of sugar each, but it should be done the very minute you get this. Perhaps I might say, instead of "old and experienced," a *careful and thorough* man, for I would to-day give more for these qualities than age or experience, where I could not have both. At present, I think I would omit the flour in preparing candy for winter. As granulated sugar stirred up with honey is proving to be the best bee-food for shipping bees, I should not wonder if it were the very best we can get for wintering. Will not friend Good and others help us to give it a thorough trial? It can be fed without any feeder.—Do not start a second apiary until you can surely and safely manage the first one. Bees *can* be wintered successfully on candy alone. I have done it repeatedly.

THE SWARMS! OH, THE SWARMS!

SOME SUGGESTIONS IN REGARD TO THE CAUSES OF EXCESSIVE SWARMING.

I FIND I have had, by actual tally, 167 natural swarms this season from a start of 63 colonies.

I also made about 15 colonies by division, a number of them early, with intent to prevent swarming, and the net result was to increase the number of natural swarms instead of decreasing them. When swarming gets fashionable, both parts of a divided colony will send out swarms. To help in making things lively, I have had 35 cases, in addition to the above, of swarms coming out and going back into the hive again. I have had 12 swarms come out in one day, and 5 swarms, or parts of swarms, tangled up in one mess. Change of season

seemed to bring little relief, as 31 of the swarms came in August, and one in September.

I had hoped that many of my stands would refrain from swarming, and that most of the remainder would be content with swarming once. My purpose has been to keep about a hundred colonies, so no attempt was made beforehand to provide for much more than that. It is putting it very mild, to say that I was a little "rattled" by the way they made me skip around. The sample hive you asked me to make never got made. The children's colony, on half-size section frames, got neglected, and I shall have but a slim report to make of it. I had commenced again the attempt to make forty colonies out of one, and had to drop that business after reaching number five. Other experiments never got begun at all. But the finality is, that I've got some honey and some experience, and —lots of bees.

The 167 swarms were divided as follows: Ordinary primes, 49; after-swarms, 88; primes, with virgin queens, 8; repeaters, 21; double repeaters, 1. As some of these terms are not in universal use, I will explain. A prime with virgin queen, results when a colony is deprived of a queen in swarming-time. Of course, they rear several, and may swarm, when the second one emerges. A "repeater" is a swarm with a fertile queen emerging from a new colony, or from an old one that has already cast one series of swarms the current year. Only 4 of the 167 got away, I believe. One of these was lost by being left in the tree too long. I was tired, and had some tinkering to do, and why should I hurry? Two were first seen or heard when breaking up cluster to depart. One got away by persistent contrivance. In making my swarms stay where they were put, I have had remarkable success. Only about 10 or 12 of the whole lot came out after being run in once. Of this small number, two, and probably more, were queenless. Nearly all the rest came out from one and the same cause, being mixed with strange bees. Somehow my bees decidedly resent being mixed up. I am quite near laying it down as a rule, never to mix bees under any circumstances. I am even getting suspicious of bees that have been mixed in the cradle by means of frames of sealed brood. When a swarm is good-natured, and has a queen, and I can get them without any tangling, I feel so sure of them that I scarcely bother to look at them after hiving. They stay well if given a frame of larvæ, and just as well if not. Of course, I do not deny that two or more small swarms hived together often stay all right; but a large percentage of such make more or less trouble.

REASONS WHY SWARMS DESERT.

1. Bad smells. Let the hive be clean, and make sure that no *dust* is lodged in it. No sour or ill-savored old combs must be used to hive swarms on. I often work off such upon new swarms, but not in hiving. I wait a couple of days, and then take out a few of the frames they have worked least in, and replace them with old combs. The frames removed are tiptop for the next swarm that comes. If prying robbers come around while you are arranging the combs to hive a swarm on, don't be so thoughtless as to play on them with the smoker. The smell of a little smoke on the combs is enough to make you much trouble in getting the bees to run in.

2. Standing in the sun. Bees are very much like folks. The old homestead may be hot and uncomfortable, and one bears the discomfort rather than abandon it; but in renting new premises, he takes

good care to see that they are cool and comfortable, else he looks further.

3. Dumping the bees *into* the hive. When the cluster is stirred up, the bees, of course, run. If put down outside, they readily run in; but if tumbled into it there is nowhere to run, except to run out. This running out, I imagine, spreads a bad impression, that the premises are not to be accepted.

4. Too little ventilation. Don't expect them to be content with the same amount of air that the old hive had, even if they are shaded. Though happy, they are excited and warm, and must have lots of doorway.

5. Crowded chamber. A full brood-chamber is one main cause why prime swarms come out of the old hive; and if you give the same thing in the new hive, or any thing like it, the risks are increased thereby. If you wish to help them to a full set of combs or foundation sheets, let half the frames have only starters at first, and then exchange them two days later.

6. All unnecessary interference with the natural course of affairs, especially preventing the queen from flying with them, and making them come back to the old stand. A hog on ice is no match for a bee in self-will. It is quite needful to make a swarm think that they have had their own way; and this delusion can not be kept up if they are obliged to come back to the old stand for the queen. I think it is this point that is mainly responsible for Mr. Doolittle's wretched swarm report. If my memory serves me aright, he reports that six swarms out of ten come out when he gives them a frame of brood, and four out of ten when he does not! Another reason for this astonishing per cent of desertions is given, I think, in the next item.

7. The habit of shifting frames of brood from one hive to another. Let your swarm be all children of one mother, if possible.

8. Swarms, or parts of swarms, mixing at swarming-time. Largely unpreventable this evil is, I fear. Fountain pump is of no avail after two swarms get into the air once. Far better sit down and make faces at 'em — you'll feel cooler when the time comes that something can be done.

9. Queenlessness. It is pretty plain, that queenless swarms will, in exceptional cases, cluster and submit to be hived. Of course, the only remedy here is a frame of brood.

There is an idea prevalent about swarming, that needs to be "busted," or, at least, cracked a little; namely, the notion that bees swarm only when honey is coming in. Doubtless this is nearly correct with bees only moderately inclined to swarm; but with such madcaps as mine, it is a long way astray. On the last day of July we had the beginning of a remarkable spell of rainy weather, lasting eleven days. The scales indicated no honey in that time, except 3 oz. Aug. 1st, and 3 oz. Aug. 6th, yet I had five swarms during this period, on five several days. The first day after the weather changed, and before any considerable flow of honey had set in, I had six swarms, five of them with fertile queens.

THE CAUSES OF EXCESSIVE SWARMING.

I prefer to regard swarming as a direct result of simple and reasonable causes, rather than as a contagious fever or mania.

Cause 1. Plenty of pollen, and long-continued but very moderate flow of honey. Like the human species (for the thousandth time), bees seem inclined to make a hobby of some one thing. If honey comes

with a rush, comb-building and honey-storing is the hobby, to the partial neglect of brood-rearing, and swarms are but few. Then further on, when a dearth follows the rush of honey, they naturally incline not to start very much brood. But when honey comes steadily, yet so slow that there is no comb-building to do, brood-rearing and queen-rearing become the hobby, I take it; all the home bees engaging in it, and soon out come the swarms thicker and faster, and more of 'em.

Cause 2. Small brood-chamber. In some localities the surplus is mainly stored from runs of four or five pounds per day, with occasional good days up to ten or even twenty pounds. Apirians having such a locality can use either small or large brood-chamber, as they like, and do well in either case. In other localities, like mine, the surplus must be stored, if at all, from runs of about a pound a day, the income never going as high as five pounds. To get section honey in such a locality, the brood-chamber *must* be made small. I give seven frames. It is presumable that such a contraction of the chamber causes a considerable increase in the number of swarms that issue.

Cause 3. Frequent infusion of fresh blood into the apiary. Non-swarmer are usually bees totally let alone; and I suspect that apiaries where only a dozen or two of swarms emerge from a hundred hives, are in almost all cases apiaries where very few outside queens have been brought in for the past three years. Fresh blood boils; and if it does, I hardly think I can afford to let the vital forces stagnate, even if the swarms do make me skip around.

Cause 4. Some races and strains of bees are predisposed to excessive swarming—Italians and hybrids swarming more than blacks, and some strains of each varying considerably from the usual habits of their race.

Here is another side incident of swarming that I don't remember to have seen in the books. It is well known that the workers often keep a lot of young queens imprisoned in their cells for some time, and that when the last swarm is about to go, all are allowed to come out that can get out. I find they sometimes let the queens out and drive them "to Jericho," or any other place, without swarming. My evidence is this: July 1st I opened a hive that had recently cast two swarms, the last one two days previous. I was surprised to find a nice young queen all alone between the chaff cushion and the cover. On lifting up the cushion there was another one; and when I took up the cushion to replace it in the hive there was still another one. The bees down below had one young queen, just as they should.

And here I am at the close of a long article, and I haven't told yet about my important invention for putting back swarms. I must make that my special theme for next month. More correctly, it is another man's invention put into practical shape. Suffice it to say, that by means of it I have returned to their old quarters 64 after-swarms, and, with but two exceptions, they all stayed the first time trying. Had it not been for this new help, I hardly know what would have become of me.

E. E. HASTY.

Richards, Lucas Co., O., Sept. 16, 1882.

Many thanks, friend Hasty, for your suggestions. I am one who has always held that bees never swarm, unless they are getting honey; but of course I mean by this, normal, natural swarming. Although many reports of this excessive swarming have

come in, we have never in our apiary had swarming after the basswood closed, unless it was an occasional swarm, after the second crop of red clover was out. I have sometimes thought it would be fun to have our apiary get such a mania, but I presume that before it got up into the numbers you report, I should be glad enough to have it cease. We surely have new blood in our apiary, enough of it; but it is very likely prevented from getting started, by the way in which we rear and handle bees. I think bees might swarm when prevented by rain from gathering honey, but knowing, at the same time, there was honey to be had. I think this quite different from a long dearth of honey, when they return to their hives day after day, finding little or no honey.

REPORT FROM TWO COLONIES OF CYPRIANS.

INCREASED TO 16; 100 LBS. SOLD, AND ALL THE HONEY A LARGE FAMILY COULD USE BESIDES.

MY small apiary of two in the spring has expanded to 13 strong colonies. A large swarm went $1\frac{1}{4}$ miles, and entered a large white oak, on my own land, 6 feet from the ground, and two went $1\frac{1}{2}$ miles to a neighbor's, and were hived, and two have been found in trees about two miles distant; hence 16 swarms at least have been sent out. Having a large farm to look after, I could not give them close attention. The last swarm came out the fifth of this month, and have already stores enough for wintering. Our large family have had all the honey we could eat; have sold over 100 lbs.; have considerable on hand, and most of the supers are about full again.

As the black bees had mostly died off last winter near me, I had hoped to keep my Cyprians pure; but nearly all my young queens mated with black drones, while my drones went off and hybridized all the black bees of the surrounding country. Is this a law of the bee-hive, to prevent in-and-in breeding? I am unable to perceive that my hybrids are in any wise inferior to the full bloods. All are cross, if handled improperly or allowed to fill their hives, for then they have nothing to do but guard their stores, and they are faithful and brave sentinels. I have had a few lessons in this direction, by which I hope to profit. In hiving swarms I have not heard a single angry note. My apiary is in an apple orchard, the trees heading low. I set a step-ladder under the cluster, with frames uncovered; set the hive on the platform on top of the ladder, gently lay on the enameled cloth, and after two or three minutes more I gently carry the hive and set in position, put on the cover, and the work is done. Not a single swarm has refused to stay where put.

Owing to frequent and heavy rains, white clover furnished only about a week of good pasturage, and the cold weather of spring had kept the bees from the fruit-blossoms. But for a few weeks we have had a honey boom, which, however, a drought threatens to bring to a close. The spider plant has been booming in our yard for a long time, with its great drops of nectar glistening in the rays of the morning and evening sun, but not a single bee ever visits it, which puzzles me very much.

Jem, Mo., Sept. 13, 1882.

C. S. CALLIHAN.

It doesn't quite look as if the Cyprians

were going to be called a failure, after all; do you think so, friend C.? The bees have not yet found the honey of your spider plant, as I have several times explained; and from your report one would think honey so plentiful in your locality that it is no great wonder either.

FRIEND POND'S REPLIES, ETC.

QUEENS GOING VISITING; MORE ABOUT IT.

IN foot-note to my article in Sept. GLEANINGS, you ask if I am certain that the "going-a-visiting queen" I wrote about was fertile; if there was brood and eggs in the cells, etc. In reply I will say, that I know she was fertile. She was a tested queen, purchased from you, about a year old, and very prolific. I found eggs in the cells each time I looked, and the queen continued laying, and has kept on till the present time. Of course, I should know if she had been superseded, for I make a practice of carefully looking over each colony at least once a week, consequently I know the condition of every hive at all times.

DO BEES CHANGE THE EGGS FROM ONE CELL TO ANOTHER?

I was somewhat skeptical in the matter, but am so no longer, for I have satisfied myself that they sometimes do. About 20 days ago I found one of my colonies queenless, and at the same time found they had filled every comb, in which there was no brood or eggs, with honey. I had an extra frame or two of empty comb, and gave this colony one in exchange for a frame full of honey. In the course of four or five days I again examined this colony, and found they had begun several queen-cells on this empty sheet of comb. As it contained no eggs when I placed it in the hive, of course the bees placed them there, probably deeming it a better place in which to rear a new queen. As there were eight or nine queen-cells, the bees must have changed that number of eggs, and they started no queen-cells except on this sheet of comb. There can be no mistake about this, for I took the empty frame from my honey-room where it had lain some six or seven weeks; and as a queen hatched out from one of these cells, the eggs could not have been laid by a laying worker. I don't use the term "fertile worker," because it is impossible for a worker to be fertilized, and I therefore deem the proper term to be "laying worker."

I am at a loss to know what is the trouble with my queens this season. Four of them have died, none of which were over a year old, and all "died in the harness;" that is, they left plenty of worker brood and eggs behind them, and showed no evidence of failing powers by laying drone eggs. This experience is new to me; and as I have never read nor heard of any thing of the kind, I am at a loss to know or even guess (as I am a Yankee I have a right to guess) what is the trouble. Has any one else had the same trouble in his apiary?

In the same foot-note you say, "Are you sure, friend Pond, that Doolittle would not have secured a fair crop?" etc. This question was asked in regard to my complaint of a poor season. In reply I will say, that I am well aware that friend Doolittle can do most any thing but winter his bees successfully, and that he is held up as a glorious example to all, of success in obtaining big yields of honey; but I am

certain that even he can't get a crop unless the flowers yield; and in my case the production of brood has been kept up the strongest I ever knew, and that without stimulative feeding, and my bees have all gathered enough to winter on; they kept on rearing drones, and would kill them off as fast as they were hatched out. I tried to get them to deposit in side boxes in the brood-chamber, but they would not do even that; and while I might have got a few pounds by extracting, I should have been obliged to feed to make up for it. I don't know how it is in your section, but here I never knew a yield of surplus in a very dry season accompanied by very cold nights. The sources from which honey is obtained in my vicinity are, first, fruit-bloom, then clover, and the small fruits; as there is no basswood or linden near me, no honey of any consequence is obtained after clover gives out, until fall, and then quite a little harvest is yielded by goldenrod, and other fall blossoms. At the present time, honey is coming in very lively; the fields and road-sides for miles around are yellow with goldenrod; in fact, I never saw it bloom so extensively as at the present time. J. E. POND, JR.

Foxboro, Norfolk Co., Mass., Sept. 14, 1882.

DO BEES, WHEN IN HEALTH, VOID A SOLID EXCREMENT?

Also some Facts on a much more Important Matter.

BEES THAT WON'T WORK.

INCLOSED find a small quantity of the dry excrementa of the honey-bee, which I obtained in the following manner: Most of the time during the summer, a colony of Italians of mine have been in the habit of "hanging out" in the portico of the hive, and, at times, spreading out on the alighting-board, and on another board resting against its edge, some 18 inches from the entrance of the hive. With all the art my ingenuity could devise, backed by the information as to "how others do it," crowding, supplying sections filled with comb above and by the side of the brood-nest, I could not induce them to swarm or store in the surplus arrangements. After concluding I should obtain no honey in boxes, I began supplying empty combs until I had increased those in the brood-nest to 19, and they haven't stored honey enough in them to keep them in stores the coming winter. In short, they have done nothing but breed, and to such an extent that, when the drought began to pinch, their hive contained about a bushel of golden Italians—a good strain to raise bees to sell by the pound! Many times during the summer, while viewing them as they hung on the front of the hive, or spread on the alighting-board, I noticed excrement from those above fall among those below; and when few or no bees were spread out, it would roll off. Some would remain and harden, and in such condition is that inclosed in the package. I scraped it from the alighting-board into a clean box with a piece of new tin. A magnifying-glass will disclose very small particles of the weather-worn surface of the alighting-board adhering to some of the pellets. In other respects they are what I represent them to be. I could have procured a table-spoon full during the summer had I not considered the evidence in support of the theory (if theory it may be termed) furnished through GLEANINGS, sufficiently conclusive. But as a further substantia-

tion seems necessary, here is an opportunity to exercise three of the five senses in support of the declaration, that "bees do at times, and especially when in repose, void comparatively dry excreta;" and the words "so-called" are not needed to disqualify any term affirmative of the fact.

This was not written for publication, but simply to re-assert previous belief founded on observation, being prompted by reading the notice of the National Convention on page 463, Sept. No. of GLEANINGS.

J. F. LATHAM.

Cumberland, Maine, Sept. 8, 1882.

Although you say the above was not intended for publication, I feel sure, friend L., you will not object, when I tell you that I very much desire it, not only because of the conclusive evidence on the question you call attention to, but as well in regard to bees that will not work. You have given us a case where an immense colony loafed all through the season, when they might have gathered hundreds of pounds of honey probably. Now, how do we know more or less of this kind of work is not going on in all of our apiaries, season after season? I think that colony could have been made to work, but I am not sure I should have known just what to do. I should have tried moving the old stock away, and giving a young queen to the bees clustering outside. How much honey did you get from your best workers, of the same or nearly the same strength, friend L.?

QUEENS BY MAIL.

ALSO SOMETHING ABOUT GETTING GREAT YIELDS FROM ONE COLONY.

MANY thanks to friends Hutchinson, Alley, Good, and Brooks, and others who have come to my aid in my queen-shipping troubles. You know I am a beginner in queen-shipping, although not so young in breeding. Before I got my apiary to a pretty high standard of excellency, I could not afford to ship away my choicest stock at any price. My loss in honey would have more than equaled my income for queens.

When I was ready to send out queens in any considerable numbers, I, not knowing which was the best shipping-cage, sent to you, friend Root, for 100 of the Peet cages, and I used them as directed, and nearly one-third of the queens died *en route*. We failed to get a queen from here to Battle Creek (60 miles on this road) alive. Since using Mr. Alley's cage, containing a sponge of diluted honey, I have had but one loss, and that queen was delayed. It is perhaps just that the shipper should warrant safe arrival of queens; but of other goods, why the beekeeper shipper, any more than the grocer, hardware dealer, or clothier? To be sure, the receiver can't help it, if his box of oranges is torn open, and some stolen or lost out; but neither can the shipper; and the transportation companies are the only parties at fault, and only the *consignee* has any claim on them. One other point is, that "among many men there are many minds," and this is as true morally as intellectually, and so among many customers there are some dishonest ones; and this warranting the safe arrival of all sorts of goods opens up a broad field for the exercise and growth of dishonesty. When the fault is plainly with the shipper, if he is smart he will know it, and he will see it is to his interest to

stand under it; and if he does not, law can force him to, if he is good for it; and if he is not, customers must continue to take the consequences of dealing with those who are not collectable. Regarding the sugar and honey cage, we have just made 25, and are putting them into use now. I hope they will work well. Thanks to our friends.

SHALL WE INCREASE OR NOT INCREASE, TO GET GREAT YIELDS FROM ONE COLONY?

It is now plainly shown that Mr. Carroll's report is outdone in various places, both in the past and present season, and no donations solicited. If Mr. Carroll falls behind Mr. Vandervort's success because Vandervort produced the bees from more queens than one, then let us for ever remember that it is admitted, that the best way to get large yields of honey is to increase 4 to 1 at the same time. If one queen can produce more bees and honey by producing some *queen* bees to start on, we want to know it. The next time Texas has a honey shower (GLEANINGS says the State is flooded with honey, and no sale for it) Mr. Carroll can wisely commence dividing, and raising comb honey. I would much rather my bees would increase four fold, and give me 700 lbs. of comb honey per colony, spring count, than to not increase at all, and give me only the same of extracted honey. If Mr. Carroll sold 700 lbs. of extracted honey for \$105, he must have received 15 cts. per lb. for it — a pretty good price for Southern extracted honey, in a locality where the markets are "flooded with honey." A man of Mr. Carroll's vending ability could sell comb honey for 30 cents per lb., I should think; and could he have gotten Mr. Vandervort's yield, he would have realized \$210 for it, and had a handsome increase besides, and then he could have extracted out the "15 lbs. too much honey," from four colonies, and sold 60 lbs. at 15 cts., and had \$9.00 more.

I sold surplus cases and wired fda. frames to a farmer twelve miles from here, and he has increased one colony to 12, and already gotten over 200 lbs. of white surplus comb honey, and has the fall harvest all before his apiary of now 12 colonies, strong, heavy, and in good condition, and black bees too.

"One swallow doesn't make a summer." Notwithstanding I got the enormous yields reported in the last GLEANINGS, and that I have carried as high as 550 colonies in three apiaries since that time, I am not rich yet, but far from it. I have not got a *competency* yet; hope to get one, though, at this very honey-producing business, and feel quite confident that I shall; but if I do, it will not be by the enormous yields from a few colonies, but the good round 50 or 100 lbs. per colony from the many, put up in nice marketable shape. JAMES HEDDON.

Dowagiac, Mich., Sept., 1882.

Later.—The Good sugar and honey cage is a *perfect* success for "alive arrival" of the queens, and it is the most practical and easily manipulated of all.

I earnestly commend the point friend H. has made in his closing remarks. It is not a great yield from a single colony we want, so much as it is a fair yield from the whole apiary; and the nearer the owner can make his colonies produce all alike, and of course get a good fair yield from all, the better it shows for his skill. Little or nothing from a great many, and large yields from a few, would seem to indicate luck and chance, rather than skilled management. The question in regard to increase or no increase would, it seems to me, depend largely on the number of colonies.

WORKER EGGS BEING CONVERTED TO DRONES, AGAIN.

A "CLINCHER" THIS TIME.

IN your comments on Mr. Peters' article in Sept. GLEANINGS, you ask for facts on that subject. In the latter part of June I took all the unsealed brood from a colony of blacks, and gave them a frame of fdn. partly built, and about one-third full of eggs that I expected to hatch on the next day. I also cut four holes in it for them to start queen-cells. The bees started queen-cells in all the holes, and enlarged all the cells around the outside edge of the patch of eggs into drone-cells, and raised drones in them. On reading another article, where the writer attributes such things to fertile workers, I went to the hive to have a look at those drones; for if from fertile workers, they were black, and I did not want them around; but I found them to be large Italians. And I also found brood capped in the drone-cells that were drawn out when they were raising queens, to have capped brood in on a level with the worker brood, and I expect to see workers come from there. They also filled one of the holes that I cut three queen-cells from, with drone comb, and that they drew in the rim to about the size of worker comb, and have eggs in them. I have told you things just as I have seen them, and that is all I can do.

WM. TRUE.

Chadwell, Clatsop Co., Oregon, Aug. 19, 1882.

Many thanks, friend True. The facts you have furnished completely demolish the idea that fertile workers had any agency in the matter. The remaining point to be proven now, is that the eggs would not have produced drones, if left in the parent hive. Have you, friend T., examined well the parent hive, to see whether brood remaining there has not a good many drones scattered through it? We want to bring forward evidence enough on this matter, while we are about it, so that it may be settled conclusively, to the satisfaction of all.

THE SEASON IN WEST VIRGINIA, ETC.

HOW MUCH REAL PROGRESS ARE WE MAKING?

THIS has been a peculiar season in this as in most other localities. Formerly the month of June and the first ten days of July have been the season in which all our surplus honey has been stored. But this year our bees were short on winter stores up to the tenth of July, after which time they secured a good supply for wintering, and gave an average of 40 lbs. surplus. At no time after the first of April was there a lack of bees ready for business — but such weather!

SPREADING THE BROOD.

For some time past I have been in the habit of spreading the brood-nest and inserting an empty comb for the purpose of stimulating, in the early part of the season, the production of brood, and was of the opinion that there was a great advantage in the method. This season, on approach of the time for rapid breeding, I adopted the Doolittle method of exchanging, every eight days, the outside combs, having some brood to the center, and by the time of fruit-bloom my hives were full of bees, and a majority of the colonies had ten L. frames almost solid

with brood, and every thing ready to secure the full benefit of the yield from fruit-bloom; but we didn't, and a liberal supply of sugar syrup was next in order to hold them up to the scratch. Bees that were not fed during this scarcity seemed to rear brood slowly, and I am strongly inclined to believe they subsisted, both old bees and brood, on pollen alone, as at all times, when bees could get a minute's sunshine, they would find pollen.

My bees built up so rapidly after I began this interchanging of combs, I was about to get enthusiastic over the new departure, when I learned that neighbors, some one or two miles distant from my apiary, having bees in frame and box hives that were not looked into from one year's end to another, were having swarms, and hives just as full of bees as my own. This news put a quietus on my enthusiasm over the "Doolittle method." In my yard, one colony that did not begin to rear brood until very late (so late I feared the queen was barren), and which hive was opened but twice, and no disturbance or interchanging of brood-combs, was just as strong as any by the first of June, and had economized their honey much better than the others. I have about decided that it is all a notion, this tinkering with the brood-nest. If the queen is vigorous and prolific, she will occupy the combs with eggs just as fast as the bees are able, according to the state of the weather, to care for them. Here again nature's own laws are not tampered with.

A SMALL BROOD-NEST FOR WINTER.

Page 333, July No., friend Doolittle says: "Now, friend Buchanan, did you really think that, because you could not reconceile a hive full of honey in the fall with a small brood-department, or were you a little jealous?" I certainly am free from a spirit of jealousy; and with the peculiarity of your locality, your small brood-department and 25 lbs. of honey for winter may be the correct thing; but with us it has been a failure. We have tested hives of all shapes and sizes, worth speaking of, and find, for this location, the ten-frame Langstroth gives the best results. Here we get but little fall honey — some seasons none; and with such small hives as Mr. L. uses there could not be room for a sufficiently large brood-nest and the amount of honey needed to run a colony from the end of one honey season to the beginning of another, save in rare cases. Even our ten-frame L. hives, with 40 to 50 lbs. to start with, must sometimes be fed — this season for example. Here I will advise bee-keepers to use hives of a size and style best suited, and then we shall have less hive controversy.

EXTRACTING TOO CLOSE — DANGER OF.

This season, 24 colonies were arranged and ran for extracted honey by giving ten L. frames in upper story. The season not proving very good, their surplus combs were emptied but once, then left undisturbed until the end of the honey season, at which time the upper stories were mostly filled solid with honey; but on lifting this off I found the lower frames had been occupied with brood almost in full; and when the yield closed, and brood out, there was, in many of these brood-departments, not five pounds of honey. By an exchange of frames as required, they were soon put in good shape for winter. Where fall bloom is abundant I have no doubt bees would fill up these empty brood-combs, or secure enough to do them, had all been taken from the frames above. Colonies run for section honey were found to have plenty of honey in brood combs.

Excuse me a few minutes. I liberated her a little while ago, and must see once more if she is all right. A queen from "James," of Dowagiac, Mich., one of the "long leather-colored" kind. I let her loose in a colony of *hybrids* (she ought to be at home *there*). I will just look — ha, ha! Yes, she is all O. K., crawling around, and seems to be full of "business." She should have been introduced to a colony of pure bees, and then when her brood hatches I could see the difference between the old and the new bees; however, I don't care for looks in bees so they show up right during the honey season. We are all after bees for honey, and not for something to look at.

DOLLAR QUEENS.

Queens reared artificially can be and are produced that are in every way the equals of those reared under the swarming impulse. Now, while this is true, and while thousands of dollar queens are sent out every year by queen-breeders, that give as good results as naturally reared queens, I am just as free to say that there are very many worthless, short-lived queens sold for one dollar. Now, if we were to do away with the "dollar," or cheap-queen business, and enter into an agreement that we would sell no more queens for less than \$3.00 or \$5.00 each, would you be sure that any better class of queens would be sent out? Do you think you can hire (for a little more money) a rascal to deal honestly? A dealer selling queens for one dollar, which have been reared from well-advanced worker larvae, invariably producing short-lived, worthless queens, after the price has been advanced will he take any more pains to have all his queens reared by strong colonies fed as queen larvae from the egg, selecting his stock from the choicest honey-gathering, hardy strains? or will the breeder of these inferior queens, on learning the price has been doubled on queens, send out thereafter any better grade? If he is dishonest before, will he not be dishonest still? If there is any pay for time in selling queens for one dollar, the breeder can just as well rear good queens with but little if any more trouble, at the same price. Were I to send to a queen-breeder of honor for one dozen queens, and he should write me that he had enough to fill the order which were reared under the swarming impulse, or could fill the order from a lot reared artificially from the same stock and at the same time, and that all were fed as queen larvae from the hatching of the egg to sealing of cells, by strong stocks, and that they were large, well-developed queens, I should have no choice to make between the two lots, and virtually there can be no difference except in imagination. There are men who will send out their inferior queens now at \$1.00; put the price up to \$10.00, and they will do the same.

JOHN A. BUCHANAN.

Holliday's Cove, W. Va., Sept., 1882.

I partly agree with you, friend B., in regard to spreading the brood, and I have often thought more harm is perhaps done by so doing than to let the bees have their own way, because there has been so much injudicious spreading; but for all that, in the hands of a wise and careful apiarist, it accomplishes at least one great good, by inducing the queen to fill a nice frame of comb with brood of about all the same age. Did any one ever see such entire sheets of brood before we had frames of fdu. to give the bees? Who has not seen the improvement effected by putting a perfect comb into a

colony recently transferred? This, of course, is not quite spreading the brood-nest, as you speak of it, but we may often, by judicious spreading, get the queen into the way of filling one comb entire, instead of skipping about, and laying an egg here and there, which must be a waste of her time.—While I grant much you say in regard to dollar queens, I think you put it a little too strongly. The average man, even though he be something of a rascal, as you term it, would, I think, pick out a nicer queen, if he got \$3 for her, than if he got only one. He might not take much more pains in rearing, but it seems to me he certainly would in selecting. Is it not well to have all such commodities graded, putting the best at a high price, and the fair and indifferent accordingly?

RED CLOVER AS A HONEY-PLANT.

ALSO A GOOD REPORT FROM THE CYPRIANS.

SEND you by to-day's mail a copy of the Cambridge *Jeffersonian*, which contains a little report of what I have been doing with bees this summer so far. There is no let-up to the flow of honey yet. I am still increasing, and taking honey. My bees did a rousing business on red clover. I had about 10 acres of the large English clover near my apiary, and when harvest came I almost hated to see the mowing-machine go into it. The Cyprians apparently did a straight business on it. My Cyps have been in the lead all summer. The sumac (which I never considered very much), is giving a heavy flow of honey now. It appears as though ever thing is blooming and furnishing honey. If that extractor was a little slow in coming, it has been a faithful friend to me since.

BEE CULTURE.

Are there hidden treasures yet here among these hills that we have never found nor thought of? I believe there are some we may find out and some we will never. But our children may, and who knows but our very richest treasures may not turn up for several generations yet to come? Men, as a general thing, get into a certain channel of doing business, farming, stock-raising, store-keeping, etc., as the case may be, and apparently do not look around to see if any thing new might turn up. Many such men are doing well, but many are not, but are still working hard every day for the support of their families, never thinking there is any other way for it only to grub and hoe, and clear off the stony hillsides. Of course, it is right enough to do this kind of work, but is there nothing else we can do to better our condition more rapidly? There certainly is. One thing is bee culture. It is an old subject, but a new business, and is paying as large a per cent for the capital invested as any thing else. I know there are plenty of men who have had a few boxes of bees nearly all their lives, sitting in an old box hive away in the corner without any attention more than to take a slight glance as they are passing, and of course they will say that bees do not amount to any thing, and it is true, from their standpoint. Bees must have attention as well as any thing else. In the first place, you must have a good movable-frame hive; and as there is no patent on any bee-hive now, you can just make it any shape you please. Bee-keeping of to-day is a trade to learn, and by procuring one of the standard bee-books it can be learned in a short time, when by actual practice it would take a man nearly a lifetime, as it did our two old veteran bee-keepers, Quinby and Langstroth. I have been paying some attention to bees for a few years, and find it profitable. I have the new races of bees, and without any doubt they are considerably ahead of our old stock of black bees. I started this spring with only 10 colonies; have sold, to August 1st, \$177.94 worth of bees and queens; \$112 worth of honey, and have 30 colonies left. My crop of honey

will run something over 1000 pounds, for which I find ready sale; comb honey at 25 cents, and extracted at 20 cents per pound, put up on the new principle. My expenses have been about \$25 in all, without counting my labor, which I consider merely recreation. From this you will see (by counting the increase of 20 colonies at a low estimate of \$8 per colony) a showing of over \$50 per colony for the ten I started with last spring. Now, this is nothing more than what plenty of men are doing to-day with bees. I know the season is pretty good, but not much more than an average. It can be done only on the new principle of bee-keeping. A. H. DUFF.
Flat Ridge, O., Aug. 1, 1882.

I agree with you in regard to red clover, friend D., and it is my impression that time and money invested in getting good fields of red clover would be about as profitable as investing in plants that pay no profit, aside from the honey. We are also glad to get a good report from the "Cyps." I agree with the spirit of your article, in the main.

NOTES BY AN A B C SCHOLAR.

ALSO SOMETHING ABOUT HONEY-DEW, AND WHERE IT COMES FROM.

I AM a "village preacher," my salary small. To increase my income, and to provide myself with a very pleasant recreation, I keep a few bees. I purchased of D. C. Underhill, of Seneca, Ill., 11 colonies in

CHAFF TENEMENT HIVES.

Great barns they are—too unbandy for profit or pleasure. When you wish to handle one you have got to contend against the pickets and advance skirmish lines of four brigades all after you at once, with "charge bayonet." If you wish to move one, you *must* move four. To do this you must call in at least three men to help. Just after I bought my bees in April, the robbers attacked one queenless hive. After I had tried almost every means to stop them, I could not. At least I saw the only salvation was to carry the pillaged swarm away. I had to lift them out of the tenement, and carry it away at night into a deep ravine, half a mile distant. There was left only a quart of bees; to-day they are as good as any hive in my apiary. The extra work caused by tenements is what I dislike. Perhaps next spring I shall feel differently.

THE SEASON.

Up to July the weather was exceedingly cold and wet. With some feeding in May they kept raising brood; and as the combs were empty, the queens had things pretty much their own way; and, oh *the bees! the bees!* The frequent rains during July kept the honey washed out of white clover and basswood, of which there is an abundance, especially of the former. The hills and valleys are covered. During August,

THE HONEY-DEW,

so called, has furnished the bees with an abundance of stores. Sometimes the hickory leaves were so loaded that great drops would fall to the ground. The source of this honey is no longer a problem with me. It is the production of a small light-green insect, from the size of a small pinhead down to those invisible to the naked eye. They have red eyes, long wings, the upper half of which are black; long mandibles, or feelers, twice the length of their body, and about the color, and striped like a raccoon's tail. Proof: 1. They are found on all trees where the honey is found; 2. They are on the under side of the

leaf, the honey on the top; 3. The topmost leaves have no honey; 4. The grass and dead leaves under such trees have the honey as well as the green hickory and oak. To me, these facts seem conclusive evidence. The honey is not first-class.

SPIDER PLANT.

These I find as described in A B C book. I think there are no plants which will pay better to cultivate than these. The bees will go out and work on them at least half an hour earlier and later than they will on any thing else. A little honey carried in thus early will set the whole apiary in motion, and will cause them to work more industriously. Just let one member of a household be up early in the morning; the effect will soon be seen on the whole family. Then in the evening, after the busy work of the day, it is a pleasant and profitable little chore for them to go to the spider plant, and get this last load so *easily*. It reminds me of the provident housewife who, with pail in hand, goes out after sundown to "pail the cows." But you will say it would look better if the male member of the household would do the milking. Surely it would; but that would spoil the analogy, unless the great awkward drones could be induced to visit the spider plant, and carry home a load of honey.

My apiary of 11 hives has increased to 23 good colonies—four Italians, two blacks, and the rest are hybrids of different shades. M. W. AKERS.

Marseilles, Ill.

Many thanks, friend A., for the facts you give us on honey-dew. I am much inclined to favor your view in regard to the source of the greater part of it. Very likely a light misty shower, or the morning dew, dampens it so the bees work on it with more facility. I agree in regard to early rising too; ask Sue and the children if I don't.

THE REQUISITE CONDITIONS FOR SENDING BEES LONG DISTANCES.

SHIPPING POUNDS OF BEES, ETC.

THE pound of bees and queen sent from Medina Monday reached me Saturday noon. They were in good condition, not more than a dozen dead bees in the cage. They had emptied both bottles, but had eaten only a little of the candy, and I do not blame them, as the candy in the sections was so very flinty. It so rested my impression made on it, that I could get only small portions out with a strong butcher-knife. Three years ago I got a queen from you, and when looking at the cage Saturday I found the candy in that softer, after all this time, than what I last received.

Did you send any comb in the middle section? If not, the bees built it, as the section was nearly full of comb, built out on the wire on each side, and had some unsealed honey in it.

I took a hive of black bees, and when my brother would draw up a frame, I would brush all the bees off from it, and set it into another hive, and so proceeded till I left but one frame in the old hive for the blacks to cluster on. When they had all nicely gathered on this, I uncovered another hive and set them right over it, and I see no trouble "on either side of the house" since then. I then carried the hive of combs back to a new location five or six rods from the blacks, and with a knife I split the middle section of the cage, and thus made two cages out of

one, and drove out the bees with a little smoke. Her royal majesty is a lovely queen — one of the prettiest I ever saw, and I hope I shall succeed in building the little colony up. I did not confine them to the hive, as they had plenty of brood in all stages of development in the frames given them, and I have protected them well from the cold.

Now, friend Root, I thank you for the careful manner in which the bees were put up, but I think a little "reform" is needed in the candy, and perhaps in the bottles, to stand a very long trip.

R. E. TIMONEY.

Smyrna, Maine, Aug. 30, 1882.

But why any "reform," friend T.? You say the bees came through that long distance, with only about a dozen dead. Is not that well enough, even if the candy was flinty? Again, you say they had built a piece of comb, and filled it with honey. We assuredly did not put a particle of comb in the cage, and so we must conclude the little fellows felt so much at home, even with their hard candy and water, that they went right to work. The desideratum I have for years sought, was to so prepare bees that they could get the daily supplies they need on the way, so as to get them to comb-building in the natural way, and your report seems to indicate we have succeeded. If the candy is softer, they dig it out and rattle it out of the cages, and waste it on the way. Now, friends, when you can get your bees to building new comb, and keep them at it, they are always thriving; and when we can so arrange our feeding as to obtain this result, we have all we can ask for.

FOUNDATION ON HORSEHAIR.

HORSEHAIR VERSUS WIRE.

AFTER a thorough trial of wired frames we have discarded them and adopted something which gives better results in the hive, besides saving half to three-fourths the time spent in wiring. This is how we do it: We get nice long hairs from the luxuriant tail of one of our horses (and, by the way, it's astonishing what a number can be taken without his missing them), and having dipped our wax sheets thin, lay two together with the hairs thick enough between them to roll out $2\frac{1}{2}$ to $3\frac{1}{2}$ in. apart, and then roll them with our nine-inch Root fdn. rolls to the desired thickness. We then use the fdn. just as we all did before discovering the necessity of having something to prevent sagging of the combs. The first trial of the hair which we made, we just stuck it to one side of a single wax sheet, and thus rolled it. In one or two instances we found the bees would pull it out some. But since rolling it between the sheets as mentioned, not a single instance of contrariness has occurred. We have given it a thorough test this season in all kinds of weather, and have universally got nice straight even combs, which stay firmly to their place, whatever the weight of brood or honey, or thinness of comb. These results we have not always obtained with wire, without close watching and manipulation to keep the bees from bulging the fdn. from the wires. They can't bulge it from the hair, if they do commence their work on one side, and the increasing weight keeps them straight. We think it just the thing, and the ease and speed of making it upon any kind

of fldn. machine will recommend it to those who have all the solid work they can do to keep up without putting with the wired frames. Those who are troubled with sagging top-bars can retain the diagonal brace you use. We use a comb-guide $\frac{3}{8}$ x a scant $\frac{3}{8}$, fitted firmly into the grooves in top and end bars; and though we sustain the middle of the section cases by laying a $\frac{3}{8}$ strip on the top-bars, we are never troubled by their sagging.

I have already made this too long, but would like to say that the quickest way to put the hairs between the sheets is for one to hold them outstretched across as many sheets laid side and side as they will reach, while another lightly strokes them, just enough to make them stick, with a common putty-knife. You will readily see that but half the sheets are to be thus treated and matched with the other ready to be rolled; also, that I may not be asked to tell you *we* are, that I went regularly into bee-keeping with my father, Thos. C. Stanley, last spring; not, however, being a novice in the art of hive-making, selling, transferring, etc. And he desires that I shall have the credit, if there's any in it, of the hair improvement, as it was my suggestion, though our joint experiment.

I. H. STANLEY.

Fairfield, Ill., Aug. 28, 1882.

Horsehair was suggested a long time ago, and experimented with; but, if I am correct, it was discarded because the bees would bite it out at times when no honey was coming, and also that it did not have the strength we wished to enable frames to bear transportation, etc. Our young friend who writes the above, has, it would seem, remedied the first objection, by rolling the hairs between two sheets. As dipped sheets usually have one thin end, by reversing we may now have fdn. with walls of an equal height over its whole surface. While the plan will prevent sagging, without a doubt, it will not give us combs firmly fastened into the frames at both tops and bottoms, as we have them with the wires woven into the frames. Neither can I quite divest myself of the idea that bees would not bite out the hairs, when they were not getting stores, or during severe dearths of honey in the fields. Are there horses enough in the land to supply the demand, friend S.? and are you sure it won't result in having the poor beasts go around with denuded tails in fly time, if we adopt your suggestion? Many thanks, nevertheless, my friend.

FOUL BROOD.

ITS DANGERS, AND THE WISEST THING TO BE DONE WHEN IT ONCE GETS INTO YOUR APIARY.

A FEW weeks ago a friend wrote us for advice in the matter of foul brood. Not having experience, we referred him to friend Muth, who, after receiving from him a sample of the diseased brood, replies as follows:—

MR. H. SCRANTON, Dundee, Mich.:—Your favor of the 1st inst. is at hand, inclosing a sample of brood comb. I am sorry to say that you are in a rather bad fix concerning your bees. It is the interest of every one of your neighbors keeping bees, to assist you in eradicating this dangerous disease. That small piece of comb represents the worst kind of malignant foul brood. I feel very safe in saying

that every one of your colonies is afflicted, and that the colonies of a number of your neighbors are in as bad a fix as your own. You ought to proceed with the utmost care, as your neighbors' bees, alighting on your frames, or even on your hives, will take the spores of the disease home with them. Empty hives should never be left in the yard (nor exposed) before they are thoroughly disinfected, as they have on them the spores of foul brood.

If in your place, I should commence with the hive next to the house; extract its combs and put all of those parts not having brood in, into the wax-barrel (combs with brood create too much of a stench for me to render into wax). Let no bees have access to your operations. Combs with brood are burned up by me. I burn up the frames also, as they require so much care to be disinfected. And if you apply brimstone to every hive before you commence operations, it will be best for you. If your hives are good, you can disinfect them by applying the medicine given on page 20 of "Practical Hints," to every part thereof. If your hives are not worth the trouble, burn them up also. If you make a clean sweep with every hive as you go, you will find that it is the best and cheapest way for you. It takes much time, labor, and expense to cure your stand of foul brood, judging from the comb you sent me, and your description of manipulation. Besides the labor, it requires more expense than all of your hives and bees are worth. I am sure you can replace them for less money than the cure would cost you. It is so catching a disease, that your unwashed hands or knife will infect a healthy colony. As stated above, your bee-keeping neighbors should all assist you in keeping out the disease, because they can not keep from being affected also, if the disease is in your apiary. By the medicine recommended, the foul brood could be easily cured, if the colonies would not be again and again infested.

Hoping, for the good of yourself and neighbors, you will take my advice, I am very truly yours,—

Cincinnati, O., Aug. 3, 1882.

C. F. MUTH.

The above was put in print at friend M.'s request, to save him the labor of answering so many questions. It will doubtless have the effect of warning our friends who have not already got it, of the importance of avoiding any thing that may possibly introduce it into their apiaries.

QUEEN-CELLS NOT ALWAYS AN INDICATION OF QUEENLESSNESS.

DARK COLOR OF IMPORTED STOCK.

I RECEIVED from you a few weeks ago by mail a piece of larvæ from one of your Italian queens, for the purpose of raising some queens from it if possible. I succeeded in getting three queen-cells from it, which I gave to three queenless colonies that had no material of their own from which to raise a queen. In course of time they hatched out; and when I thought it was about time for them to begin laying I looked for them, and found two; but in the third hive I could not find any queen nor any signs of one, although I had seen her when only a day or two old. To be sure whether she was lost or not, I gave them a piece of larvæ, and within two days they had started a queen-cell on it, so of course I concluded they were queenless. After an interval of a day or two I examined it again,

and found it so small that I contemplated cutting it out and giving them a larger one, but did not do so; after another interval of a few days I looked again, and found it nearly ready to seal, with a good-sized larva and plenty of the milky food. To-day I looked again, expecting to find it sealed over; but it was demolished, and there were eggs in several of the combs, and after a little looking I found a large laying queen of the exact color of the other two, and the one I had supposed to be lost, so I am quite sure it is the same one, as there were no other cells in the hive, nor was there any thing out of which to make one. Isn't it a rather unusual occurrence for bees to start queen-cells like this when they already have a queen in the hive? The queens spoken of above are quite dark-colored—darker, in fact, than I supposed the daughters of pure Italian queens ever (or at least hardly ever) are. It is too soon, of course, to know what their worker progeny will be; but it will most likely be hybrid, as I have more black drones than I have yellow ones.

Sheridan, Montcalm Co., Mich.

E. HUNT.

I have had a few cases where queen-cells were started, when there was a virgin queen in the hive; but it usually happens when the young queen is so long in getting fertilized that the bees seem to get tired of waiting; and probably, in deciding to start a new queen, they think it can do no harm, even if it do no good. Can you tell us how long it was from the time this queen was hatched, until you found her laying? The dark color of daughters of imported stock will always be a theme of comment, I fear, but it has been several times suggested that the transmission of the larvæ through the mails has the effect of making the young queens unusually dark, and I think very likely this is the case, for any unusual exposure of the brood is pretty sure to make both bees and queen dark. One friend insisted the larva we sent him was from black stock, but it was certainly from our best imported queen every time.

SYMPHORA CARPUS,

AND OTHER MATTERS.

I ENCLOSE you a sprig from a shrub growing in our yard, that seems to be such a favorite with the bees that I thought perhaps it would interest you, if you are not already cultivating it. It does not grow in Virginia, this being the only one I know of. My father brought it many years ago from South Carolina, where it was considered quite ornamental, the dark-green leaves and red berries contrasting beautifully with the white sands of Carolina. The berries are not as large and bright here, but the bush is prettily shaped and graceful. I do not know its botanical name. There, it bore the euphonius and classic name of "Devil's shoestring." I do not know why, unless its long racemes of bright red berries were suggestive of his majesty's native element. I have often accused my bees of a want of enterprise; but as they have undertaken to obtain honey from such a source, I shall have to acknowledge myself a slanderer, and ask their pardon. But to tell the truth, I could not say *positively* that they do get a great deal of honey from it. All I know is, during the whole of this month the bush has been literally covered with bees "from early dawn to

dewy eve," regardless of weather. They must get *something* from it that they like. At any rate, it gives them employment when most other flowers have failed. The flowers on the little sprig have nearly all dropped off, and I am afraid the few remaining ones will be rubbed off before you get it. I ought to have sent it sooner.

The seed of the spider plant I got from you did not germinate well, owing to the cold rainy weather. I have a few plants which have grown and are blooming luxuriantly, but the bees scarcely noticed them at all. Perhaps they find the "Devil" more agreeable. The rape is blooming pretty well, but the bees seem to prefer a little patch of *mustard* growing just beside it. Indeed, mustard has outstripped every thing else that I have tried, as a bee-plant. I don't know that it yields such a *great quantity* of honey, but it is of such rapid growth, and blooms in such a short time after being planted, that you can have it at almost any time you want it, and thereby save feeding.

I would just like to state here, that I never heard of that race of "bob-tailed dogs" once raised in Wytheville. If there ever was such a race here it soon played out, which ought to warn others not to cut off their dogs' tails or clip their queens' wings.

Wytheville, Va., Aug. 31, 1882. M. B. CROCKETT.

The plant, my friend, is *Symphora carpus*, and we have it now in bloom in our garden. It has attracted a good deal of attention for several years, and just as soon as the season of its bloom comes, we have many specimens sent in. With us, it has this season attracted more bees than before, but I am hardly ready yet to place it on a footing with the Simpson and spider plants. I would recommend dropping the name you seem to prefer calling it by, if you will excuse the liberty.

REARING QUEENS BY SELECTION.

CAN WE DO IT, WITH THE FACILITY WE DO OTHER STOCK?

I HAVE just read, or rather re-read, with interest the article of A. J. Cook on raising queens by selection, in June No. of GLEANINGS, sent you by Doolittle. I was pleased with your reply. I was surprised that men of Cook's and Doolittle's abilities should take the stand they do, and compare the mating and crossing of bees to that of horses, sheep, and cattle. If our stock roamed at will in the woods, and mated by chance, as our queens and drones do, there would be some analogy; but in our present mode of selecting and crossing, there is none whatever, as I see it; for in crossing our stock we select the dam and the sire for some good points or qualities which we wish to develop and perpetuate, and impound them, and the desired cross is effected in confinement. As you say, if they do not come up to our ideal of perfection, they are rejected as breeders and we try again; it may be by the selection of the dam or sire of a different herd, but of the same strain.

It is not so with our bees. We know nothing about the points and good qualities of our virgin queens and the drone that she mates. All we do know is, that our queens are from our best stocks, and the drones may be; for when a queen takes her wedding flight there are drones from a hundred stocks flying at the same time, and she is as likely to mate with an inferior as one of our best drones;

and when she is fertilized she is fertilized for life, whether it be by an inferior, or a drone from our best stocks.

This risk and state of affairs is likely to remain, until ways and means are devised to have them mate in confinement. I know the idea has been suggested in the papers, and talked of among apiarians; but if it was ever tried, I have never heard of it. It appears to me it could be done by placing a frame of drone brood from our best stock into a nucleus, in time to have them hatch and fly before the queen takes her flight, and putting them into a greenhouse, or tent made of mosquito netting, and let them fly there. If it could be done, we could have our queens fertilized by drones of our own selection.

What parts in our organism, vitality, and general make-up, do the male and the female influence, is a question I should like to have discussed in GLEANINGS by the scientist. Neither can be passive in reproduction. The male must stamp his image on some parts of the offspring more than others, and so must the female some other. Which are they? A knowledge of these facts would help us in our deductions and crossings. Some writers on physiology and reproduction contend that the male, generally speaking, influences the physical organism, and the female the vital, intellectual, and mental. Families could be cited where the father had a giant mind and intellect, and the mother weak-minded, having well-developed children with weak minds, and some idiots. Where you find an intellectual and strong-minded woman you generally find sprightly and intellectual children, let the father be what he may; and where you find a weak-minded woman, you generally find weak-minded children, even if the father has good mental ability. GEO. W. FORMAN.

Ripley, O., Aug. 7, 1882.

Although your points are well taken, friend F., I can not quite agree that we can not improve bees with the same facility we do other stock. It is true, that even if we could get a virgin queen fertilized with the precise drone we wished, we should know but little about her, compared with what we do of horses and cattle, when we select them to breed from; but it should be borne in mind, we can get results from queens so much quicker than from any other farm stock, we are far ahead in time required, even if we take another generation. For instance: Take a queen you have raised queens from for some time, and you know her pretty well by the worker progeny of her daughters, and this places her on a footing, as it were, with the farm stock whose progeny we test year after year. I heartily agree with friend Cook in thinking it high time some one should see what could be done with bees by careful selection and breeding, and we want another Berlepsch among us to undertake the work. The only point on which I did not agree was that there is any necessity of stopping the regular queen traffic meanwhile. In fact, the experimenter could sell the queens he did not wish to use for breeding, to honey-producers, and thus get quite a little revenue to help pay the expenses of the work. Discarded queens (hybrids, for instance) often produce great crops of honey, as we all know, yet we would not want them to send out swarms, or rear drones, to the detriment of our other bees.

"Forgettery,"

Or Department for those who don't Sign
Their Names.

PLEASE send me by express, C. O. D., 1000 small-sized section frames for surplus honey, with foundation for same. Send immediately, and oblige,—

ALEX. CASEBEER.

Reese, Aug. 24, 1882.

Brother Casebeer, we should be most happy to send you the goods by the first train, if we only knew where you have your abiding-place, or where to send them to. Unfortunately, your letter was mailed on some train, so we have not even the benefit of the post-mark to help us. It is true, you did manage to say "Reese" on one corner of your letter, and we can, perhaps, by the aid of the Postal Guide, hunt you up; but I fear your honey crop will be past.

EUROPEAN LINDEN.

HOW TO PROLONG THE PERIOD OF BASSWOOD BLOOM.

I HAVE just been looking through my books on bee culture for some enlightenment on a question which has just been brought to my attention in regard to the linden, or basswood, but with no satisfactory result.

On the 2d of July, as I was passing along the street, I observed a basswood-tree in bloom, and the bees roaring upon it. I called the attention of a friend to it, and, meeting him a few days afterward, he remarked that I was mistaken about the tree being basswood, as he had spoken with the gentleman whose place it was opposite, and was informed by him that it was linden; the seed having been brought from England years ago, from which it and many other trees which adorn the roads and avenues in this vicinity have sprung. I replied that we were both right in the matter, as linden and basswood are one.

But he said, "No, there is a difference, as you will readily observe by looking at a basswood-tree not far from this one, which is not yet in bloom."

My attention being thus called to the matter, I have been on the lookout for linden and basswood trees, and I have discovered a number of *both* varieties, and there certainly is a difference between them. The linden has a tendency toward a conical form, while the native basswood, even where it stands out singly, carries nearly the same breadth of branches from bottom to top, and is by no means so graceful a tree to look upon as the linden.

But the most important fact connected with this matter is, that the period of their bloom is different. The linden was in bloom before the first of July, and on the 10th the bees were still roaring among its very profuse bloom, while the buds of the basswood had not yet opened; and even at this date, July 15, some of them which I have observed are just beginning to bloom.

If I am correct in my observations, that the English linden, like the American, is an excellent honey-plant, and that its bloom fails just as the bloom of the latter begins, these facts are certainly worth knowing, to those who are interested in artificial bee pasturage.

JAMES MCNEILL.

Hudson, N. Y., July 15, 1882.

The facts you give are not new, friend M.;

but for all that, we thank you for calling attention to the matter again. When we planted our basswood orchard, about ten years ago, we purchased a number of European lindens just to test this very peculiarity; but, if I am not mistaken, every one has died. An earlier-blooming variety is not so desirable as one that blooms later, for it comes right in the midst of clover bloom. Something that would prolong the honey-yield a month later would be indeed a boon to the bee-keeping world, and I feel sure it may be found by a little effort. To hasten the work, we could bud the young trees. Here is a field for friend House, who is an expert in the budding business.



THE "GOLDEN" BEE-HIVE, AGAIN.

WE write briefly to get information which we deem of importance to you as well as ourselves. The facts are these: David Thompson, of Nashville, Tenn. (at least representing himself so), sold all his right or title to what he called the "Golden Bee-Hive," for the State of West Virginia, to a couple of citizens of our county; said hive was patented in July, 1877. These gentlemen claim on their patent a bee-feeder, key-board and lever, and shallow frames about 4 in. deep in upper story, the frames running crosswise of the hive. They are now ordering all persons who are using two-story hives with frames to discontinue using them, or they will prosecute in U. S. courts. One of the gentlemen referred to, who is a member of our church, has another brother in our church arraigned before it for trial for infringing on his patent by simply using two stories on a hive, without the other devices alluded to. Now, what we want to know is this: We are members of the same church as the parties alluded to; we are using Langstroth hives, 2-story; have about 34; had our upper-story frames made 5 inches deep for extracting; the frames in the upper story are the same as the lower story, except in depth. We wish to know if any other bee-men are using shallow frames in upper story; and if so, how many years since, and what is your opinion about the matter — whether we can be prosecuted in the courts for using shallow frames in upper story? If we have to abandon top stories with shallow frames we shall be forced to use the Golden hive, and pay six dollars for family right to use it, besides having to use a hive which we do not like. If so, it will injure your business up here. Let us hear from you at once.

J. SHEPHERD & BRO.

Young's Mills, Kanawha Co., W. Va., Aug. 24, 1882.

Your "church people" are beside themselves, friend S. Two-story hives are in use the world over; and the man who claims a patent, as you state it, *and obtains money by threats*, can be arrested as a fraud and swindler. See our Sept. No., page 437.

The "Growlery."

This department is to be kept for the benefit of those who are dissatisfied; and when anything is amiss, I hope you will "talk right out." As a rule, we will omit names and addresses, to avoid being too personal.

I PRESUME we are all of us backward about learning by experience, that it is such an easy thing to be mistaken, and I presume, too, we are all of us prone to forget how many times we have been mistaken before, each time we insist we are right and our opponent wrong. A short time ago a customer ordered, with other goods, 24 division-boards. On receipt of the goods, he wrote as follows:—

The 24 division-boards I do not find with the rest of my goods. Please send them. * * *

Aug. 9, 1882.

On looking the matter up, we found they were packed by our most careful clerk; and as it seemed next to impossible such a bulky lot of goods could have been omitted, we wrote him:—

We find, upon looking the matter up, my friend, that the division-boards are checked off; and as your order was put up by one of my most competent clerks, it *does* seem as if they *surely* must be there. However, as you say they are not there, we will send 24 more with this shipment, and trust, if you find others, you will report and send us pay.

We thought the above courteous, but it seems he didn't, for he replies as follows:—

Yours of the 1st at hand and contents noted. You say, after looking up my order carefully, you find the division-boards checked. They might have been checked, but they were not put into the boxes with the rest of my order, neither could they have been put in, for the boxes were full; and if you have a man in your employ who can pack 24 division-boards in those three boxes with the rest of my goods, I will pay you for five hundred division-boards. Talk is cheap, but I mean what I say, and will send the boxes out by the next train that comes that way. I am awaiting your order. When I try to steal from you it will be more than 24 division-boards. As regards my squareness in doing business, please inquire of ——— and ———, where I have bought my groceries for 6 years.

P. S.—I pack boxes almost every day, and know what they will hold, W. T. W.

Aug. 15, 1882.

The clerk would have given him a pretty severe reply, had I not protested. She said she still believed the division-boards were sent, and I reproved her for that, saying the man would surely know whether they were there or not. By my dictation the following was sent him:—

There is no need of getting into a passion, my friend. No one has even hinted at dishonesty. Customers frequently do not know what goods are like, and say they are not in the package, and afterward write us of their mistake.

Well, greatly to my surprise, at least, to-day comes the following:—

I shall have to beg your pardon. The division-boards were all right, and I did not know what they were. I took the advice of an old bee-man; he said there were no division-boards there. Inclosed I send check for \$2.40. W. T. W.

Sept. 4, 1882.

Is not the moral plain, dear friends?

Bee Botany, OR HONEY-PLANTS TO BE NAMED.

SOUTHERN BUCKTHORN.

HERE is a twig I broke from a little tree that blooms about the 1st of July. I do not know how long the bloom lasts, but it supports or attracts more bees than any other tree I ever saw, except settled swarms. What is it? Please answer in GLEANINGS. Bees have not gathered much honey this season, but have increased rapidly.

Friendsville, Tenn., Aug. 27, 1882. S. L. GREER.

Answer, by Prof. Lazenby:—

The plant is *Bumelia*, or Southern buckthorn—*Bumelia lycioides*, order *Sapotaceae*, or *Sappodilla* family. It is a small, mostly tropical order, producing the "star-apple" and some other edible fruits. The species in question is a spring shrub, or small tree, from 10 to 25 feet high, bearing a small round black fruit resembling a cherry. The wood is exceedingly hard.

W. R. LAZENBY.

Columbus, O., Sept. 5, 1882.

I send you by to-day's mail two plants. Please give their name, and say whether or not they are of any value as honey-plants. The large one is a wild weed growing abundantly in all deserted fields and all cleared ground not in use; blooms from about the first of July until frost. Bees are at work on the blossoms all day, but seem to get more pollen than honey. The other grows thickly in cultivated fields, and is cut by farmers for winter forage for stock, and is called "clover," but I do not know what kind. Bees work on it.

J. J. DAVIDSON.

Grand Bay, Mobile Co., Ala., July 26, 1882.

Answer, by Prof. Lazenby:—

Of the two plants, the one called "clover" was in such a poor condition that I could not determine its name. I would like another specimen. The other plant, "the fine one with yellow blossoms," is the slender-leaved sneezewort, *Helonium tenuifolium*, *Compositae*. This plant is one of the most beautiful of our wild flowers, and is worthy of a place in the flower-garden. *Helonium* is not a large genus, having not more than six or eight representatives in the U. S. The botanical name is connected with Greek history. It is said that the original *Helonium* sprang from tears shed by Helena; and the floral emblematisers have therefore made this plant the representative of tears.

W. R. LAZENBY.

Columbus, O., Sept. 5, 1882.

I send you a honey-blossom of the famous Aroostook honey-plant, as we call it—the second-growth fireweed, or Indian "wecop." What do you call it?

Dexter, Me., July 29, 1882.

L. FRENCH.

Answer, by Prof. Lazenby:—

The plant is what is commonly called "large willow-herb"—*Epilobium angustifolium* (*Onagraceae*, or Evening-primrose family), a perennial with nearly sessile leaves, which resemble the leaves of the willow and violet-purple flowers. It belongs to a genus of tall-growing, hardy, herbaceous plants, chiefly natives of Europe, but now extensively naturalized. Some of our native species are very showy plants, with large spikes of pink flowers. They are of easy culture, and may be readily propagated from seed.

W. R. LAZENBY.

Columbus, O., Sept. 5, 1882.



NO HONEY IN THE CLOVER, AND A REASON SUGGESTED.

I SHOULD like to know if you or any one else has noticed a small insect on or in the honey-bearing flowers. It is a small yellow fly about 1/24 of an inch long, very slender, and is quick in motion. I have seen as many as fifty in one white-clover head, and the place to find them is about the place the honey ought to be; and the way to find, give the flower a gentle squeeze with thumb and finger; then release and look sharp, and you can see them crawl and fly away. I have noticed them in white and red clover, catnip, basswood, and spider flower. They must be after the honey, for I can't find any on flowers that bear no honey. There has been an abundance of white clover in bloom here—more so than I ever saw before, and the weather pretty fair; but the bees have gathered very little surplus. I got only about 100 lbs. of honey in sections from 25 colonies I had in the spring, and they were all in good shape the first of June.

JOHN HARROLD.

Columbiana, Ohio, Aug. 21, 1882.

And so you think, do you, friend H., that the dearth of honey in the clover was because the insect ate it all? It may have taken some, but I hardly think enough to make any perceptible difference in the honey-flow. I have noticed the little flies you describe, but never before thought of their being detrimental to the honey crop.

AN "AMBITIOUS" QUEEN; WORKER EGGS AT THREE DAYS OLD.

I see in GLEANINGS, Aug., page 250, that Mr. Ayars has a queen that commenced laying when but four days old. Now, I do not know that I can beat that; but I have a young queen that was hatched on the 30th day of Aug., about noon, and on the 31st, next day, at 2½ o'clock, I saw her out on the wing, and this morning, Sept. 4th, I opened the hive at 7 o'clock A.M., and found one comb nearly filled with eggs and a patch of eggs in the two joining combs, one on either side of the full one. Now, I think that she is rather "ambitious"—don't you? There can be no mistake about this, for she was raised in the hive, and there has been no brood given them.

Brighton, Mich., Sept. 4, 1882. C. THOMPSON.

Decidedly ambitious, friend T. As they usually lay the day after fertilization, she probably laid when three days old. Very likely she remained in the cell until she was most fully matured.

A BEGINNER'S REPORT.

As it is customary for beginners to give their experience in bee-keeping, I thought I would give mine. I commenced last spring with six colonies; sold one the first of May, and have increased the remaining 5 to 26 by natural and artificial swarming, and got 50 lbs. of comb honey per colony, spring

count, and could have got as much more per colony if I had had time to attend to them as I should have done. I had one colony that made me 9 swarms—4 natural and 4 artificial swarms, and the old swarm makes 9, and gave me 150 lbs. of comb honey, and every one of the 9 colonies has at least 40 lbs. of honey each at this time. Since I commenced writing this note I heard quite a roaring out in the bee-yard; and on going out I saw a swarm of black bees whirling about in the air. I got a bucket of water and sprinkled them a little, and they settled on a quince-bush, and I hived them; gave them two frames of unsealed brood and a frame of honey, and two frames of fdn. to work on. I will feed them some and see what I can make out of them. They have a nice black queen, but I think I shall replace her with a yellow queen. None of my neighbors have lost a swarm. Where do you think they could have come from? Do you think they would have swarmed out of a tree in the woods and come to my bee-yard?

J. R. CROOKS.

Keiths, Noble Co., O., Aug. 27, 1882.

Why, friend C., if that is the way beginners do, I really can hardly see the use of becoming a veteran. I wonder if it isn't true, that the fresh enthusiasm of a novice often prompts him to greater exertions than he makes after the matter gets to be a little old to him. If you keep on at this rate, where do you expect to be in a few years hence?—I think the bees came from the woods.

WORKER BEES FROM DRONE-CELLS, AGAIN.

I have a case of worker bees hatched from drone comb. I discovered it a day or two since. Some time in July this hive cast a swarm which returned to the hive in a few minutes. I removed 4 of the center combs and inserted frames with 3 in. of fdn. The bees filled the remainder with drone comb, and last week, in extracting, I found workers just gnawing out of drone-cells, and drone larvae close to them. Here is a case of quite a number of workers, as I saw them hatch, and also dug some of them out.

ADIN STONE.

Vienna, Oncida Co., N. Y., Sept. 4, 1882.

This only shows, friend S., that the bees were unable to find the amount of worker comb they needed, and so fitted the drone comb for the queen to use. I presume you found the outer edge of the cells contracted, as has been recently mentioned. I wonder if the bees never felt worried at such a lack of economy as comes from putting a small bee in such a great cell. You know what an economical set of little chaps they are.

THE SEASON IN ENGLAND, ETC.

During the whole of June and July the weather was most unfavorable, and many bee-keepers had to feed to keep their bees alive. I have been rather fortunate, as most of my stocks got just enough to enable them to breed enormously. I have thus been able to increase from 35 in the spring to about 80 at the present time, besides selling several colonies, and a large number of bees by the pound. I hope to increase to 100 by the time the season closes. Since August 5th we have had the first genuine summer weather, and my bees are working well on second-crop clover, and 20 acres of sainfoin. They prefer the latter, though a great many pay attention to the clover. Not one bee did I find on the first crop of

red clover, but both blacks and Italians work on the present crop. Many of the Ligurians suck the honey from the flowers, while others, and all blacks, work their tongues *between* them.

SAINFOIN HONEY.

This is of quite a light color, comparing favorably with the autumn crop of the heather districts, the latter being remarkably dark; but it commands a good price nevertheless.

SAML. SIMMINS.

England, August, 1882.

DIFFERENCE IN QUEENS.

I commenced feeding my two stands of bees to start the queens to laying. One queen seemed to lay so rapidly she soon ran off from the other queen. I was astonished to see one hive run over in so short a time with bees, and the other queen laying but few eggs on two or three frames. She was a healthy-looking queen, and a large one. Why was it, Mr. Root? The two stands were treated alike. This queen finally died this summer. The other stand I soon commenced to divide. I ran it to three stands, and from the first stand I made I divided once, which made four from the one stand. Is this too much increase, or not? They are all in good condition for winter. They have from six to ten racks apiece, breeding rapidly now. They are working on buckwheat nicely now. I took 50 lbs. of comb honey from this strong hive, and raised six queens, while I did not get any surplus honey from the weak hive and this other queenless hive.

Eubanks, Ky., Sept., 1882.

I. G. EOFF.

While there is a wide difference between queens, friend E. I am inclined to think the one you mention was failing when you found her laying so poorly, and her final decease would encourage the idea. Even though queens should lay an equal number of eggs, the one that scatters her eggs through a number of frames is not as profitable as the one that fills a comb with eggs laid at or near the same time. A poor queen should never be tolerated a day longer than we can help it; and in your case a prompt exchange of queens would have made you several dollars better off in just a few months, as one can readily see, as you state the case.

ASTERS, ETC.

I commenced the season with 45 colonies; I now have 95; have taken 1450 lbs. poplar and 1600 of sourwood, and the prospect is now good for a considerable quantity from the aster. Until this year the aster has been scarce in this neighborhood, though plentiful in other portions of the county; but if it increases another year as it has done this, we shall have any amount of fall honey.

J. F. MONTGOMERY.

Lincoln, Tenn., Sept. 4, 1882.

TWO COLONIES EACH ROBbing THE OTHER.

While in the city of San Diego, on the 10th of July, Mr. J. S. Harbison requested me to visit a number of Holy-Land and Cyprian colonies which he keeps near his home in the city. Well, we found two strong hives with brood in all stages, and about 15 feet apart, each robbing the other. A continual stream of bees were going and coming each way, loaded with honey, while others were coming in with pollen gathered from the flowers. Mr. Harbison had discovered it in the morning, and waited before stopping them until I could have a chance to see them. He said it was the first time he ever saw

any thing like it in all his long experience in bee-keeping. The rest of the bees, about 50 colonies, were working away on outside feed, and not giving any attention to the robbers. To show that other bees were not interfering, Mr. Harbison sprinkled flour on the robbers at the entrances of the hives, but we found none going to other than the two mentioned.

California will not produce much honey this season. I shall get about 20 lbs. of comb honey to the hive on an average; many hives are not making any. Many apiaries will not make any.

J. P. M. RAINBOW.

Fall Brook, San Diego Co., Cal., Aug. 16, 1882.

We have heard of one case of this kind before. The hives, it would seem, happen to be so nearly of the same scent, that inmates go from one to the other indiscriminately. This being the case, and finding rich combs away from home, they naturally load up and carry it to the vicinity of their own queen, not noticing the bees that are eagerly doing the same thing with the stores of their own hive. It would seem a few must go to the fields, or this sort of "industry" would soon kill itself. It reminds one of the crowd of boys who traded jack-knives all one afternoon, and when night came each boy had a better knife and half a dollar "boot money" besides.

HANDLING BEES IN EARLY SPRING.

I do not think that I shall ever open a hive of bees again in early spring, until the young bees have become numerous. Why it injures them, I do not know; but handling weak colonies almost always results in the loss of the queen, or causes her to quit laying, while those in a like condition, properly stimulated, come out strong.

CAN A COLONY BE TOO STRONG VERY EARLY IN THE SPRING?

W. Z. H., in the August GLEANINGS, asks which is preferable for surplus honey, a hive full of bees in early spring, or one just moderately strong. I should prefer the latter for surplus honey, providing you have them built up strong at the beginning of the main honey season. If they do not put the first honey in the sections, they generally outstrip the strong ones when they make a start, and keep it up with greater energy. After a queen has once stocked a hive with bees and brood, they generally swarm, or the bees store too much honey below where young bees have emerged. I have sold, this season, three frames of brood and the queen from my strongest stocks, and then had them built up in time for the honey season. For profit in both bees and honey, I will take those that are extra strong early in the season.

LEROY VANKIRK.

Washington, Pa., Sept. 4, 1882.

THE RED-CLOVER QUEEN.

Can you tell me where you got the red-clover queen, mentioned on page 491, 1880? I got some of her stock, and it is superior to all others, so I would like to trace up her ancestry.

AUG. J. HINTZ.

Lemont, Ill., Sept. 4, 1882.

She was only a daughter of an imported mother, like all our other queens, friend H.; but she was selected because her hive was full of sealed honey when all the rest of an apiary of over 200 had to be fed. We judged they got the honey from red clover, by the dark-green pollen they brought in. It seems,

in this case, that their extra energy in honey-gathering was transmitted to her descendants.

HYBRID CYPRIANS AHEAD.

I have two swarms of hybrid Cyprians, reared from a queen I got of you two years ago, and which died after laying a week. They are the best workers I ever had; and if I can get another queen that will produce the same strain of hybrids, I think I shall bid adieu to blacks and Italians soon. They have more than double the honey in their hive that the blacks have, besides having swarmed (which none of the blacks nor Italians have yet done), and the new swarms are very heavy, and working in sections better than the old colonies of the blacks are doing. If all my bees had been just like them this cool wet season, there would have been at least \$500 worth more of honey in the hive than there is at present. Now I am afraid it will be a hard job to get a queen that will breed just such bees again, as I have tried both of these, and their queen progeny produces bees but little better than the blacks; but then they are getting pretty well down toward the blacks, and I need a good pure queen to start with again.

E. M. JOHNSON.

Mentor, Ohio, July 7, 1882.

Our readers will bear in mind, that friend J. is the man who claimed he got more honey from blacks and hybrids than from pure Italians. If he has found the Cyprians an improvement over all, we are glad to note it.

REPORT OF AN A B C SCHOLAR.

I said I would send in my report this fall; so, here it is:—

No.	increase.	none.	Extracted	100 lbs.	Value.	\$12.50.
No. 1.	"	"	"	100 lbs.	"	12.50.
No. 2.	"	"	"	12 lbs.	"	1.50.
No. 3.	"	"	"	13 lbs.	"	1.60.

Net profit of 4 hives, - - - - - \$28.10.

The above were 4 swarms which I wintered. Nos. 1 and 2, in the spring, were fair swarms. No. 3 was weak, and a very poor queen. No. 4 was queenless, and it was late before they raised a queen, because I had no drones.

The following are four swarms which I bought in the spring, and were all in box hives:—

No.	increase.	4;	extracted	50 lbs.	Value.	\$ 6.25.
No. 5.	1;	"	"	140 "	"	17.50.
No. 6.	"	0;	"	160 "	"	20.00.
No. 7.	"	0;	"	100 "	"	12.50.

5 swarms at 5 dollars each, - - - - - 25.00.

Total, - - - - - \$81.25.

Deduct \$12.50 for hives - - - - - 12.50.

Net profit on four, - - - - - \$68.75.

Net profit on first four, - - - - - 28.10.

Total, - - - - - \$96.85.

Newton, Iowa, Sept. 4, 1882. SAMUEL LISTER.

COMBS BUILT IN WIDE FRAMES FOR THE EXTRACTOR.

On page 351, July GLEANINGS, you ask, "Who has tried the wide frames for the extractor?" Three years ago I had 8 sets of combs built during buck-wheat honey, and have them in use to-day, just as good as when first made. The most of them were built down from starters, and at least one-third of them are drone comb. Those I shall destroy; for if they are put on the hive from 3 to 10 days, as they should be before the honey-flow commences, while the honey is coming in slowly, the queen will almost invariably lay in them. If they were worker comb, it does no hurt; and my advice to all having combs built, is to use nothing but full sheets, worker-brood size. I like them better than the

brood-frame to extract from. The frames will average 10 pounds apiece, and can be uncapped just as quickly as one that holds 6 pounds; and as regards the honey ripening, there is no difference. It is under the process of evaporation just as soon as they commence to put it into the cells, and by the time the combs are full clear down they have it sealed two-thirds of the way, so they are ready to extract. All the trouble I find with them is, that the Simplicity hive holds an odd number, and also that often they are so heavy it will not do to throw out all of the honey without turning them twice. Where they are built of worker comb they can be transferred to the brood-frames if necessary. I have just ordered of you 20 lbs. more of fdn., to use mostly for building combs in wide frames.

SUMAC.

There are 30 acres of commons about one hundred rods from our apiary, that has a dense growth of sumac, and my wife and I went up there to-day to see the bees at work on it. We found as high as six bees on one spike of blossoms, and they were so eager to get the sweets we could pick the bunches of blossoms without their flying.

ALSIKE.

I would recommend all who can, to sow alsike clover for their bees to work on. Mine has been a perfect roar of bees for the last 4 weeks, right through the wet weather, when white clover was producing no honey. I should have no surplus up to now to speak of, if it had not been for the alsike.

Millington, Mich., July 16, 1882. M. D. YORK, 50.

GLASS JARS FOR RETAILING HONEY.

I want a glass jar to hold 6 to 8 gallons, from which to retail extracted honey in a store. It should be heavy glass, and perfectly clear and transparent—not green glass—and should be about 2 ft. high. The top or lid should be of porcelain, with a knob to lift it by. This knob might be of the shape and design of the old straw hive. At the bottom there should be a beautiful nickel-plated honey-gate, with tube about one inch in diameter. The words "Pure Honey" might be put on one side, not with any kind of paint, but with gold-leaf covered with glass, or with a gilt label with black letters. I keep extracted honey in the store in a common glass jar holding about 1½ gallons, from which I retail, and in the Standard and Mason fruit-jars, and I find it sells best from the retail jar, customers bringing their own vessels. Now, with the kind of jar I describe, with scales sitting under the honey-gate, I think I should have what would suit my trade. Honey presents a very attractive appearance in a clear glass jar sitting near a window. Would not enough of the bee-keepers take jars of this kind to justify you in getting some made?

C. L. DAVIDSON.

Flemington, W. Va., July 18, 1882.

Such an arrangement would be nice, but pretty expensive, friend D., and the great drawback would be that it would not look nice at all when the honey began to candy, as it always does at the approach of cool weather. We keep tin pails constantly in stock for this very purpose, and when the honey candies this can easily be set in warm water until the honey is liquified again. You know it is rather aggravating business, to attempt to run honey out of even the largest-sized honey-gate, after it has got pretty well solidified.

ANOTHER WAY TO FOLD ONE-PIECE SECTIONS.

In my correspondence with hive manufacturers lately, I have been obliged to pay extra postage on letters which were made too heavy by printed matter giving instructions on folding the one-piece section. I have never yet read your instructions for folding the same, and have never followed *any one's* instructions, and I judge from friend Bingham's article, and your answer to same in June GLEANINGS, page 289, that "I don't have to," for I feel quite sure that, with a few conveniences and a little practice, I could easily fold 500 in an hour. I stood up to an old dry-goods box yesterday and folded 50 in 7½ minutes, and used a hammer for driving the corners together, and was obliged to strike twice, when once with a mallet would have been sufficient. Lay the sections as friend B. directs.



Take No. 2 in left hand and No. 4 in right; leave No. 3 on bench, and press down firmly as you bring up Nos. 2 and 4 to a perpendicular position, then slip the left thumb to the lower end of No. 1, and by giving the same a firm pressure it will fall right over in its place; then it comes natural for the fingers of the same hand to clasp Nos. 1 and 4 together while the right hand picks up that little "five-cent mallet" (which I haven't got), and gives the corner *one tap*. Just try it.

HARVEY C. WARE.

Port Byron, Cayuga Co., N. Y., Aug. 17, 1882.

TAKING BEES ON SHARES, ETC.

I got a swarm on shares, from which I got one swarm, and recruited another weak colony I had, so that they made out to live through the past winter, but got no honey last year, and this spring I had 3 colonies to start with. On the 15th of June I had a swarm come off that I hived in a chaff hive, and some two weeks after I put in section boxes; on the 20th of July, as they showed signs of swarming, I took out nine boxes, which was all that was capped over; on the first day of Aug. I found 71 out of 72 boxes were all capped over, making 80 lbs. I took from this one swarm in 46 days, from the time the swarm started; and on the Monday following, a very fine swarm came off, leaving a good swarm still in the hive, and the prospect is that I shall get considerably more honey out of the hive.

I have now 9 swarms in all, and have taken about 200 lbs. of honey in section boxes, which for me is quite a boom in the bee business. A year ago I was almost discouraged trying to do any thing with bees, and would not invest a cent. I could have bought the swarm I took on shares for \$5.00, and had I done so, I should have doubled my money and had seven swarms of bees for my investment, instead of an interest in six.

D. NORTON.

Galva, Ill., Aug. 21, 1882.

DOES THE QUEEN CONTROL THE SEX?

The queen bee has not the power to change, or, rather, to control, the sex of her ova. This may be very sound theory, but, if not sustained by facts, it is not worth a cent. About one month since, I transferred a colony (Heddon's fashion), drove every bee out into a new L. hive; the old hive contained 12 short L. frames, all worker comb, worked out on Vandervort fdn., with a young queen laying rapidly at the time of the change. I noticed two frames at the time, just filled with worker eggs, and they

would have produced worker bees. But not so. After the change, the bees changed their programme; they fed those eggs on different food, so in due time they hatched out two full frames of nice yellow drones, but rather small. Whether they are perfect drones or not, I am not able to say; but they are perfect so far as I can tell. Friend Peters, don't be so sure of any thing that you don't know yourself. We are all in the fog, but rapidly approaching a perfect knowledge of the mysteries of the honey-bee.

J. S. TADLOCK.

Luling, Texas, Aug. 28, 1882.

It will be noticed from the above, that friend T. favors the idea, something in the manner of feeding may prevent the egg from producing a worker. The experiment proves nothing conclusively, for the two frames of eggs might have produced drones any way. Will you please tell us, friend T., if the queen has produced worker brood both before and since, with the exception of those two frames?

HONEY-LOCUST, AND HOW TO RAISE FROM THE SEED.

I see you wish to know how to grow honey-locust. I will tell you all I know about it. In the first place it must be sown in autumn, or placed in boxes with sand, and exposed to frost before planting, otherwise they may not vegetate till the second year after planting. But if these seeds are received too late in the spring to expose them to the action of frost, they may be put into a vessel of hot water for an hour or so before planting. You can purchase seed of any seedsman at from 50 to 60 cts. per lb. There are two varieties, and persons will do well to know both, so as to make no mistake in planting. One is called *Gleditsia sinensis*, and the other, *G. triacanthos*. The first named is more for ornament, but the latter is the one for bees.

FRED HOLTKE.

Carlstadt, N. J., Aug. 26, 1882.

If I am correct, it was the common locust that bears honey on the blossoms, that we were inquiring about, and not the so-called honey-locust that bears honey in its pods. Whether these pods furnish honey in a shape available to the bees or not, I am unable to determine. Can somebody tell us about it?

SPANISH NEEDLE.

I inclose a plant that grows in the swamp, that the bees are at work on. The honey they gather from it is similar to goldenrod. It will last until frost comes, and yields lots of honey. Can you give us the name of it?

DRONES FROM WORKER EGGS.

About the sex of the eggs, I will say I moved a swarm of bees the 25th of July, and gave the hive on the old stand eggs from my Italian queen, and I know that every cell has worker comb, and the bees have raised queens, drones, and worker eggs in worker comb. Now, I believe that the bees have a way of raising drones from a fertilized egg; but they can not raise a worker or queen from a drone egg.

D. M. TORREY.

Shiocton, Outagamie Co., Wis., Aug. 20, 1882.

The plant is one of the great family of Spanish needles, or burr-marigolds. It has the funny fashion of having no petals, on high ground or in fields, while in swamps it has large and beautiful ones that make a great show, and often make a perfect sea of yellow, and yielding large quantities of gold-

en-yellow honey. Unless perfectly ripened, the honey has often a rank flavor that hinders the sale of it.—Your fact in regard to drones from worker eggs is another in the mass of testimony that is accumulating.

HOW TO GET PLENTY OF GOOD QUEEN-CELLS.

In August GLEANINGS-your son states that he obtained 82 queen-cells from four colonies of Holy-Land bees. Last month I got 44 queen-cells from two colonies of hybrids—one raising 23, and the other 21. My plan of obtaining them is as follows: From the hive in which you wish queen-cells started, take away all combs containing either unsealed brood or larvæ, giving the bees one comb with eggs or larvæ from the queen from which you wish to rear. The hive should be well supplied with bees—the stronger the better. I maintain that the one frame will receive the attention of the entire colony; also, more queen-cells will be started on it than would be on two or more frames, and the queens will be at least equal to those raised during swarming-time, at which period there are five or six frames for the bees to attend to.

HOW TO GET THE QUEEN-CELLS HATCHED WITHOUT CUTTING THE COMBS.

Tell our bee-keeping friends who wish to raise queens, but have no nursery, not to cut and disfigure their combs, but adopt my way of doing it successfully. Take two empty brood-frames, and tack wire-netting on the outer side of each. Between these, insert your frame of queen-cells. Into the top-bar of one of the frames having the netting on, fasten two hooks, about eight inches apart. Into the other netted frame, fasten two screws for the hooks to catch on, and thus secure the three frames firmly. Fix, in a similar manner, one hook across the center of the bottom-bars of the three frames. The arrangement is then ready to be hung in some strong colony. You can examine the queen-cells as often as necessary, without fear that the bees can disturb them. When a queen is hatched, unhook your top hooks, and remove her. The above plan is good in hot weather.

CHARLES E. PRICE.

Smithtown Branch, N. Y., Aug. 28, 1882.

Your plans are both good, friend P., but neither can be called strictly new. Your cage to incase the comb does very well in hot weather, but will be deserted by the bees when we have cool nights, and the cells will be chilled. Your plan of incasing the comb at little expense is rather a novelty. If you have a comb in which there is no unsealed larvæ, it does very well; but if the wire-cloth frames are put on before the brood is all sealed, they will crawl out and die, making a very unpleasant appearance, to say nothing of the cruelty. We have found it also quite a task to get it out of the hive and open it, every time a queen is seen out. The device known as a "hatcher," to be placed over the frames in a chaff hive, is more convenient, and, we think, rather better to stand cool nights.

CALIFORNIA.

This has been a very spotted year for the bee-men in California—lots of honey in some localities, and none in others. Parties who have apiaries up in the mountains, above the fog-line, have done pretty well, while those in the valleys have taken out but little honey. There were very heavy fogs all spring

in the valleys, and it seemed to blast all the bloom. I started with 73 stands this spring, and 19 of an increase, and have taken out, up to date, 12,000 lbs. I may get one more extracting. The bloom is drying up fast, and it is hard to see what bees are gathering honey from; but they are putting it in all the same. Mr. Reasner, who has an apiary three miles west of me, was to see me to-day, and says he has taken over six tons from his 130 stands; at Mr. Turner's they have taken out some five or six tons, so you can see that the honey crop is not altogether a failure. There has been but a light increase in bees this year. Turner's is three miles east of me, all high up in the mountains.

G. W. LECHLER.

Newhall, Los Angeles Co., Cal., July 25, 1882.

BALLING THEIR OWN QUEEN.

In July I had a first swarm come off; settled all right; got it down from tree. While going in, the queen was balled on the sheet. I rescued her; let her in, and she was balled again. I caged her, and next morning found her dead and balled. The swarm came out about ten o'clock, and flew about 15 minutes, and came back, and went into same hive; gave them a sheet of brood, and they raised 42 queen-cells complete. If there is any thing strange to you, say so; it is ahead of my experience.

Minerva, O., Aug. 11, 1882.

J. A. TABER.

I think the reason the bees came back to their own hive, was because the queen failed, for some reason, to go with them. They were displeased with her because she did not go with them, and so balled her, with the intention of raising another that could or would fly. By the number of queen-cells they started, it seems they meant "business."

A NEW WAY TO BRING A SWARM DOWN.

I had a swarm come out while I was away, so it went for the woods. But a neighbor saw them after they had gone about half a mile; they threw dirt and sticks among them, and yelled like so many savages, but to no purpose. Soon the dog was noticed (he is a bound); they took him up by the ears and just let him yell, and he did, and the bees came down in a jiffy, and were hived, and are now at work. How is that?

H. C. JOHNSON.

Reesville, Ohio, Aug. 17, 1882.

You tried it, and the bees came down; but, friend J., how can you be sure they would not have come down any way? That is, were they not just about ready to come down before the noise? If friend Peters' theory is the correct one, that they depend on the sound emitted by the queen or scouts, it may be possible the noise drowned this note, and so brought them down; but I think we need to be slow in arriving at conclusions in these matters.

SUGAR CANE THAT BEARS HONEY.

I have sown some buckwheat, and there is some "black-head" sorghum close by, and I look for a very good yield of honey this fall. The bees like sorghum, and work on it before sun-up, and until late in the day, and then again in the evening. Keep up your Remindery department, by all means, and say something under that head in every number.

ALLEN A. LETCHWORTH.

Graham, Young Co., Texas, Aug. 11, 1882.

It would seem from the above, that this honey sorghum secretes honey something in

the same way the spider plant and buck-wheat do, at the approach of night, and very early in the morning. When we get sugar cane to bearing honey where the bees can reach it, then indeed we are on the high road to putting bee culture side by side with the great sugar industries. It is a coming, friends, it is a coming!

WORKER VERSUS DRONE FDN. FOR SECTIONS.

Send 1 lb. thin foundation for sections (worker). I want no more drone in "mine." B. HAMM.
Houstonia, Pettis Co., Mo., Aug. 19, 1882.

Friend H., I last week purchased a ton of the prettiest and whitest honey in 1-lb. sections, that it has ever been my lot to behold, and every bit of it was built out on drone fdn. I offered 20 cents per lb. for the whole lot, just because it was so white and pretty I "couldn't help it." I presume I shall astonish the friends again, by saying it was also all built out without separators. A good large starter of drone fdn. was all he had to keep the honey straight. It was raised by Thomas C. Crilly, Grafton, Lorain Co., O.

SWARMING UP TO ONE'S—"EARS."

I am, this 8th day of August, considerably surprised at my bees. Natural and nuclei-raised young queens have been leading out swarms, and are still at it, leaving full hives of brood and stores; but all the tempting I can do to entice them to stay at home and make stores in sections and empty frames is of no avail. They had all swarmed around and through, as I supposed, by July 10th, and since that date over 30 have swarmed again, all alighting in the topmost branches of my tall oak-trees. They seem to have a perfect fever, and will come out as soon as eggs are laid in the partly formed queen-cell. Cutting out cells is of no account; they will be idle until they are allowed to come out, then work hard to fill their new quarters. Ha! I have prepared with more hives, I could have had over 100 from my 21 colonies; as it is, I am working hard to contrive how to keep them down and get my usual crop of section honey. My bees are now all pure Italian, and nearly all the queens raised this season. My first swarm came off the 28th day of May, and I had 3 large ones yesterday, so you see my head and "ears" have been among swarms for over two months.

F. A. TICKNOR.

Austin, Mower Co., Minn., Aug. 8, 1882.

DRONES REARED IN QUEEN-CELLS.

Can the leopard change his spots or the Ethiopian his skin, or the drone bee his sex? Did the mountain labor and bring forth a mouse? I this day send you by mail a drone bee, and the queen-cell that he was hatched in. Last spring I had a weak colony of bees; they had no queen. I transferred them to a chaff hive in June, and gave them a frame of unsealed brood from a young colony. They immediately started several queen-cells, and very soon destroyed them and built several others; introduced the larvæ and royal jelly, and placed the latter in several cups near them; but before they were capped over, they too were torn down. They seemed to enjoy cell-building, but refused to be governed by a queen. They evidently had a fertile worker, as there was drone brood in the old hive, and none in the new hive. After the worker brood was exhausted in the frame I gave them, they built several cells and destroyed all but two of full size, which

they capped over. After waiting a long time, and watching them closely, I to-day find the first one capped over, hatching a common drone, which I send you. No. 2 is not hatched yet, but will very soon. I will watch it closely and report. The bees refused to defend their hive until the two cells above described were capped over. Then they became cross as bears.

THOMAS BUSHNELL.

Hayesville, O., Aug. 29, 1882.

The above shows conclusively, that when queen-cells are built over drone larvæ, the royal food does not always kill the larvæ, but that it may hatch out a drone, in spite of it. We have had similar reports of the same thing before, if I am correct. A drone egg can, under no circumstances, hatch out a worker or a queen, but recent facts seem to indicate that a worker egg *may* hatch out a drone.

A BEGINNER IN A QUANDARY.

The 24th day of Aug. found me in a quandary. My bees are in one-story L. hives, 8 frames. The bees had filled their hives with brood and honey, after having extracted about 35 gallons of nice white-clover and basswood honey. It being late in the season I did not know what to do, and the bees showing strong signs of swarming, I made up my mind to seek the advice of an experienced bee-keeper in this State. He must have experience, as he secured 20,000 lbs. of honey last season. I will give you my questions and his answers to them:—

1. Would it be safe to extract as late in the season as this date?

It would be safe to extract after securing 2 or 3 nice combs of ripe honey to fall back on for winter.

2. Would it pay to put on sections?

I would advise putting on sections filled with nice light foundation; if not filled this fall, you would have so much of a start next season.

3. Would it be advisable to divide, using dollar queens?

You could increase by using dollar queens, but I would prefer to keep the stocks heavy for winter.

Cato, Mich., Sept. 1, 1882. S. J. YOUNGMAN.

It don't seem to me I should ever be in a quandary, friend Y., when my hives were full of honey, and more was coming, no matter what season of the year it was. I quite agree with all the advice your friend has given you.

THE NAME BACK OF IT.

I believe the first I ever heard your name mentioned was by N. C. Mitchell, in one of his bee pamphlets. He entered a train of abuse which is calculated, I think, to harm himself more than any one else. I have seen your name favorably mentioned by some of the leading bee manuals and journals—something I can not say for him. I merely mention this as my first introduction to you.

W. B. MITCHELL.

Mt. Pulaski, Logan Co., Ill., Aug. 28, 1882.

The above illustrates a point it were well to keep in mind. It is not what some single individual says of us, but our whole past life, that is damaging to our reputation. If you have a character to back you, it doesn't matter very much what some one may say; but if you have none, what you may say of others counts but little. Hence the importance of building up character, little by little, and day by day. Take care of the little acts and every-day occurrences, and in time

you will have a great milldam, as it were, that will stand any sudden torrent that may come, and let it sweep over it without doing any perceptible damage. What is wanted is a *good name* back of you.

TEXAS — HER BOUNTIFUL HARVESTS, ETC.

Surely Providence has smiled upon our Lone Star State this year. Wheat, oats, corn, cotton, and all kinds of fruit in abundance; sugar cane is looking finely. I have lived here twenty-five years, and never saw such a bountiful crop. A fine crop of honey has been gathered in all the upper and western parts of our State. Here in the southern part, spring crop was a failure; my bees gathered enough to keep them breeding up well, and now they are gathering from milkweed and boneseet. The honey is dark, but very fine-flavored. Next month golden-rod bloom, and we are looking forward for a good crop of fair honey. I have had several swarms this month. This may sound strange to Northern beekeepers, but one can have swarms in September, and they can gather enough to winter on. I am now raising queens, and requeening all old stocks, and can do it all through September and October. We have a good market for our honey in Houston and Galveston, and I have worked up a good home market. I get, for 2-lb. glass jars, \$3.60 per dozen; in five-gallon cans, \$6.00 per can; 6-lb. buckets, \$9.00 per dozen; in 1-lb. sections, \$15.00 per hundred. Pure extracted honey is fast taking the place of the adulterated syrups.

Now, Mr. Editor, this may look like an advertisement for our State, but I am continually getting letters from all over the Northern and Western States inquiring about our State as a bee country. I take great pleasure in answering them all, and will give to our bee friends (or any others) all the information I can, in regard to the resources of our great State.

J. W. ECKMAN.

Richmond, Fort Bend Co., Texas, Aug. 23, 1882.

HONEY FROM PEAS.

On page 459 of Sept. GLEANINGS you ask about cow peas, or whippoorwill peas, as they are called in some places. Here they are sown about the first of August, on wheat fields, and plowed in to make manure, about the first of October. It is a good honey-plant around here. The bees work on the fields all day. I have noticed bees on the joint of the leaf-stem as well as the flowers. The honey is a golden color, and very thick. I shall watch the bees when it comes in bloom, as there are about 75 acres within a quarter of a mile of me. It will be in bloom by next week. I have some buckwheat sown and in bloom, but no bees on it.

POLLEN FROM RAGWEED.

Pollen is coming in very fast now from ragweed. I was sitting down on the grass, near some large plants of it, to watch the bees gather the pollen. It took a black bee $3\frac{1}{2}$ minutes to get his load, and an Italian 4 minutes, but he carried twice as much as the black did.

FERTILE WORKERS.

Last month I looked over a black hive and killed the queen, so that I could introduce an Italian queen. Two days after, I looked in the hive and found one drone comb full of eggs laid as well as a queen could lay them. I put the Italian queen in, and she was accepted. Two more days, the drone eggs were gone. What laid the eggs? Could it have been a

fertile worker? If it was, she laid them as well as a queen could.

WILL A. HAMMOND.

Richmond, Va., Sept. 5, 1882.

Seventy-five acres of peas ought to give a crop of honey, if sure, it would seem.—Buckwheat often fails to yield honey, and the bees often fail to work on it when it does, if they can find any better honey elsewhere.—I should say the eggs mentioned were laid by a fertile worker, but it is a little strange they should be laid regularly. It may be there was another queen in the hive that laid these eggs, and that she was killed by the Italian queen; but then, why should they disappear from the drone-cells? I think it must have been a fertile worker's work.

GRADING SECTIONS, ETC.

Would it not be well to have two qualities and two prices on sections? My bees are still swarming, and I have bushels of them. Suppose I report an increase from 22 to 83, and 3000 lbs. comb and extracted honey; would it be necessary to back it by other evidence?

F. A. TICKNOR.

Austin, Minn., Aug. 14, 1882.

We are now taking steps to have the sections for next year graded, for those who wish. The price will probably be about \$7.50 for the whitest and most perfect; the old price of \$4.50 for the medium quality, neither the poorest nor the best, while the culls will be only about \$2.25. Those who want them the old way, just as they come from the saw, can have them at the old price.—I do not think we need any other evidence in regard to your report, friend T. We bee-keepers are not disposed to be uncharitable.

A NEW WAY TO BRING A SWARM DOWN.

I had a swarm come out while I was away, so it went for the woods. But a neighbor saw them after they had gone about half a mile; they threw dirt and sticks among them, and yelled like so many savages, but all to no purpose. Soon the dog was noticed (he is a hound); they took him up by the ears and just let him yell, and he did, and the bees came down in a jiffy, and were hived, and are now at work. How is that?

H. C. JOHNSON.

Reesville, Ohio, Aug. 17, 1882.

You tried it, and the bees came down; but, friend J., how can you be sure they would not have come down any way? That is, were they not just about ready to come down before the noise? If friend Peters' theory is the correct one, that they depend on the sound emitted by the queen or scouts, it may be possible the noise drowned this note, and so brought them down; but I think we need to be slow in arriving at conclusions in these matters.

I was beginning to need the section badly. I had nearly the last one on, with several swarms idle, and bees gathering honey at the rate of from five to ten pounds per day. Just this morning I took 77 lbs. nice section honey from my imported-queen colony; have had several of her daughters do better than that, but the imported queen's colony has been kept back considerably by taking her brood for queen-rearing. She is a "boss" queen, and I want another just like her.

J. W. KEERAN.

Bloomington, Ill., Aug. 25, 1882.

WINTERING WITH THE WHOLE UPPER STORY ON.

I should like to hear from you and others in regard to wintering in the two-story Langstroth hive. A gentleman of this neighborhood, who keeps a few stands of bees, always winters with good success with the upper story left on, thus giving the bees access to twenty combs. His reasons are, that in the fall, when it would be desirable to remove the upper story, that often he finds large quantities of brood which can not well be taken off, and, even if he should crowd all in the lower story, there would not be enough room for the stores necessary for their welfare. My plan has been to crowd them all down, place a division-board on each side, and feed till the combs bulge. The former plan proves to be the most successful in this neighborhood, and has more advantages than any other plan, to my knowledge. Let's hear from you. W. S. EDWARDS.

Grosbeck, O., Aug. 28, 1882.

The plan you mention will do very well for very powerful colonies; and as it gives most abundant ventilation, it might succeed when other stocks died for want of such ventilation. It is, in fact, just about on a par with the plan that has been so fully discussed, of leaving the top story on full of sections. Without question, many bees are lost by being blanketed and chaff-packed too closely, but still I think I should prefer your plan of fetching them down to a few combs, and then feeding until these combs bulge. Put over them coarse burlap or the wood mat, and then fill in loose dry chaff, or chaff in a very porous burlap cushion.

Friend H. Drum, Adelphi, O., showed at the Ohio State Fair a shallow box with slatted bottom, in which he puts about four inches of loose chaff, and places it over the bees. He says he has had excellent success with this arrangement, when he had bad losses with more chaff. The wooden slats are so close that neither bees nor chaff can get between them. It amounts virtually to the same thing as our wooden mats.

FROM 19 TO 66, AND ALMOST A TON OF HONEY.

It is raining, and I now have time to send a report to date. I extracted 1325 lbs.; comb in one-pound sections, 175 lbs. I think I have about as much more ready to take off the hives. Spring count, 19 colonies; increased to 66, and have five nuclei; 4 frames to unite yet. As I am an A B C scholar, I should be pleased to have you inform me what to do when both upper and lower stories of L. hives are full of brood at this season, and no more increase is desired. I will give a full report at the end of honey-flow.

S. H. MOSS.

Colechester, McDonough Co., Ill., Sept. 1, 1882.

If two stories are full of brood, friend M., put on a third story, of course, and let them fill that too, and then give them room for the honey, and it will surely come, sooner or later. I can not quite agree with the doctrine, that bees ever rear too much brood at any time of the year. In our experience we never saw too many bees in a hive, for if they go into winter quarters with a great force they will come out in the spring usually with a great force, and these colonies are the ones for any kind of business. Of course, extra large colonies should have winter stores to correspond.

DIFFICULTY IN INTRODUCING QUEENS.

The yield of honey just now is unprecedented for this time of year. I have had unusual trouble in introducing queens this summer. More have been killed than in years before. Within a week I have introduced five, and am sure that two are dead, and think that three are. I removed the old queen, and introduced by caging and letting the queen remain 36 or 40 hours, then inserted a piece of honey for same hive, and let bees release the queen. Why were they killed when honey is coming so freely?

Decatur, Ill., Aug. 19, 1882.

E. A. GASTMAN.

As a rule, we can introduce queens with very little trouble, when honey is coming in freely, but there seem to be exceptions to the rule. At such times, letting the hives remain queenless until queen-cells are started, before we attempt to let the queens out, is usually successful. Are you quite sure, friend G., that these stubborn hives had not a second queen, as has so often been reported of late?

THE COMPRESSION THEORY — MORE FACTS.

I notice in your issue for August, a communication from friend Hayhurst, on page 397, on the subject of compression theory, to which I am much inclined, although not quite an enthusiast. On page 291, June No., I gave you some facts which may go to support the views expressed by some apiculturists on that subject. In that article I neglected to state that the drone comb was all drawn out from drone fdn. purchased of you; it was full and complete drone comb. Nearly the whole in 13 colonies was filled with worker brood; a small per cent of drone brood and honey in the remainder. The surface of the drone-cells, when filled with worker brood, was much like worker brood generally, except the intervals were larger and more distinct than in the pure worker comb. This I noticed at the time, with the drawing-in of the cells at the surface, but I thought that drawing-in was the work of nursing bees capping over the brood, and never, until I read this article in August No., did I think of the work as having been done before the ova were deposited. I shall take some steps to ascertain the facts, if possible.

GEO. B. PETERS.

Hot Springs, Ark., Aug. 20, 1882.

GOLDENROD IN JULY.

About July 22, I saw goldenrod in abundant bloom in Canada East and New England. Ours is just beginning to open. I, and doubtless many others, would be glad to pay for seed of the earlier varieties. In this vicinity they would be desirable to succeed white clover as bee pasture. Can't you make arrangements to secure seed or plants for this fall's planting? I shall have no surplus honey, and probably shall have to feed for winter.

Dayton, O., Aug. 20, 1882.

J. H. PEIRCE.

Goldenrod seldom blossoms here before September, and I have never before heard of it in July, that I recollect. Although we have it here in abundance, we can hardly call it a honey-plant, as it yields so little. On the shores of Lake Erie, perhaps 30 or 40 miles north of us, it often enables the bees to fill their hives with a beautiful golden honey. Can not some of our Canadian readers tell friend P. where he can get seed of this early-blooming goldenrod?

WHAT WAS THE MATTER?

Having had (as I think) a singular occurrence come to my notice to-day, I thought I would drop you a line respecting it. Perhaps it is a common thing in your experience. On the 21th ult. I had a very large swarm of bees (blacks) issue. When safely hived they worked very lively, and in two weeks they had their hive pretty well filled with comb, honey, brood, etc. Not liking their actions very well for a week back, and seeing brood in large quantities on the alighting-board every morning, I concluded I would overhaul it to-day and clean out the "moths;" but there was no trace of such, neither the appearance of any queen, although bees were hatching by the hundred, but no signs of any eggs, brood, nor queen-cell — nothing but the hatching brood and a few bare-headed bees which the old bees would catch and fling out amazingly quick. Is it not strange they did not start a queen-cell before the brood became too far advanced, or could there possibly be a disabled queen, and so prevented their raising another? I, however, gave them material to commence a new start. C. S. BURKE.

Albion, Orleans Co., N. Y., July 17, 1882.

Friend B., your description closely tallies with bees starving to death for want of stores, but it seems you surely would have noticed if there was a total lack of honey. If there was plenty of honey in the hive, it is a case beyond any thing I have ever met.

TROWELS FOR UNCAPPING-KNIVES.

I have just been reading Heads of Grain, and I suppose I have been keeping my light hid under a bushel for some time about uncapping-knives and some other things. I got an extractor of D. L. Adair, 10 years ago, and he sent with it a trowel $4\frac{1}{2}$ inches long by $2\frac{1}{2}$ wide — just such as our eastern stone-masons used for pointing the joints in stone walls when I was a boy. It is ground all on the top side. I got one of your knives some time after. It will work a little faster on nice smooth combs that are not too hard; but on any other kind, the trowel beats it badly. They should be well tempered, so the edge will not turn, if you happen to cut against the frame.

BRAD-AWL FOR PUTTING IN FDN.

I have used a brad-awlabout 1-16 of an inch across, with a groove filed in it, for sinking the wires into fdn., ever since I tried wiring frames, and it works well.

SUBSTITUTE FOR TIN BARS.

In place of folded tin for the center-stays, I have used common iron wire, such as tinners use for the rims of common-size milk-pans, and the bees raise brood right over them as well as in any other part of the frame, as far as I can see.

My last swarm came off on the 4th instant; and as they had a young clipped Italian queen, I caught her and gave her to a hybrid stock, and left the bees on the bush till they got tired of staying. They had but 2 queen-cells started, and nothing in either of them. They are getting a good deal of very nice honey at present. C. T. SMITH.

Trenton, Ill., Sept. 13, 1882.

We now have a Disston trowel on our 50-cent counter, and I think very likely it may do as well as any honey-knife. I devised and advised the tin bars, because folded tin is lighter than a solid wire, and because I feared the rusting of the wire might make

trouble, as it did when we used iron wire untinned for putting the fdn. on. We are glad to know that plain wire will answer. We are also glad to know you, too, friend S., are blessed with a crop of fall honey.

SEE THAT YOUR QUEENS ARE NOT DRONE-LAYERS.

I am studying my lessons in the A B C of Bee Culture. I find it interesting and instructive. Looking over my hives to-day I noticed one in which the bees were idle. I opened the hive, and found that the queen had become a drone-producer. You see, I followed your advice as given in the A B C, p. 189, viz., "Where the bees stand around on the alighting-board in a listless sort of way, with no bees going in with pollen when other colonies are thus engaged, it is well to open the hive and take a look at them." On page 187 you remark, "You must bear with me when I tell you that any queen, the best you ever saw, is liable at any time of her life to commence, on a sudden, laying drone eggs altogether, or only in part." I found the state of the hive as you have described on p. 184, A B C. The eggs were not deposited in regular order. I found drones hatched from worker-cells; found drones capped over, the cells extra high, or, rather, the capping and drones in the worm state in worker-cells. I found but a very few worker brood uncapped, say 20. This was a swarm hived in June. I gave them a frame of brood then; the remaining frames were fdn. They drew out almost all the fdn., and filled it with honey and young bees. They were a fine stock, and are such now. The queen I raised last year was Italian, but produced two kinds of bees — pure Italians and pure blacks. JOS. BEARDMORE.

Annapolis, Md., Sept. 9, 1882.

REPORTS FROM THE CYPS AND HOLY-LANDS.

I want to say one word about the Cyprian queens I got of you last summer, and also one Holy-Land. I think they were mostly hybrids. They seem to be smaller, their worker progeny more nervous when disturbed; they cover the frames quickly when the honey-board is removed. Drive them away with smoke, and they return very quickly — indeed, as quickly as you can think. Now, my opinion of them is, that they are more nervous than the Italians, and more for raising bees than storing honey; in fact, it seems as though they bent all their energy to raising brood, and swarming. It seems to take the most of their honey to feed their brood. But I must say that I do not like them so well to handle, and not as well for storing surplus honey in sections as some others I have. They are too much for raising queen-cells; one swarm will raise cells for 100 swarms. ALBERT POTTER.

Eureka, Wis., Aug. 3, 1882.

SUMAC.

I see that friend Thorn, of West Virginia, inquires about sumac. I have noticed it for years past, and have seen bees swarming on it every year. This year was excessively dry here — so dry that the blossoms dried up before they came out. I have asked the old bee-men around here; they think it bears honey every year. I think that if friend Root would come here in July, we could convince him that bees get honey from sumac, and he could see it in the little flowers too. Our bees did not do any thing till July, after basswood and sumac, when they filled their hives up full; since the middle of August

they have not gathered enough to eat. There are four varieties of sumac here. The kind with red berries, such as is used for tanning morocco, coloring cloth, etc., is the best. By all means, beware of swamp or poison sumac, as many are badly poisoned by it. Sumac has the same peculiarity as basswood, of blooming at different times, commencing July fourth, and continuing this year till the first or second week in August. If friend T. sets out ten thousand plants, in a few years he will have a hundred thousand. A few years ago one stalk came up, and now it covers four rods square.

FIGWORT, OR SIMPSON PLANT.

Now a few words about Simpson plants. Last spring I dug up in the highway about fifty plants; some of them were then as much as a foot high. I did not know that they would live, they were so large; but I watered them when they were set, and every one lived. The ground was rather moist, and it being a dry summer they did well. I hoed them two or three times, and they have proved a complete success, one plant spreading out three or four feet across, and producing as much bloom as fifty in the wild state. The wild ones have only a little spike of bloom on top. It is surprising, the difference cultivation makes; they have been in bloom over two months, the bees working on them from morning till dark, rainy days and all, and they get honey too; for by watching, you can see them very frequently, going to and from the hives. Simpson plant is a success, and I must set some more.

FILLING SECTIONS CLEAR UP TO THE WOOD, ETC.

What is the reason that the bees do not fill the section boxes clear to the edge? Some of the outside cells next to the wood are not filled out, and it does not look as well as if it were all level.

How do you get the bees out of the frames of boxes, and how do you keep the bees from punching little holes in the comb while you are taking it out?

Sumac can be set on rocky, bushy, or almost any side hill, and it will grow; and when once set it will take care of itself.

H. PERRY.

Southbury, Ct., Sept. 15, 1882.

Thanks for the information about sumac, friend P. I do not quite like the idea of its being a pest to farmers.—The worst drawback to the Simpson is, that it runs out, as I have notified you of late. Our own, that have been such a sight seasons before, are this year almost unworthy of notice, and a new plantation must be made.—Bees will usually fill out clear to the wood better when there is a heavy yield of honey. By omitting the separators, you will also get them better in the respect you mention, but you will be more apt to find the queen has been in the sections also. We shake the bees from the sections as we take them from the frames, and we endeavor to take off the greater part before the season is over; then they will seldom dig into the capped honey as they do if you wait until they are gathering none, and are frantic to save what little they have.

A BEGINNER IN WAYNE COUNTY, OHIO.

A year ago last winter (being then 15), the bees were given to my care, 20 in number, and only 6 survived, weak at that. I increased to 13, putting the new ones on L. frames. Being inexperienced, they were put into winter quarters in too weak condition. In spring I doubled up to 9; transferred to L. frame; ran one for comb, 4 for extracting, and 4 for in-

crease. I reversed the frames, put a crate on top, and obtained only about 16 sections. From the 4 for extractor I took about 138 lbs., and the 4 for increase I increased to 13, they having to build out considerable fdn. I now use only wired frames. I do not think it pays to have any such crooked combs, and intend to render them into wax. I bought a queen of Mr. Rice, to breed from. They are very gentle and industrious, and nice queens without exception. Four days ago a very active queen hatched, and to-day I was going to give them some larvae, and was astonished to find nearly a frame filled with eggs—worker eggs too.

METAL CORNERS FOR REVERSIBLE FRAMES.

I am not quite satisfied with your metal corners. I like to have them movable, so I can attach mine to top and bottom, and reverse frames. I think it were much handier if they were made to push on, like the cover on the Peet cage. Just push them on till it comes to the usual shoulder between the two suspensions.

CHRISTIAN WECKESSER.

Marshallville, O., Sept. 7, 1882.

If the frames were securely nailed first, I presume metal corners could be made to slip on as suggested; but I am not sure the advantages of a reversible frame are great enough to induce many to use them thus, if they were so made.

GOLDENROD NOT TO BE DEPENDED ON.

I question if it will be safe to advise planting exclusively for honey, for this is the second year that we have gone to extra expense preparing for a large yield of goldenrod honey, and found ourselves out just that much; for though we have acres yellow with the golden bloom, like last year, not a bee on it, though they are getting a little dark from cockle-bur and sunflowers, and perhaps some from alfalfa, which they seldom work on.

SMOKER FUEL, NOVEL.

I must not forget to tell you of our new smoker fuel. I have been puzzled for some years to know what good there was in so many patent-medicine almanacs being published, but have at last discovered. They are to supply fuel for smokers. Soak a few of them in saltpeter water, and dry them; take half of each kind, mix together, lay on a rag, and roll all up together; this lights readily, and keeps fire a long time, making a good smoke. We use it all the time in preference to any thing else, and it costs nothing except the saltpeter, 10 cents worth of which will last a year.

ISAAC B. RUMFORD.

Bakersfield, Kern Co., Cal., Sept. 12, 1882.

Your experience with goldenrod has been much like our own, friend R.; still, I know it yields largely in some localities.—Your idea of smoker fuel was published some years ago, except that it said any old books. May be the medicine almanacs give more smoke by virtue of the "reading matter" they contain.

HYBRIDS VERSUS PURE ITALIANS.

Bees have done fair work here this season. We have now 10,000 lbs. in sections, and I think we shall extract about 4000 more, all from 150 hives, all hybrids. Now, brother Root, we have to raise bees for our bread and butter, and, like friend Heddon, we have found the hybrid so far ahead of the pure Italian, that we want no other until we can find something that will beat ours; and in regard to their being crosser than Italians, that depends on handling,

I think, altogether, for my bees are not cross, and I don't use any veil nor gloves either; but we can always find time to handle our bees "careful," and they always handle us "careful." I want you to know that is our motto, and for 4 years we have handled bees, and I don't think we have ever hurt a queen.

C. E. BARBER.

Langford, Boulder Co., Col., Sept. 4, 1882.

I think that excellent logic, friend B., that if you handle the bees well you may expect the same treatment in return. During a long yield of honey, such as you must have had, I should have little trouble in handling most hybrids; but when the honey suddenly stops, then comes the trial.

PUNK FOR SMOKER FUEL.

For smoker fuel, tell the brethren to go to the woods and get some soft living toad-stools and dry them thoroughly by the stove. Don't get old dead rotten ones; cut them up for the smoker, and you can light one or two or three pieces with one match, and it will give a good volume of mild smoke, and it don't blow fire, nor fill up your smoker with tarry soot. When you cut them open, the more white there is about it the better. I have never tried any gathered from any kind of timber but the hemlock. I don't mean toad-stools that grow up from the ground, but from old logs and stumps.

GEO. H. SPRAGUE.

Nell's Creek, N. Y., Sept. 15, 1882.

If I am correct, what you describe, friend S., is punk proper. It is a fungus growth, on logs and trees. We get it mostly from maple. I believe all agree as to its good qualities, but the greatest difficulty seems to be to get enough of it, and it is also quite hard to cut up, especially when old and dry. Some specimens will readily peel up with the fingers, if taken when a little wet and green. Peel it up into bits right to go into the smoker, and you will find it very handy. It is the material our forefathers used to light fires when they struck sparks from a flint with a piece of steel, before the advent of matches. These fungoid growths on old timber are a most wonderful study. As you pull them in pieces, notice how queerly the grain of the wood runs — often at direct right angles, and of a different color and texture. On warm wet days you may see these toad-stools, as our friend calls them, in the process of forming. They grow so rapidly one can see them grow, as it were. It is first a dark-colored liquid that oozes out of the log (during wet weather), and then crystallizes, as it were, into a vegetable growth.

LEAKY BARRELS.

Your eard of the 20th is at hand, and contents noted. The shortage on honey from Mr. Perry was leakage; at center of barrel, between staves, at the bung, and at end of barrel — the bung was a pine one, with wax run around it to stop up crevices, which jarred loose during transit. I was also short on two 175-lb. spruce kegs purchased from another party (at 11 cts.), 17 lbs.; 10 from one, 7 from another; both were leaking.

GEO. F. WILLIAMS.

New Philadelphia, O., Sept. 22, 1882.

It seems there is a misunderstanding about waxing barrels. Those sent by Mr. Perry were waxed a little on the *outside*. This will do no sort of good. The barrels alluded to that were reported in last JUVENILE

were made just as good as new by the following treatment: The hoops were all put in place, the loose heads put in, and then they were thoroughly cleaned with hot water. After this they were set out in the sun, and the hoops tightened every day until the whole was as "dry as a chip." Now, while the barrel was hot and dry, about a gallon of hot melted wax was poured in, the bung being dipped in the hot wax too, then driven in, and the barrel rolled and twirled until every inch had been most thoroughly coated. As the air inside was greatly heated by this process, the bungs, when loosened, went out with a bang. The whole outside was then treated to *three* coats of good paint, and we have got some barrels that will ship without wasting a drop. It seems from the above report that the spruce kegs are leaky also, unless waxed. We have had honey from California repeatedly, in 60-lb. tins (boxed), without an accident as yet; and, counting waxing and all, are the spruce kegs really cheaper than the tins?

INTRODUCING WITH CHLOROFORM, ETC.

I received those three one-dollar queens all right. I introduced one the next day all right; but to introduce the others, I couldn't. I tried to introduce them for a week, making use of all the methods I had read of; but the minute I let them out they would ball them. At last I got out of patience with them. I got an ounce of chloroform, and poured about half of it on a sponge, and put it in my smoker, and puffed a little in at the entrance. After they got pretty stupid, and begin to drop off on the bottom-board, I released the queens, and they received them all right when they revived. I suppose this is old to you, but I thought I would write. I have got quite a piece of Early Amber sugar-cane. Do you suppose I could make sugar good enough for my bees to winter on?

ARTHUR G. LOPER.

East Setauket, Suff. Co., N. Y., Aug. 12, 1882.

The idea of introducing by means of chloroform is old, friend L., but I do not know that we have ever before had the plan suggested of using it as you did, in a smoker. I am not sure that the bees would always accept a queen after reviving, but it might be worthy of a further trial. Probably a much less quantity than you used would be efficient. — I would not advise wintering bees on any amber sugar we have yet in the market. Better sell it, and buy the pure granulated cane sugar, as we have so often recommended.

TAKING BEES ON SHARES, ETC.

I commenced last spring with five swarms that I took on shares; I have increased to 9, and think I could have done better, but the man of whom I got the bees furnished the hives, and he furnished only 11, and those of *five different patterns*. Next spring I shall have a uniform hive, of some kind. Those I have are mostly made after the American pattern, with cap to slide down over the hive in winter. More than half of the queens I hatched were lost before they were fertilized. Why so many? I like your principles on the tobacco and whisky questions. Success to GLEANINGS!

J. B. DOBBS.

Antelope, Kan., Sept. 8, 1882.

Eleven hives of five different patterns! Surely I would not want to take bees on shares, if it were to be done that way. Your

large loss of queens was either accidental, or owing to some fault in management that will disappear with more experience, I think, friend D. I am always glad to hear of every one who is on the side of temperance and good morals.

HONEY-DEW.

Our bees have been storing honey-dew, more or less, all summer. They gather it from the leaves of the forest trees — principally from the oaks, elms, walnuts, and hickories. While working on the oaks, vast numbers of aphides were present on the under side of the leaves. When the aphides disappeared, the flow of honey from that quarter ceased. This was also the case with the elms, walnuts, and hickories. The honey is of the lowest grade, being dark and unpalatable. We consider it unwholesome for the bees in protracted cold weather. If we should have a severe winter, I fear that the friends who depend upon it for stores will have trouble.

THE GENTLE CYPIS!

When, after reading Dr. Dougan's description of the cautious manner in which he opens their hives, I read, "The gentlest of all bees," I smiled. Why the necessity of all this caution, if they are so gentle? It is not an infrequent occurrence with me to have to go alone to our yard on cool mornings in May, put up ten or more of the pound packages taken from as many different hives, and drive to the depot, four miles away, in time for the eight-o'clock trains. I do it with our Italians, without being stung or hurting bees. But I have to handle the hives and combs with a rapidity that, were they Cypis, I should have an insurrection on hand before the first hive was fairly open. We generally shake the bees from the combs into the shipping-boxes, through a funnel; but when honey is coming in freely it will shake out on the bees and smother them; hence at such times we brush them off. Did you ever try brushing Cyprians, doctor? I did — once only! When I open a hive of Cypis they do not "seek shelter between the combs;" they find it somewhere else. "Quickest motioned!" I should say so, and keenest sighted too. That small hole in the — of my pants, so small that wife couldn't find it to mend, the number of Cypis that found it was limited only by the capacity of the pants. It has not been demonstrated that the Cyprian colonies yield the most surplus. The careful reader of the bee papers will see that it is a question whether this can be said of any race or strain; that it is the *opportunity* and the *man* that make the great yields. Had friends Galup and Doolittle been in Texas this past season with their favorite strains, I think they would have given Bro. Carroll a pretty close rub.

E. M. HAYHURST.

Kansas City, Mo., Sept. 16, 1882.

BULGED COMBS.

I bought half a pound of bees and a tested queen of Mr. Hayhurst, the first of July. I put them in a modification of the Simplicity hive, with L. frames. On the first three frames I let them build natural comb, as I had no fdn. Now, they would build it on the edge of the frame instead of on the comb-guide; this started me to separating them a little more than A B C directs, and then I guess my eye is not a mechanical one, for I soon got the other frames from $\frac{1}{2}$ to $\frac{3}{4}$ inches apart. I got along very well until honey began to come; then the combs became so bulged that I had to remove all but seven to make

room, and these now fill my hive so I can scarcely remove them to examine the bees. What I wish to know is, whether I could have controlled the thickness of the combs, if I had rigidly kept them $\frac{1}{4}$ in. apart.

REMOVING LARVÆ, TO STORE HONEY.

Do the workers ever remove larvæ to make room to store honey? My work often keeps me up until midnight, and when the honey was coming in the fastest I would find every night from 4 or 5 to a dozen larvæ (rot dead), and young bees that would have hatched in a day or two, on the alighting-board. I do not think your A B C mentions a case like this. One day, on looking at my frames, I found the queen very busy uncapping worker-cells to liberate the young bees. Did she do this out of maternal care for her young, or because she had become impatient waiting for a cell to lay in? These few questions may see very simple to an old bee-keeper, but perhaps some of the readers of GLEANINGS may be ignorant enough to want to know just what I have asked.

M. H. PANTON.

Clay Center, Kan., Sept. 18, 1882.

With a heavy yield, it is pretty hard to avoid bulged combs; but by spreading the combs, and making them build all the new ones between the two already built, you can generally avoid the trouble you mention. Almost everybody nowadays, however, uses fdn. for every comb built, and this does away with all trouble about irregular combs. — Bees will at times throw out or cover up larvæ, when a great yield comes, and they have little or no room; but in your case it was probably only the imperfect larvæ that you saw thrown out. We have never before had a report of a queen biting out the workers, that I know of, and I can't imagine any reason for such conduct, unless it was really as you say, that she wanted cells to lay eggs in.

HIVES, HOW HIGH UP FROM THE GROUND?

How far from the ground do you winter your bees when you winter outdoors? My hives are 4 or 5 in. from the ground now; shall have to winter outdoors this winter. Snow often falls 2 to 3 feet here in the course of the winter.

LETTING A NEW SWARM INTO THE SECTIONS AT ONCE.

I would ask if, when your bees swarm, you practice letting them into the section boxes immediately. I did so, and it worked tip-top. They filled the upper story the first thing, without a bit of brood in the lower story either, and they are filling the sections again now. It was only one hive that I did so with.

T. SHERMAN.

Custer City, McKean Co., Pa., Sept. 7, 1882.

I think your hives are about the right height from the ground. We do not advise letting a new swarm into the sections until they have made some start in the brood-frames; yet it often works all right when separators are used. The only danger is of brood in the sections.

WHAT MAKES THE BEES DIE?

I want to tell you of a strange disease that is now destroying my bees. A few days ago I cut a bee-tree that had a good deal of honey, and in which was a good-size swarm. I transferred them into a Simplicity hive. A few days after that I went to the hive to take the sticks out which I had fastened the comb

in with. The first frame I took out I saw four or five queen-cells, which made me think that the queen got lost in transferring. I then gave them a frame containing some unsealed brood and honey. A few days after, I passed the hive and saw the ground covered with bees—some dead, and others nearly so. They looked like bees dying from starvation and the heat. There was plenty of honey in their hive. At the same time, my little girl told me that there was another swarm in the same fix. I went there, and, sure enough, about half the swarm was on the ground, and the hive was full of honey. Now, what do you think ails the bees? They surely can not have the dysentery in the middle of summer, and at such a favorable time as the present.

There has been a continued flow of honey, from the middle of April till now, and there was no robbing, nor any thing else that I could see, which could have caused the trouble.

I have sown the Simpson and spider plant seed you sent me, and it is blooming nicely, and both have honey on them; but the bees won't notice the spider plant, while they can be seen on the Simpson plants all day. F. R. LEIFESTE.

Mason, Texas, Aug. 14, 1882.

From the above description, I can think of no other reason than that they have gathered something poisonous. It can hardly be that they have got hold of fly poison, Paris green, or any thing of that kind, for it would be a hard matter to get bees to notice any artificial sweets during a continuous and heavy yield of honey. It is this yield of honey that prevents them from noticing the spider plants, together with the fact that there are so few of them. If you had half an acre, you would hear a humming, I can tell you.

MATCH-BOX FOR SMOKER.

Smoker is all right, and does good work; but I would suggest that you fasten a match-box on its deck, so you can have matches always ready.

GEO. GOULD.

Mill Ridge, Pulaski Co., Ill., Sept. 5, 1882.

In many respects, a match-box attached to a smoker would seem to be a good thing, friend G.; but so far we have never succeeded in producing any thing that was not so cumbersome as to be rather a hindrance, and so we have adopted the plan of having the matches kept with the rotten wood. Whenever you go for fuel to replenish your smoker, there is where you want your matches.

GEO. F. WILLIAMS' STAND FOR SELLING EXTRACTED HONEY.

At your request I send you to-day by express a honey-stand, such as I use for retailing extracted honey from. It will speak for itself, if you will fill half a dozen each of pint jars, one-pound, and one-half pound tumblers, with nice honey and after labeling with your finest labels, place them on it. The pint jars on lower shelf, 1-lb. tumblers on second shelf, and the ½-lb. on upper shelf. You may now set it on your counter, step back several feet, and tell us what you think. GEO. F. WILLIAMS.

New Philadelphia, Ohio, Sept. 7, 1882.

The stand alluded to above is the one referred to on p. 469, Sept. No., and also shown by friend Merrybanks, in the Sept. JUVENILE.

NILE. I have credited friend Williams with \$5.00 for the idea, and I am inclined to think we owe him a vote of thanks besides. We will furnish such stands complete, lettered and varnished, for \$1.00, or for 75 cents in lots of 10. The same in the flat for 60c, or in lots of ten, 50 cents.

ONE QUESTION ABOUT SPRING FEEDING.

I should like to have the following questions answered and discussed in GLEANINGS:—

1. Does it pay to feed bees in spring regularly every day, as other stock is fed?

I think it unquestionably pays to feed in the spring, unless the stock has an abundance of sealed stores, in which case a daily feed of water would probably do as well.

2. What quantity of thinned honey per day would be most advisable and profitable? Would your ½-pound glass for extracted honey hold enough for a daily feed?

I should say, the ½-lb. honey-tumbler full, would be just the thing.

3. Could you furnish them with the cover made of perforated tin, to allow the bees to take the thinned honey, and at what price per 100?

The only way to get perforated covers would be to perforate the ordinary covers; and if you wish us to do it, we would have to charge about ½ cent each additional.

4. How much should the honey be thinned for such feeding?

I would suggest making the honey half water, or a syrup of sugar of about the same sweetness.

5. At what time in the spring would it be advisable to begin feeding in this northern latitude, and how long would it be profitable to continue feeding?

It depends upon the weather. I would suggest, just as soon as they fly out freely.

This season has been an unusually wet and cold one; and while I managed to have always sufficient sealed honey in the hives to prevent starvation, my bees were weaker the end of May than when let out from cellar April 15th. The bees were compelled to fly out to get water to thin the sealed honey, and got chilled before they were able to return, and the loss of bees so chilled, offset the increase. I think the ½ lb. glass mentioned before could be easily filled, and each day slipped under the corner of the enameled cloth and chaff cushion over the bees, without any escape of heat. CHARLES H. GROTE.

Mauston, Juneau Co., Wis., Sept. 16, 1882.

I think I would turn back the corner of the mat, and put the tumbler over the space thus left uncovered, and then cover all with the chaff cushion. Filling such a tumbler every day with a large number of hives is a pretty expensive business, if kept up say a month or six weeks—expensive in the time it takes, I mean.

ANOTHER DRONE-TRAP.

Have a few bottom-boards made of 1½-inch lumber, 6 inches longer than the hive, and nailed to battens 2x4, the same distance apart as the hive is long, so it will rest on the same bricks as the regulars. Cut a channel 8 inches wide, tapering from nothing to ¾ in. deep at the end, and 6 in. long. Replace the regular bottom with this, and slip the hive forward until the entrance is right for workers, and too

small for drones. This is the way I made some bottom-boards for friend Horsfall at his request, and they answer finely.

G. W. GATES.

Bartlett, Tenn., Sept., 1882.

Although the above idea is old, it affords a ready means of graduating the size of the opening to the nicest fraction, by simply sliding the hive backward or forward, and this long narrow slot would afford the workers the least obstruction possible, it would seem, while the ordinary aspect of the entrance remains unchanged. When there is no further need of keeping the drones out, the opening can quickly be made larger. Such an entrance also effectually excludes mice.

WHO SHALL BEAR THE LOSS?

Just for once, let us suppose a case of importance. We will suppose I come to you to borrow your old gray mare to go to mill, and she should rear up and kick up and break her miserable old neck, who would you say should pay for the animal, you or I? The sequel of the whole matter is, my GLEANINGS has not put in its appearance yet, and now who pays the loss, you or I? Well, as I am no hair-splitter, I can afford to pay the loss for it over again, for it is the first failure in over 2 years.

H. B. P.

Fayette, Fulton Co., O., Sept. 18, 1882.

Why, friend P., in the case of the old gray mare I think we would talk it over in a neighborly way, and adjust it to our mutual satisfaction, without any quarreling or hard feelings. If the "animale" was exceedingly contrary, and you didn't get mad, nor get drunk, I don't believe I should think you ought to bear very much of the loss. In the matter of a lost journal, the loss, what little loss there be, is all ours, for we always print some extra ones to send out in such cases; and even if you lose your paper going home from the postoffice, or a neighbor borrows it and loses it, just drop us a card, and we will gladly send you another. You see, we take so much pains in getting up a journal, we want you all to have the benefit of it after it is done. It is like a good dinner; after it is all ready, it isn't of any use unless it is eaten, and I want all of our journals "eaten" while they are hot, right from the oven.

FROM ONE TO SIX, AND 240 LBS. OF HONEY.

We started this year with one colony of light Italians, which we procured May 27th, and at that time they had only five poorly filled cards of brood, and no honey. This could not be called a first-class stand, as plenty of colonies in the same lot had from seven to nine cards of brood at the same time; but thinking it best to make the most we could of a poor bargain, we took it in hand, and at the present we have on hand 240 lbs. of extracted honey, and increased to six good colonies, with plenty to winter them, each having an average of 35 lbs., and all this in a locality that is considered overstocked. This is not a large yield compared with some that have been reported; but please take into consideration the treatment they have received, stirring them up at night to extract, and just when attention was needed, neglecting them because our work in the apiary prevented us from supplying their wants. We both work in an apiary of some 400 colonies, so we have little time for ourselves, for our work

keeps us from sunrise until dark. I think we could have added 100 lbs. to the yield if they had received proper attention.

FOULKS & LEE.

Ithaca, Richland Co., Wis., Sept. 19, 1882.

TEMPERATURE NEEDFUL IN SEALING UP HONEY.

I want to make this correction of one statement in my article (page 483). I said that we, in a box with glass cover, could probably get 140° or 150° of heat almost any warm day in summer, or something to that import. I find on trial that it is only on extremely hot days that we can approximate that degree. In the ordinarily warm and partially cloudy weather of last July, I could get honey in glass jars in such a box heated only to 110°. This may do; I have some jars put up, with some heated to that degree, and others put up by artificial heat at various degrees, from 100° upward, and will be able to report next spring on the whole subject.

Milroy, Pa., Sept. 11, 1882.

J. W. WHITE.

DO BEES PAY?

We often see an article in the papers, headed, "Does Bee-Keeping Pay?" I have been keeping bees, and farming, for several years, and for myself I can say that it does pay as well, or better, than any thing else connected with the farm. The result the present season has been very satisfactory. I commenced in the spring with 30 swarms, which I valued at \$5.00 each. My sales of bees, queens, and honey, will foot up at least 200 per cent, or \$10.00 per stock. This has been the worst season here to prevent swarming I ever experienced. My first swarm came off the middle of May, and the last about the middle of August, making the swarming season last 3 months. The last was a buckwheat swarm. I sowed 10 acres of buckwheat at three different times after the 25th of June. There has not been a very heavy flow of honey from it, but it is well filled, and the honey stored in sections (not to speak of the brood-chamber) will, I think, pay all cost of sowing and harvesting the crop.

H. BARBER.

Adrian, Mich., Sept. 11, 1882.

DRONES, HOW TO GET RID OF.

My bees seem to run a good deal to drones, especially the old swarm. I filled the hive with old comb taken at random from the wreck of the winter of 1880-'81, and which I think contained a good deal of drone comb. I took out and threw away one whole card of the drone brood, but there appears to be altogether too many of the lords of the bee-hive yet for profit; and as they are neither ornamental nor very useful just now, what shall I do with them? On hot days there is a perfect roar of their buzzing, though there is no scarcity of workers either. Would Jones's bee-guards be what I want? and would it be necessary to place them on all the hives at the same time?

O. W. HAYNES.

Hudson, Mich., Sept. 2, 1882.

Perhaps the best thing you can do now, friend H., is to put on the Jones entrance-guards; for every day you board these fellows is a loss to you, and I think I would put them on every hive as you suggest; but it would have been a far better way to have carefully assorted over your surplus combs, and used for your bees only worker combs. This one feature may make all the difference between a success and a failure in bee-keeping.



BEEES have gone crazy. My last swarm came out Monday, Sept. 11, being the fourth swarm this month. This has been the best honey season we have had for twenty years. Swarms hived from the 1st to the middle of August are now in good condition for wintering. So much gained by using foundation, with a little help from strong colonies.

I. O. MILES.

Bellville, Richland Co., O., Sept. 13, 1882.

My bees are doing better this season than I ever had them before.

E. A. SHELDON.

Independence, Buchanan Co., Ia., Sept. 7, 1882.

Bees are working lively on buckwheat; it is the first honey they have laid in this season.

Baden, Mo., Aug. 29, 1882. RICHARD GRINSELL.

Honey crop very good; nearly an average of 100 lbs. per old colony, and 100 per cent increase.

T. A. ANDERSON.

Big Spring, Mo., Sept. 6, 1882.

We are having a good flow of honey at the present time, and hope to make up for the poor season.

L. C. WHITING.

East Saginaw, Mich., Sept. 9, 1882.

FOUNDATION PUT ON THE WIRES WITH A HOT IRON.

All goods, including fdn. in wired frames, received all right.

A. A. HARRISON.

McLane, Erie Co., Pa., Aug. 16, 1882.

The grocers furnish the tumblers and jars for all the honey that I have this year—some 400 lbs. extracted.

J. F. KROPP.

Varysburg, Wy. Co., N. Y., Aug. 15, 1882.

I bought a colony last spring for \$6.50; have increased to 5; all seem to be doing well; are working on buckwheat now.

J. E. TODHUNTER.

New Martinsburg, O., Sept. 11, 1882.

I carried 80 colonies (all I had) through the winter, but reduced, by starvation, and united to 70 colonies; have taken, up to date, 5500 lbs., and making honey as fast as ever.

A. L. KLAR.

Pana, Ill., Sept. 2, 1882.

Will you please inform me if there is a door to go into the tent described in JUVENILE GLEANINGS for August?

G. H. DENMAN.

Pittsford, Mich., Sept. 11, 1882.

[No, sir. Raise it up when you want to go out. It weighs only 5 pounds.]

SYMPHORA CARPUS — BEE-PLANT.

My bees are as busy to-day, Sept. 11, on the symphora as they were eight weeks ago, although buckwheat, Simpson, aster, and goldenrod are each in order. I tell you, I have as strong faith in the symphora in particular as A. I. Root has in mankind in general.

G. W. THOMPSON.

Stelton, Middlesex Co., N. J., Sept., 1882.

SMARTWEED.

Bees are still booming, and I am away behind. They are still swarming, and fill an empty 10-frame hive in 12 days. Smartweed is what is doing it.

WM. MALONE.

Oakley, Lucas Co., Iowa, Sept., 1882.

NOT 4 LBS. TO THE HIVE.

About 200 lbs. of honey from 65 colonies in spring, and only 13 swarms. Bees are O. K. Poorest season yet for me. Count Pennsylvania out this year.

A. A. HARRISON.

McLane, Erie Co., Pa., Aug. 16, 1882.

A GOOD REPORT FROM THE POOR "CYPS."

We have had a poor honey season so far, with no honey in white clover. If it had not been for red raspberries, the bees would have starved in June. The Cyps are ahead in all respects; they far excel the Italians on red clover, and I can fully indorse what B. F. Carroll says, that they are "the bee." Mine are just as nice as the Italians.

C. J. HAIGHT.

Rush, Susq'a Co., Pa., Aug. 7, 1882.

THE GOOD CANDY.

I send you a black queen, taken from a bee-tree, by this mail, "just to try my luck" at sending queens a distance. The price will be a postal, stating how she arrives, etc. The Good candy is the best I have seen.

GEO. E. DAVIS.

Shelburne Falls, Mass., Sept. 9, 1882.

[Queen and workers came to hand in excellent order. We have had no bad reports, and no bad luck with the sugar and honey as yet.]

SUMAC.

Seeing a communication from Mr. Thorn, of West Virginia, I took the liberty to answer it. Sumac is almost a "dead sure" thing as regards honey. What honey we have this year came almost wholly from it. These N. E. hills are covered with it, and it is regarded in the light of a pest. It spreads very rapidly, and in about the same manner as the elder. It is very singular yours does not bloom. The only one here who regards it with loving eyes is the bee-keeper.

FRANK A. TICKON.

Oxford, N. H. Co., Conn., Sept. 13, 1882.

THE 25C MAGNIFIER, FOR FINDING EGGS IN THE CELLS.

I would say the magnifying-glass helps me clearly to see the eggs as soon as the queens get to laying. I now see what I have never seen before.

When is the best time to move a swarm of bees, now or later?

Fayette, O., Sept. 18, 1882.

H. B. POMEROY.

[It depends upon how far you are going to move the bees, friend P. If over three miles, at once; if much less, wait until it is so cool they will stop flying, or they may come back to their old home.]

WHEN TO FEED.

Please inform me at what time I ought to feed bees when supplies are scarce. Bees have done better in this country this year than I ever heard of.

J. M. RICHARDSON.

Leona, Leon Co., Tex., Aug. 23, 1882.

[It depends on what you wish to do with them, friend R. If you want to increase your number of stocks, or even to increase the number of bees in a hive, feed always when supplies are scarce, and the bees can fly. If you want honey, you must have bees to get it, and I never saw too many bees in a hive, for the work we use them for.]

DON'T CARE FOR EXTRA PROLIFICNESS.

Please send me a one-dollar *Italian* queen. We do not care for great prolificness, as we do not keep many colonies.

E. H. McCLYMOND.

Templeton, Armstrong Co., Pa., Aug. 31, 1882.

[And I believe you are the first, friend M., who did not care particularly about great prolificness. It isn't hardly "Young-America" like.]

For the 75c. inclosed, send by return mail a smoker, and greatly oblige me, for I shall get to be a regular smoker of the pipe, though it makes me sick.

T. H. TRICE.

New Providence, Mont. Co., Tenn., Sept. 1, 1882.

[And so, friend T., you have been using the pipe because you had no bee-smoker? Well, I tell you we will hurry it up, if things are in as bad a shape as that.]

THE HONEY-PEAS.

How are your peas? My bees are getting, from those planted near me, some very fine honey, but the season is so wet that the yield so far has been small. The honey is beautiful in color, and has a peculiar but pleasant taste.

T. J. HOPPLE, M. D.

Trenton, Tenn., August 23, 1882.

[I am sorry to say, ours didn't get planted. When we find some enthusiastic young botanist to take charge of our grounds, and develop these new honey-plants, we hope to do better.]

HOPES NOT BLASTED.

I do not wish to be put into the Growlery, because I think it is all right. "All things work together for good," etc. From 40 colonies we have not had honey enough for our own table, and even now we have none in condition to take. We have had an abundance of wet weather, and I think this is why we get no honey. We had a swarm yesterday, and the indications are good for more soon. It is late; but if we have a good honey season through Aug. and Sept., they can have plenty of winter stores.

J. M. HARRIS.

Cedartown, Polk Co., Ga., Aug. 7, 1882.



PURPLE FIREWEED, ETC.

OUR bees are doing well in the honey business. They have swarmed only once apiece this season, but they are storing the finest honey. I wish I could send you a nice piece. There has been a succession of honey-plants since March, and now, since our ten days' rain, the clover has started up fresh, and will last till frost. I inclose some seed, seed-pods, and blossoms of the finest honey-plant I have ever seen. In the center of each blossom there is a drop of honey. We call it fireweed here. I don't know the botanical name for it. Can you tell? It begins to bloom in June, and continues in bloom till the last of August or first of September.

Our buckwheat is a white shower of bloom now, and has been for two weeks. One of our swarms

came out May 23d, and filled both stories of the Simplicity hive, and have half filled another upper story which we put on when we took the first one off, July 16th. I think every one in the Simplicity hives will fill both stories before frost.

Our neighbor, Mr. B. F. Smith, has had extremely good luck with his bees this season. He had six stands last spring, and they have increased, by swarming, to 24, and two left that he did not save, making 26 in all, and he has buckets on for surplus honey, and they will probably fill two each, as the first buckets are full now. Another neighbor, B. F. Hayward, has not done so well. He uses the box hive, made of cedar, and seven of his new swarms left for parts unknown. I think the strong smell of the cedar was the cause, as it has been very hot here this season — hotter than ever before.

Tell Blue Eyes, if she were out here she could gather flowers long after the ground is covered with snow where she lives.

MRS. NELSON KELLEY.

Ferndale, Whatcom Co., Wash. Ter., Aug. 7, 1882.

Thanks for kind words, my friend. The flower is purple fireweed, or *Epilobium angustifolium*. On page 26, Jan. No. for 1881, you will find a full account of it, and a statement of the enormous amount of honey it secretes. It goes by the common names of mooseweed, bloodweed, etc. Will you please send us some seeds, if not too much trouble? It is called fireweed, because it so commonly springs up after a fire, and very likely we shall need to cover the seeds with ashes, to get the best results from it.

AN ENCOURAGING REPORT.

Our first swarm of bees this year came out the 1st day of June. They have filled 18 two-pound sections, and thrown out two swarms. The first was a nice large swarm; it came out the 21st of July. They have filled the lower frames, and we have put on sections. The last one came out the 24th of July; it is a small swarm. Is that not doing pretty well from the 1st of June, without fdn. or comb to begin on?

One colony that came out about the 15th of June has filled 56 two-pound sections. One last-year's colony sent out one large swarm the 1st of June, and then another one the 8th. We accidentally killed the queen, and put them back. From that time we have taken 70 lbs. of honey in frames. If we had had an extractor we could have done better; but when we took the honey, comb, and all, from them, they had to make their comb before they could fill it with honey.

We have had a long run of white clover this season. The bees are beginning to make dark honey.

MRS. S. R. HUNTER.

Kendalville, Iowa, Aug. 12, 1882.

SPIDERWORT.

July and August GLEANINGS received last night. It is pleasant to see its familiar face again. The spiderwort Mrs. Harrison speaks of in the JUVENILE for July is not the cleome or spider flower that we cultivate for the bees. It is a native wild flower here, grows about 2 ft. high, sky-blue blossom with 3 petals; closes in the middle of the day; have never been able to find seed on it, though it springs up here and there as though seed had been dropped. Some years, bees just swarm on it; but this year clover is so plentiful with us they do not look at it.

MRS. S. SYKES WILSON.

Peurose, Ill., Aug. 31, 1882.

Our Homes.

Blessed are they that dwell in thy house: they will be still praising thee.—PSALM 81: 4.

I PRESUME a great many read these Home Papers month after month, who have a hope in God, and who are yet not members of any Christian church. Perhaps I might say, in the outset, that I believe it is generally held that one may live a good Christian life without ever uniting with any church at all; and whatever I may say in this paper in the way of urging the importance of uniting with the churches of our land, please bear in mind that I by no means intend to intimate you can not be saved unless you are a member of some church. The age is too enlightened now to teach that the act of uniting with a church, *of itself*, saves a person. The ceremony of marriage between a man and woman does not make them a loving couple always, joined heart and hand; but what loving couple, joined heart and hand, would wish to live as such without the marriage ceremony? Sometimes when I urge upon a friend the importance of standing up before men and confessing his acceptance of Jesus as his Savior, he objects, on the ground that he does not wish to make a parade of his religion before men. I may have chosen a pretty strong comparison, but it seems to me, my friends, a man might with almost equal reason object to the marriage ceremony, because he does not wish to have it paraded before men that they two are man and wife. I presume you all know, without my telling of it, that the greatest reason why people object to uniting with the church nearest to them is because of the imperfections of those who are church-members. One who loves God with all his heart, soul, and might, and his fellow-man as himself, surely ought to live a life almost free from reproach; but take church-members collectively, or pick out any one, even the best of the lot, and hold him up and scrutinize him closely, and, oh dear! what inconsistency and crookedness! With sadness I acknowledge, my friends, that there is, in one sense, crookedness and inconsistency, for we are but human, the best of us. We are creatures subject to be swayed by anger, jealousy, selfishness, and sins of like nature, and we do not always have the grace to be able to keep the manifestations of these feelings from being seen of men, even though we strive ever so hard. At the same time, those who judge us are not always wise and impartial judges, and they many times greatly exaggerate these faults, or perhaps often term things faults from their standpoint of view, when they are, in fact, just the reverse. Just one illustration right here:

I once insisted that a young man who worked for me should settle up what he was owing me, by taking a part of his wages each week. I did this for his own good as well as mine, for I deemed it well for him to be taught to keep his business matters straightened up, instead of having them dragging along into weeks and months. He thought I was crowding him needlessly, and retorted

something like this: "A pretty Christian you are, to be crowding a poor boy so he can not live comfortably." Now, I may have erred in judgment, and may have been partially right in the matter; but as I did what was best, according to my judgment, I committed no deliberate sin. I was far more anxious all the time that the boy should become a Christian, than that I should get my pay; but for all that, this act may have looked very bad to those who viewed it from a different standpoint, or who reasoned that, as I had considerable property, while the boy had nothing, I was greedily crowding him. Well, if you are going to listen to all that is said against church-members, and form conclusions hastily, without inquiring into the matter, you will, without doubt, find them, as it seems to you, full of faults.

Now besides this, you will find church-members, now and then, who will sometimes be convicted of crime, and ministers of the gospel have been reported who seemed rather servants of Satan than of the most high God. Although such cases do occur, they are very rare, comparatively; but as they are heralded far and wide, one might get an impression that the really true and faithful ones are not so much the rule as they really are. Very often, I presume, members, deacons, and pastors are not what they ought to be. How do you know, friend, what a Christian should do and what he ought not? I do not mean to question your knowledge in this matter, for I know you know, and I thank God for it. Yes, brethren, I thank God that it is so plain to us all that "he who runs," as it were, could tell by one hasty glance what a godly life should be. We all of us know very well the great general principles of Christianity, and the spirit that runs through every page of the Bible. It is plain without argument. Do justly, love mercy, and walk humbly before God. You know what the duties of a Christian should be; but the Christians belonging to the churches near you, you claim, do not live Christian lives. Where does your duty lie? You think the churches are corrupt, and you know they ought not to be corrupt, and at the same time you know, too, how to make them better. You know, too, the great need of good pure churches, and that the world is far, oh very far better! for having such as they are, rather than none at all. Why, oh why, my friend, do you refuse to go and help? And while you refuse, why do you find fault with the poor souls who are doing the best they know how, may be, to sustain and hold up and to keep the Church of our Lord Jesus Christ?

Judge not, that ye be not judged: for with what judgment ye judge, ye shall be judged; and with what measure ye mete it shall be measured unto you again.—MATT. 7: 1, 2.

Some object to uniting with a church, because they are not good enough. It depends something on who the one is who makes this plea. If it is one who appreciates the beauties of holiness, and hungers and thirsts after righteousness, he, above all others, should put himself within the pale of the church, for its protecting care he can in no

way afford to be without. The verse in the little hymn,—

Just as I am, without one plea,
But that thy blood was shed for me,
And that thou bidst me come to thee,
O Lamb of God, I come,—

hits the case completely.

If none were to unite with the Church, except those who feel they are good enough, the very best in the Church would be cut off. It was *sinner*s whom Christ came to save; and the very place where sinners need to come is into the Church. We unite with the Church because we are not good enough, and want to be better; and the very fact of our applying for a place in with God's people, in itself implies we want to be better. Even the angels in heaven rejoice to see sinners come in, for we read,—

There is joy in the presence of the angels of God over one sinner that repenteth.—LUKE 15:10.

If the one who makes the plea is a man who sins every day, and proposes so to do, it is quite a different matter. But we need hardly discuss this side of the question, because such a one rarely wishes to be with Christian people. One who has committed a crime may apply for admission into the Church, solely for the purpose of covering it up, and he may be admitted because the crime is not known; but he will either confess his crime, or will not stay long. Good and evil can not stay long together. I shall have more to say in regard to this subject further on.

Now a word in regard to those who would prefer to lead a Christian life, without uniting with any body of people. In the first place, we can nowhere in the Bible find any exhortation to such a course; but all through it, quite the contrary. "Thou shalt love the Lord thy God," it says; but right in the same breath, almost, "and thy neighbor as thyself." Can you love a neighbor by staying away from him? Can you do good to those who hate you even, by holding aloof from them and having no intercourse with them? Moses rather preferred to stay all his life in the wilderness with his wife and father-in-law, we are led to infer; but it was very far from God's wish and purpose to let him do so. He must go back among the people. Not only that, he must go, over and over again, right into the very court of Pharaoh, and among wicked men. He plead that he was slow of speech, and that his words were unavailing; but back again he was sent, until it seemed almost a mockery. In what estimation is a man held who continually laments the corruption of the age, and yet refuses to go to the polls and vote? If you hunger and thirst after righteousness—I beg pardon for repeating this phrase so much, but it tells more than any other I know of, and I wish to be excused for using it a great many times more—well, if you really hunger and thirst after righteousness, can you be excused for holding aloof when real honest faithful men and women are so much needed?

Some have objected to uniting with the churches near them, because church people quarrel among themselves. Well, suppose it is really a fact that they do quarrel, will

they probably quarrel less if you hold aloof, and keep away from them? Would your presence have a tendency to make them quarrel more, or less? The Bible says, "Blessed are the peacemakers;" and if this little text has power to make peace among the ungodly, how much more ought it to have that power among professing Christians! Perhaps the great reason why they have quarreled is, that there is no one among them with grace enough to remind them that the Lord and Master says: "Do good to those who hate you." If you do not approve of quarreling in a church, and see clearly it is wrong, you will probably be just the one to help restore harmony.

This forenoon I was called suddenly to come down into the blacksmith shop. I found there quite a commotion, resulting from a misunderstanding between two of my boys. Loud words were being uttered, and there had been something pretty near to blows. When I had got right between the two angry ones, I was just where I wanted to be. If there is to be any quarreling in our church, I want to be right in the middle of it. If any blows are going to be struck, I want to receive them. I assure you, I shall not strike back, and I think I can assure you, too, I shall not be struck a great many times. The boys in question were both of them blacksmiths by trade, but for some time it seemed about as hard to make either take anything back as it would have been to soften the battered old anvil by talking to it. Scripture texts and a little time, however, did the work, and the harder one of the two finally put out his hand and acknowledged he was wrong. You see, you are to unite with the Church because of your love to God; and because of your love to God and your fellow-men, it will be a pleasure to you to help in the work that is to be done, and to bear or suffer, if need be, for his or their sakes.

I have heard the objection made to joining a church, that it costs money. I presume the idea is, that if you are united with a church you will have to, or rather be expected to, pay out money that you would not if you were an outsider. So much money would be saved. Well, my friend, we will suppose you have saved it. Now what are you going to do with it? Buy something that will give you happiness and contentment, or at least you are going to buy something you *expect* will give happiness and contentment. Did you ever fail in your expectations in that line? Many a man has looked back to the past with regret at the money he had paid out in different ways, but I believe but very few regret having contributed their proper share toward the needed expenses of keeping up the Church of God. A blessing seems to fall on the one who gives freely and cheerfully—not only in a happy and cheerful spirit, but he seems to be prospered in the truest sense of the word, in a way that other men are not. Look about you and see if it is not a fact, that such a man has money for all his needs, and enjoys using it, in a way that ungodly people know nothing of. The Bible says,—

Lay not up for yourselves treasures upon earth,

where moth and rust doth corrupt, and where thieves break through and steal.—**MATT 6:19.**

And—

Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you.—**MATR. 6:33.**

And—

Bring ye all the tithes into the storehouse, that there may be meat in mine house, and prove me now herewith, saith the Lord of hosts, if I will not open you the windows of heaven, and pour you out a blessing, that there shall not be room enough to receive it.—**MAL. 3:10.**

Sometimes it is hard for one to understand how it is that God can need money. My friend, it is this way: God needs true, loyal hearts, like Abraham, Moses, and David, and there can be no true loyalty where other things come before him. If you are giving more of your time, energy, strength, and money, to the plans and projects of this world than you are to God, he has a right to feel that you are making his work only a secondary matter.

I the Lord thy God am a jealous God. — **Ex. 20:5.**

How strangely these words used to sound to me! but now they are full of strange beauty. Sometimes as I read the words over they send a thrill of joy over me that I find from no other words in the Bible. May I explain my meaning with what may perhaps be deemed by some a homely illustration of God's love for us? There was a time in your life when you first met your wife, when you hardly knew whether she loved you or not. In your boyish enthusiasm you were ready to throw down the whole world, or give it all up, for her sake; and may be then sit down and cry because there were no more worlds for you to give up, or throw away in the same way. Perhaps your good wife may smile at this; and while she looks upon you she wonders if it is possible you are really the same "old chap" who was ever guilty of any such preposterous folly. Yes, you are, and I thank God for it; for, next to his God, should every man hold the life of her who once put all her trust and faith in his keeping. Well, now to our point: Can you not remember the first time you noticed any symptom of jealousy in this new friend and companion of yours? Very likely she never spoke of it, but you might catch it by a look sometimes, that she expected no other woman in this wide world was ever to stand in just the relationship to you that she now stood, and expected to stand, so long as life lasted. Can you not conceive of something here that hardly deserves the name of jealousy, but rather something sacred and holy? You sought her, and wanted her to be the queen of your life and affections; she steps to her throne, and bids you tear down all other idols. My friend, as you value your peace of mind in this world, and in the world to come, hold true to this sacred promise, given more in actions than words, perhaps; and though years may have passed, be sure that not even in thought, look, or action, are you unfaithful to your part of the contract. Well, when you accepted Christ as your Savior, you took him in the same way. My feeble illustration of what you all know an earthly love should be, may make it plainer what

God means when he speaks of being a jealous God. He is to come first and foremost. He asks you for money; for where the treasure is, there is the heart also. I believe most churches will accord you the privilege of paying or not, as you choose, or what you choose; but woe befall the man who thinks he can be happy by paying all his other debts, and letting the debt he owes to the Church go unpaid. Suppose the man who asked the woman of his choice to be the queen of his life and home should refuse to give her enough to eat. Listen:—

Will a man rob God? Yet ye have robbed me. But ye say, Wherein have we robbed thee? In tithes and offerings. Ye are cursed with a curse; for ye have robbed me, even this whole nation.—**MAL. 3:8, 9.**

If we have a true loyal spirit toward God, it seems to me we can hardly be tempted very much to withhold our tithes; but yet one may stumble right here, just as he may be greatly blessed in giving liberally. A little hymn expresses so clearly where a Christian should stand, that he may be proof against all these temptations. I wish to give a couple of verses of it here:—

My Jesus, I love thee, I know thou art mine,
For thee all the follies of sin I resign;
My gracious Redeemer, my Savior art thou —
If ever I love thee, my Jesus, 'tis now.

I'll love thee in life, I'll love thee in death,
And praise thee as long as thou lendest me breath;
And say, when the death-dew lies cold on my brow,
It ever I loved thee, my Jesus, 'tis now.

You should unite with the Church for your own good. You need to be in good company. Everybody, young and old, needs to be in good company. The Christian boys and girls of our town form a little company whose influence few can resist. Strangers coming into our town, who are led to come into our young people's prayer-meeting, say, almost invariably, "Why, what a nice lot of intelligent young people you have there!" The boys whom I find in our jail, when taken across the way to this meeting, say, almost with one accord, "Why, Mr. Root, if I could be in such company as that, I know I could be a good man." I know they could too; and if they would stay in such company, they probably would. The very atmosphere of the room seems to speak of something elevating and ennobling. It is well worth one's while to have clean men and women for his associates. One would hardly need tell you, as you look upon the faces of these young people, that none of the boys were in the habit of drinking, smoking, or swearing; and as you looked upon the bright happy faces of the young women, you need hardly be told that none of them are bold and forward; or that their language is free from slang, and talk about flirtations with the other sex, and that they are not frequenters of the ball-room, and addicted to late hours. At our State Fair, as one of the judges, I was offered a ticket for dinner.

"Would you just as soon have a ticket for the — church eating-rooms?" said a young man.

"By all means, let me have my dinner with God's people," thought I, if I did not say it in just these words. I had almost been made homesick by seeing the rows of beer-barrels that graced (!) the fair-grounds of the capital of our State this year as well as last, and I longed for the companionship

and sympathy of those who love purity of heart and cleanliness of body. I can hardly tell you the feeling of a change I experienced as I came near the church dining-rooms. The quiet, kind welcome they gave me was in itself enough to indicate I was among Christians. The waiters were gentle, pleasant, and refined, and I felt at home at once. As I sat down and enjoyed my meal, I felt that it was the love of Christ that prompted them to come here, just as the ladies of our church go to our fair-grounds to try to counteract the great tide of blasphemy and wickedness that crowds into such places. Just a couple of hours before, I went up to a stand on the ground to see how their five-cent pies compared with those we make at home. In just the few minutes I stood there, I heard more oaths and blasphemy from the lips of the proprietor than I have heard before in a year. It was not the oaths only, but the coarse, low-lived way in which he disputed a bill. I could not but wonder how different his way was, from the quiet way in which we Christian people settle differences. My friend, do you not believe it will be better for you to have your life much among Christian people?

Uniting with a church is, some may say, making a parade of our goodness. I would say, it is rather acknowledging to the world that you wish to be a better man, just as one who goes to school acknowledges to the world he wishes to be a better scholar. Our boys have just been discussing the matter of a college education. Why not study at home? Why not, sure enough? It would be a deal cheaper, and self-made men are the best in the world. True; but these self-made men could not go to school as you can, and so they got their education in spite of the obstacles. Not one boy in a thousand will do this. The boys who say they are going to study at home don't do it. The men who say they are going to be Christians, and do it at home, without having any thing to do with the churches, don't do it, and even if they did, it would be a religion all of self. If you are going to be a child of God, you must go out among men, and stand up among them. As well might one start out to be a patriot, and to love his country, by holding aloof and keeping in the background. Did any of the prophets mentioned in the Bible ever pull his cloak about him and say, "Here goes a prophet who is going to take care of himself, and go to heaven on his own hook. I have talked to and warned those wicked idolaters just as long as I am going to, and now they may go?" To be sure, not. They talked and warned and protested, and ran after the remnants of the Church until it seemed as if it were words and time wasted, and died pleading with their last breath. Never give up and never let go, is the spirit of all the Bible teachings. Never give the world over to evil, nor let evil men think they have won the day. Whatever wickedness you may encounter in your way, never give up in despair, but let God and your fellow-men ever be your motto. When evil seems too much for you, or when Satan persuades you the world is all corrupt, remember God's promise,

Five of you shall chase a hundred, and a hundred of you shall put ten thousand to flight.—LEV. 26: 8.

I am sure, my friends, it is all plain enough to you. I am sure your better self tells you how much true men and women are needed in this work of redeeming a sinful world from the hands of those who would with blasphemy and crime delight in sinking every thing good and pure and holy. Come over and help us; for the sake of your loved ones growing up, come; for God's sake, come; don't find fault, and don't object, but rise up in your might, and with Christ's great love in your heart, come. Go this minute and hunt up the pastor of the church of your choice nearest, and cheer and lift him up by telling him you want to help. Tell the superintendent of the Sunday-school the same; and at night, on bended knee, say, "Lord, here is my poor unworthy self; give me my work."

Tobacco Column.

YOUR proposition in GLEANINGS, to give a smoker to every bee keeper who is a slave to the use of tobacco, and who pledges himself to discontinue its use, meets my approbation. Away goes tobacco; and if ever I indulge in the use of the weed again, I pledge myself to forward you immediately the full price of smoker. JOHN M. SANDS.
Columbia, Tenn., Aug. 23, 1882.

Please send me a smoker by mail, and I will never use tobacco again. C. M. SMITH.
Austin's Mills, Tenn., Sept. 4, 1882.

You may send me a smoker, as I stopped the use of tobacco about two months ago; if I commence, I will pay for it. C. A. WELCH.
Mt. Calm, Limestone Co., Texas, July 29, 1882.

Bees have done well in this locality where the people give them any attention, but there are people here who never saw a frame hive; they don't know any thing about bees; but I am trying to stir them up by showing them what can be done with proper management. I am the only one about here who has ever introduced a queen or made an artificial swarm. So much for the A B C book. I have quit smoking, and want you to send me a Clark smoker. I don't like to get it that way, but am too poor to buy every thing I need in the bee business; will pay for it if I ever smoke any more. I quit some time ago, and now I don't like the smell of tobacco.

D. C. SHEPHERD.
Kent's Store, Fluvanna Co., Va., Sept. 10, 1882.

SEVEN HUNDRED MILES FROM A CIGAR.

It was only a stump, however, destined never to be finished, but thrust into a box with half a paper of "Navy clippings," and the much-used pipe, still warm and reeking; and this took place just before starting on that long journey two weeks ago. I am glad that those implements of an unseemly habit did not travel with me, and are not to follow after. Certainly I shall not hunt them up, and it is inconceivable that any one should produce them before me and prove their identity, and prevail on me to begin where I left off, and to consume that cigar stump and that tobacco. I do not know whether I made any definite resolve to smoke no more and no

other than those identical relics, and yet that seems to be about the shape and the size of it. Friend Root, I have great reluctance in confessing that I was an inveterate smoker, when I see how much you disapprove of the habit. But as my example may have led or encouraged others in an evil way, I am anxious, if possible, to help in turning some into a good way. My plan and my experience differ from that of many of your correspondents. It was not at all difficult to leave off smoking. I had left off in the course of twelve years probably more than fifteen thousand times, and after each leaving-off I would, in a few hours, begin again. Well, on Tuesday morning, Sept. 5, I left off as usual, and have *not* begun again. It is far away, and seems ever so long ago, and I have nothing to do with it — no hankering, not much thought about it any way, though the pungent odor is under my nose, and the fixings before my eyes nearly every hour in the day. Now, friends who are wedded to the weed and would fain be free, try my plan: get far away, and stay long enough, and a divorce is accomplished. If not convenient to change your residence, next time you leave off the smoke or the chew, instead of beginning again, box up the apparatus and send off to some distant place or person, real or imaginary, to remain until called for; if the package ever comes back to you from the Dead-letter Office, you may look upon it with wonder, but with no desire to resume the habit. I don't know how this plan will work with those who chew, as they leave off so often; but for smokers it is an infallible cure.

Medina, O., Sept. 17, 1882.

B. Z. B.

The above comes from one of our new hands, who came from away down in Massachusetts. Last Sabbath evening he gave us a little talk in our young people's prayer-meeting, and I liked what he said so well that I took him over to the jail with me, where the subject of tobacco came up. Afterward, in speaking of it, I said, "Of course, you do not use tobacco, Mr. B — ?" His reply seemed a little indefinite, and he said something about "a great while ago." This morning I found the above on my typewriter. May God give you grace, brother, to keep that last cigar seven hundred miles away, even though you do meet them daily in the hotel where you stop.

One of the signs of progress in Philadelphia, is the forbidding of cigar-smoking on the cars of one of the prominent lines of street railway. Some of the smoke-inclined passengers moan over this as an infringement of their personal liberty. They even go so far as to say their wives and mothers won't let them smoke at home, and their employers and customers won't allow it in their places of business; and now they are shut off from being a nuisance on the street cars. — *Sunday-School Times*.

I believe the *Times* has got it about right. The time is fast coming when tobacco-users are going to be crowded — crowded out of intelligent and respectable society. I know every one has a right to his own opinions, and he has a right to his own tobacco smoke; but I feel sure that tobacco-users themselves will not claim a right to crowd it on people whom it sickens. Which side are you going to be on, my friend? There may be some still left who think *more* of a young man, after having seen him with a cigar in his mouth; but I am sure the number is daily growing smaller.

FRIEND DADANT ON RAILROADS, AND SOME OTHER MATTERS.

DANGER OF DELAYS.

IN the Sept. No., page 452, in answer to Mr. M. Hills, who complains of delay of sections, which were 18 days on the way, for a distance of about 350 miles, you take it coolly; for you say that we have to take the chances of the railroad companies being slow.

About 50 years ago, while I was a clerk in a business firm, in France, the railroads were not invented; all the goods were transferred by common carriers. These carriers had to travel at the rate of so many miles a day, under the penalty of losing a third of the cost of transportation, when they were behind the allotted time. They were also liable to damages, if the delay was long, and if damage could be proved. The same legislation exists yet in Europe toward the railroads, coupled with rates of charges instituted by the government, and posted up in every station. The railroad companies are bound to transport the freight in France at the rate of 125 miles a day, and they accept, without complaining, the reduction of a third of the cost of transportation every time they are slow. But, somebody will say, the railroad companies here would refuse to comply with such laws; and to compel them by a lawsuit, would be the fight of the earth-en against the iron pot.

The French legislation has provided for such an emergency, in ordering that all the decisions of the justices of peace would be *without appeal* for all sums of \$20 or under. Let us suppose that we have then these laws in this country; don't you think that, instead of being the humble servants of the corporations, they would be compelled to act more fairly toward us? Unhappily, nearly all the editors of the journals, as well as our legislators, are bribed by free passes, and bow in abject submission before these kings of a new pattern, and we, the people, are compelled to accept, without possible complaint or redress, all the delays, the high price, the frauds and tricks of these rich swindlers. Will Mr. A. I. Root be manly enough to publish this article?

CHANGING THE SEX OF EGGS.

I have no faith in miracles; and as this changing of sex would be a true miracle, I don't believe it. During 10 years of queen-raising business I have given eggs to queenless colonies a great many times every year, without noticing worker eggs turned to drone eggs. Now, if the first proves true, it can not be ascribed to the volition of the bees, for such an act would show a faculty of knowledge and of reasoning equal — nay, superior — to that of man. Let us substantiate a few facts: 1. Queens don't know the sex of the eggs they lay; 2. Their laying of worker eggs in worker-cells, and of drone eggs in drone-cells, is made unintentionally; 3. The eggs, as long as they remain in the ovaries of the queens, are male. Their sex is changed when they are impregnated with some of the contents of the spermatid vesicle of the queen; 4. Queens find pleasure in impregnating their eggs, to change the sex, as every animal finds pleasure in accomplishing every act intended, by nature, to prolong his life, or to perpetuate his species; 5. But this pleasure can be obtained only when the queen is placed on a worker-cell, with her limbs nearer her abdomen; 6. When a queen is young and small, she can not easily obtain

the desired compression, and part of her eggs develop in drones; 7. When, after an exertion of impregnating several thousand eggs per day for some weeks, the muscles of a queen are tired, she is unable to lay any more worker eggs, and she lays drone eggs in worker-cells. This laying of drone eggs in worker-cells never takes place in the beginning of the season, unless the queen is sick or worthless. Some queens lay worker eggs only, for years, when they are in hives where there are no drone-cells; 8. Worker bees don't know the sex of the eggs. This proposition is proved by the fact, that a colony having laying workers tries to have queens from drone eggs; 9. When a colony is queenless, some workers, which have partly developed ovaries, can lay eggs. But these eggs, being unimpregnated, hatch in drones.

Part of the above theory (Nos. 4, 5, 6, and 7), is mine. Suppose it to be true, then, it is impossible to admit that the workers of a colony change the sex of the eggs, since they don't know whether they will be male or female; and for what purpose would such change be effected? To raise drones which would not be fit for the function before at least 10 days after they are needed.

But, to return to the question, were not these drone eggs, which have taken the place of the worker eggs, the product of some laying worker which selected this place on account of the care given to this spot by the nursing bees? CHAS. DADANT.

Hamilton, Hancock Co., Ill., Sept., 1882.

Friend D., I can't tell why you ask me to be manly enough to publish the former part of your article, as you do, unless you imagine I have been bribed by free passes (or something of the kind) to speak well of the railroad companies. I am glad to be able to say, I have never been offered a free pass in my life; and if I were to have the offer of one I should, I hope, never accept of it. When any party is severely condemned and censured, as have been the railroads, I try to take a look on both sides. In the point before us, I do not see how the railroad companies could well undertake to guarantee rapid transit of small packages, because, to carry goods at the low rates they do, they must make a sort of wholesale business of it; and to hurry along each small bundle, as do the express companies, would cost them more than they get for them. It may be best to drive men to their duty sometimes, but it hardly seems to me the plan you suggest is in the line of the spirit of a free and Christian people.—Neither have I faith in the kind of miracles you suggest, my friend; nor do I see how a miracle is required for the workers to change worker into drone eggs. If they can, by reaching into the mycropyte apparatus, or by some similar means, destroy the spermatozoa, the egg would then be in precisely the condition of a drone egg. This, of course, is only theory; but the fact that worker eggs are changed to drone eggs is, I should think, pretty conclusively shown by the facts given. Your suggestion, that it may be the work of a fertile worker, has already been refuted by giving Italian eggs to a colony of black bees. Italian drones were hatched. Had it been a fertile worker, she must have been a black bee. I am glad of your nine propositions, for they will serve

to bring out thought; but I do not feel sure of any one of them unless it is the ninth and last; still, they may be true. The theory is certainly novel, but I am very much inclined to think the queen knows when she is laying drone eggs. Now, have we not a Berlepsch to stand up and prove, by careful experiments, the "Dadant Theory," as here given?—Friend D., please don't ever insinuate any more that I may be bribed by railroads, or any other party or parties.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, OCT. 1, 1882.

There is none other name under heaven given among men, whereby we must be saved.—ACTS 4:12.

OUR subscribers now number 5276 strong.

We are still short of the Jan. and Feb. Nos. of this year, and will give 15 cts. each for them. If any one wants to buy them of us, we shall have to charge 20 cents.

An unusual demand has sprung up this season for imported queens, and we have had two very successful shipments this past month. The last contained fifty, 43 of which were alive. We shall receive fifty more during the present month.

On the 11th of Sept. we sent some one of our customers a dollar queen, whose progeny, now that they are hatched out, show with unusual distinctness the white rings and down which characterize the so-called albinos. Who is the lucky man?

THE Los Angeles *Evening Telegram* says the beeswax crop of Los Angeles County will be worth this year more than the gold crop of the county, and that is no small item. They quote beeswax at 20 c., but it seems to me it is worth more than that, to ship here.

If friend Hutchinson will please take his new sawtable to the photographer's and have a photograph of it made, with himself standing on the box, just as he runs it, we will try to have it engraved for our next journal. It would be a nice winter's job making such a foot-power saw, for many of our friends.

So much attention is now being given to the drone question and the Dzierzon theory, we have made arrangements to send out a copy of the little book with each one of our A B C books. Those who have one of the A B C books already, can have the Dzierzon theory for 10 cents, or 12 by mail.

A FRIEND suggests that "Doolittle is mistaken in regard to the law requiring a double wire screen on queen-cages. The First Asst. P. M. G., in his letter to the Hon. Edwin Willets, suggested that queen-cages should be covered with a double wire cloth, but nothing of the kind can be found in the *Posta Guide*."

THE NEW JONES HONEY LABELS.

Our Jones labels are at hand and we can send them at the following prices:—

	Price		Pos- t- age	Printing Address		
	1000	100		1000	500	100
Labels for 5 lb Cans	\$9.50	\$1.00	13c	\$1.50	\$1.00	.75c
“ “ 2½ lb. Cans	5.50	.60	8c	1.00	.75	50c
“ “ 1 lb. Cans	4.00	.50	6c	1.00	.75	50c
“ “ ½ lb. Cans	2.00	.25	4c	1.00	.75	50c
“ “ ¼ lb. Cans	2.00	.25	3c	1.00	.75	50c
“ “ ⅛ lb. Cans	1.00	.50	3c	1.00	.75	50c
Round, for ½ lb Tumblers.	1.50	.15				

Samples free.

THE NATIONAL CONVENTION.

I EXPECT to be at the convention at Cincinnati from Oct. 3d to 5th, and I shall bring along one of the new \$25.00 fdn. mills, the new folding tent, and some other things that I think may interest the brethren. As you will have an opportunity to visit the Exposition as well as the convention, it may be worth the while to have a grand rally of the bee-men. I shall also bring our apparatus for melting wax by steam, which can also be used for boiling liquids, drying fruit, or any other purpose of heating by means of steam.

“THINKETH NO EVIL.”

THERE is one form of uncharitableness that we often meet in business, that I would like to direct attention to. It is a sort of hasty and inconsiderate way of thinking people guilty, where a little reflection ought to convince one of his mistake, before going a great way, in condemning his fellow-men. Christian people, I believe, have less of it, but still they are, many of them, guilty with the rest. It is among our own clerks, as well as customers, and it seems to be one of Satan's strongest wiles to get friends by the ears, as well as strangers. I will give you a few cases. A man reports some part of his goods missing. As the clerk remembers distinctly of putting the missing part in, he accuses him of wanting to get more for nothing, while a little reflection should have shown it was a mistake or misunderstanding, and no dishonesty about it. A stone-mason's tools were missing, and the blacksmith who sharpened them was accused of *stealing* them. The blacksmith, although quick-tempered, perhaps, would no more steal than he would try to fly; and besides, what would he want of a stone-mason's tools, any way? A customer of ours bought a \$40 lot of goods of us; and although the great bulk of them was quite satisfactory, he accused us of intentional swindling, because a few bags of maple-sugar candy were hardly fit to throw away. Examination showed they had somehow got wet, and reflection should have decided that no man in his senses would have tried to swindle on a 5-cent bag or box of candy, when the rest of the order was more than worth the money they cost. Even though our Waterbury watches are all carried before they are sent out, we occasionally find one will fail, in a few days, as all other watches are liable to do. Of course we expect these returned; but once in a while somebody takes it for granted that because his watch stopped, all Waterbury watches stop, and that we recommend watches that stop every few days, or may be several times a day. The same might be said of queens, and many other things that are liable to disappoint and vex one. The moral of this little sermon, friends, is that you be not in a hurry to decide you have been purposely wronged. Do you not know that we each and all of us love and respect that kind charity that “thinketh no evil”?

“REMINDERY.”

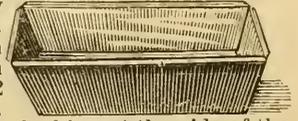
THE BREAD-PAN FEEDER.

IF this comes in time, I think you would confer a great favor on us A B C class by describing the bread-pan feeder.

F. MINNICH.

Freedom, Wis., Sept. 6, 1882.

With all my heart, friend M. It is simply an oblong bread pan holding about 2 quarts, as shown.



It can be set in the hive at the side of the combs, or where there is an upper story, on top of the frames. Our bees are just now in Simplicity and chaff hives. As the Simplificities are, for the most part, colonies that are to be united, we first get out all combs containing no stores. This brings them down to from four to six combs remaining. Well, a bread-pan is set on the bottom-board, close up against the outside comb, so the bees can run down the comb, right into the pan. When placed in this way, some colonies will take all the syrup without a bee drowning, even if no cloth is put over the pan; but as others will rush right into it and drown, we think it safer to spread a small piece of cheese cloth (or other thin cloth) over each pan. This makes a strong foothold for them to get out and in. Set your extractor on the wheelbarrow, and put in 100 lbs. of granulated sugar, or more. Pour in boiling water until it is about the consistency of honey when stirred. The amount of water does not matter. When it gets too thick, put in more. Wait until about sundown, then wheel your syrup right along by the hives, and fill up the pans. You can hold them under the honey-gate to fill, or fill a coffee-pot, and fill the pans from that. Have your smoker on the wheelbarrow, so you can quickly get the bees out of the way when they are numerous. As your pan will hold about 5 lbs., not many feedings will be required to get them in winter trim. After you get the four or five combs filled so as to bulge with sealed stores, take the queen from one, and unite two of them. The uniting is simply setting the two colonies into one chaff hive. Do it when too cool for them to fly, watching a little to see if they show any disposition to fight; if they do, make them behave with the smoker. It is a very simple operation to unite two colonies. After uniting, put away your empty Simplicity hives in good order until next summer. Have your apiary look as neat in the fall and winter as it does at any time of the year. I prefer the bread-pan feeder to any other, because it is so cheap—enough feeders for a hundred colonies costing only \$4.50; also because they can be washed in hot water, and nested together so that the whole hundred can be stowed away until another season, without taking up any room of any account.

Be careful about giving one colony so heavy a feed at any other time than just before sundown (when it is warm enough for the bees to fly), or you may have robbing on a large scale. After they have got used to it so they won't get demoralized, and let robbers get in unhindered, you may be able to

feed safely at any time during the day. In feeding in a chaff hive, if the colony covers all, or nearly all, the combs, place the feed on top of the combs, up against one side of the hive, as this affords them a better chance to get out and in. Letting the cloth drop down the outside also helps them. If you give the syrup to them about as hot as you can bear your finger in it, they will take it much faster when the weather is cool. It is true, you have to open the hive to replenish this feeder; but when you remember that only about four or five fillings are required to prepare almost any colony for winter, this feature is of but small moment. I think I would make the winter passages after the feeding is all done, say about two to each L. frame. If you make them before feeding, they might build them up again. For winter, leave the chaff-hive entrance open full width. You know how fully has been demonstrated the need of a great deal of ventilation, by the reports for the past year or two.

Where your bees have plenty of natural stores, of course the feeding part can be omitted; but I am much inclined to think it is almost a misfortune for the bees to have stores enough, without any feeding. Still, I would hardly advise extracting their honey to give them sugar stores, as late as this. If the combs are not filled to bulging, give them some sugar syrup besides their stores. I believe cases are pretty rare where bees have too much stores for winter in October. Lots of bees and lots of food, in a chaff hive, with lots of ventilation, is about what they seem to need, as far as I can gather.

Conventions.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1882.

Oct.—The Union Bee-Keepers' Association of Clackamas Co., Oregon, at Oregon City. (Date of month not given.)

Oct. 3.—The North American Bee-Keepers' Society at Cincinnati, O., in Washington Park Hall.

Oct. 18.—The Union Bee-Keepers' Association of Maryland, Virginia, and West Virginia, at Hagerstown, Md., in court-house.

Oct. 21.—Northern Ohio Bee-Keepers' Association at Norwalk, O., in Whittlesey Hall.

Nov. 1.—New Jersey and Eastern Convention at New Brunswick, N. J.

1883.

Jan. 19, 20.—Mahoning Valley Bee-Keepers' Association at Berlin Center, Mahoning Co., O.

WEST TEXAS BEE-KEEPERS' ASSOCIATION.

In consideration of the great interest that is now being taken in scientific bee-keeping in Western Texas, a number of bee-keepers met at the office of T. C. Greenwood, in Luling, on the 2d inst., for the purpose of effecting a temporary organization, to be known as the "West Texas Bee-Keepers' Association." Although with only a few days' notice, there were 420 colonies of bees represented, with a product, up to date, of about 32,000 lbs. of honey. After some spirited discussions, it was deemed advisable to postpone the organizing of the permanent association until the first day of November, 1882, so that many living at a distance may have an opportunity to come and take part in said organization. The

following gentlemen were elected officers of the temporary organization: J. S. Tadlock, President; T. C. Greenwood, Vice-President; Thos. Balcomb, Secretary; P. H. Callahan, Treasurer. We respectfully invite all readers of GLEANINGS living in West Texas, or any part of the State, to be present, that we may permanently organize and discuss the many interesting topics in connection with the best management of bees for our Southern climate.

THOS. BALCOMB, Sec.

The Tuscarawas Valley Bee-Keepers' Association will hold their next meeting at Wilgus Hall, Newcomerstown, O., at 10 A. M., Oct. 10, instead of Oct. 5. This change is made to allow members to attend the National Convention at Cincinnati.

Clark, O., Sept. 19, 1882. J. A. BUCKLEW, Sec'y.

REDUCED RATES TO THE CINCINNATI CONVENTION

ON THE DIFFERENT RAILROADS.

TODAY'S mail brings you a circular as arranged by our Exposition Commissioners, giving passenger and hotel rates, which please publish in your next issue, or make such use of it as you think best. Please tell our friends who may wish to send something to our meeting which will be held at Washington Park Hall, in this city, Oct. 3, 4, 5, to direct all their goods to me. I shall take all goods from and afterward deliver them to the depot, free of charge. All goods should be prepaid to our station. Judging by my correspondence, our prospects for a good meeting are promising. C. F. MUTH.

Cincinnati, Sept. 18, 1882.

The following roads issue round-trip tickets at 2c. per mile—Chartiers Railroad; Cin. and Eastern; Cin. and Muskingum Val.; Cin., Ham. and Dayton; Cin., Ham. and Ind's; Cincinnati Southern; Cin., Rich. and Chi.; Cin., Sand. and Clev.; Cin., Wash. and Mich.; Clev., Col., Cin. and Ind's; Clev., Mt. Ver. and Col.; Col., Chi. and Ind. Cent.; Dayton and Mich.; Dayton and Union; Grand Rapids and Ind.; Ind., Bloomington and West'n; Ind's and St. Louis; Ind. and Vincennes; Kentucky Cent.; Little Miami; Louisville and Nashville; Louisville Short Line; Nash., Chat. and St. Louis; Pitts., Cin. and St. Louis; Pitts'g, Wheeling and Ky.; St. Louis, Vandalia and Terre Haute; Terre Haute and Logansport.

The following roads make various reductions, indicated after each: Chesapeake, O., and Southw'n, 5 cents per mile on round ticket. Cin. Northern, 11-5 fares. Col. and Hock. Val., excursion rates. Detroit, Grand Haven and Mil., 1/2 fares. Flint and Pere Marquette, 1/2 fares. Fort Wayne, Cin. and Louisville, 1/2 fare. Jeff., Mad. and Ind., exc. rates. Cin., Ind's, St. Louis and Chi., 2 cts. per mile each way. Marietta and Cin., 1/2 fare. Milwaukee, Lake Shore and Western, 11-5 fares. Mobile and Ohio, 1/2 fare. N. Y., P. & O., a reduction. Ohio and Miss., 2c. locally. Ohio Central, exc. Phil. and Reading, 1/2 fare for parties of 10. Tol., Cin. and St. L., same as competing lines. U. S. Mail Line will issue round-trip tickets, Louisv. to Cin., admission and all, \$5. Wabash, St. L. and Pacific, 2 cents per mile. White Water Railroad, 1/2 fare. Tickets with return coupons must be stamped in the Exposition building by the secretary.

CONTRACTS WANTED WITH SUPPLY DEALERS,

For next year's stock of Bee-hives and fixtures. We are securing new machinery, and buildings, and better facilities in every way to manufacture extensively. Dealers, and those who contemplate becoming such, are requested to write for estimates on job lots of hives, sections, etc. We will make specialties of chaff and Simplicity hives, but will make other styles, if unpatented, and ordered in considerable quantities. Let us know the kind and probable quantity of goods you expect to handle, as well as any other information you may deem necessary, and we will send you prices that we are confident will be satisfactory.

S. C. & J. P. WATTS,
101ftd LUMBER CITY, CLEARFIELD CO., PA.

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MARKETING HONEY.

Send 15c for Dadant's pamphlet on Harvesting, Handling and Marketing Extracted Honey. You will get many times the value of your FIFTEEN CENTS in the hints and ideas that it will give you. Address

Chas. Dadant & Son,
117fd Hamilton, Hancock Co., Ill.

BEESWAX WANTED.

State QUANTITY, AND PRICE AND QUALITY. Address

Chas. Dadant & Son,
117fd Hamilton, Hancock Co., Ill.

LABELS FOR HONEY TUMBLERS



The above label with your name and address and source of honey printed on unglummed glazed paper assorted colors, or gummed white paper, for \$1.50 per 1000, or \$1.00 per 500. This price includes trimming them to order. A. I. ROOT, MEDINA, O.

NOTICE TO BEE-KEEPERS.

The undersigned, having experience and skill in handling bees and manufacturing hives, offers his services as manager or assistant in the apiary, and would be glad to correspond with bee-keepers who carry on a large business, and who may need the help of one who understands each part of it.

Refer to Ed. GLEANINGS.
11-1d D. F. SAVAGE, Medina, Ohio.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
11-3d JNO. VANDERVORT, Laceyville, Pa.

The Excelsior Poultry Yards

are always well stocked with Pure Bred Poultry and Italian Bees. All kinds of Job Printing done. Circulars free. Address
10-9d J. T. FLETCHER, West Monterey, Pa.

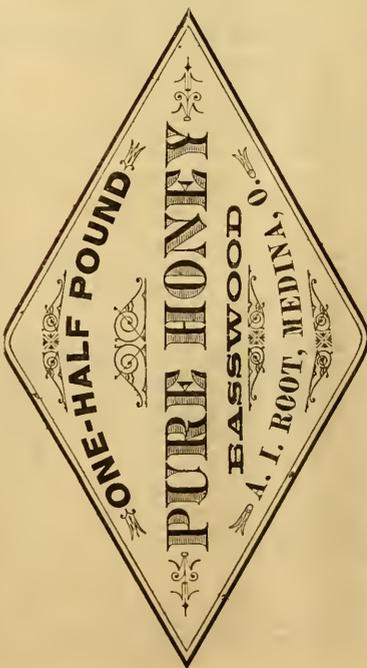
JOB PRINTING.

Cheap! Cheap!! Cheap!!!
Circular free. E. H. COOK, Andover, Mass.

BEEES AND QUEENS FROM MY APIARIES.

3ftd QUEENS AND NUCLEI IN SEASON.
Circular on application.

J. H. ROBERTSON, PEWAMO, IONIA CO., MICH.



The above label printed with your name and address and source from which the honey was gathered, on unglummed glazed paper assorted colors, or gummed white paper, for \$1.75 per 1000, or \$1.25 per 500. The above label with name and source left blank for 15c per 100, or \$1.00 per 1000. These prices include trimming to order. A. I. ROOT, MEDINA, O.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 10tf
- *Paul L. Viallon, Bayou Goula, La. 10ftd
- *S. F. Newman, Norwalk, Huron Co., O. 10ftd
- *Wm. Ballantine, Sago, Musk. Co., O. 10ftd
- *D. A. McCord, Oxford, Butler Co., O. 3-2
- *Jas. A. Nelson, box 83, Wyandott, Wy. Co., Kan. 5-5
- *C. G. Dickinson, Sou. Oxford, Chen. Co., N. Y. 6-12
- *F. H. Scattergood, New Garden, Col. Co., O. 10-11

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 10ftd
- S. F. Newman, Norwalk, Huron Co., O. 10ftd
- F. A. Snell, Milledgeville, Carroll Co., Ill. 3-2

Department for those who wish to be considered SQUARE MEN.

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

If thou bring thy gift to the altar, and there rememberest that thy brother hath aught against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.—MATT. 5: 23, 24.

We whose names appear below do not know that we have a single dissatisfied person with whom we have had deal; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- I. R. Good, Nappanee, Elkhart Co., Ind. 9ftd
- E. M. Hayhurst, Kansas City, Jackson Co., Mo. 9ftd
- E. A. Thomas & Co., Colerain, Mass. 9ftd
- J. P. Moore, Morgan, Pendleton Co., Ky. 9ftd
- G. W. Stanley & Bro., Wyoming, Wy. Co., N. Y. 9ftd
- Bright Bro's, Mazzeppa, Wabasha Co., Minn. 10ftd
- T. C. Crilly, Grafton, Lorain Co., O. 10ftd
- S. C. Perry, Portland, Ionia Co., Mich. 10ftd
- D. E. Best, Best's, Lehigh Co., Pa. 10ftd
- A. B. Miller & Son, Wakarusa, Elk. Co., Ind. 8ftd
- S. D. Buell, Union City, Branch Co., Mich. 10ftd
- R. Stehle, Marietta, Wash. Co., O. 10ftd
- Hiram Roop, Carson City, Montcalm Co., Mich. 3-3
- J. H. Myers, Saratoga Springs, Saratoga Co., N. Y. 9ftd
- Byron Walker & Co., Capae, St. Clair Co., Mich. 9ftd
- J. A. Osborne, Rantoul, Champ. Co., Ill. 9ftd
- Chas. D. Duvall, Spencerville, Mont. Co., Md. 9ftd
- J. T. Wilson, Mortonsville, Woodford Co., Ky. 9ftd
- J. J. Kiser, Des Moines, E. S. Station, Iowa. 10ftd

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

NEW YORK.—*Honey*.—We are selling honey and wax at prices ranging as follows: Best white in 1-lb. sections (no glass), per lb., 22@25c; fair, 19@21c; best white in 2-lb. sections, glassed, per lb., 18@22c; fair, 15@17c; best dark, in 1-lb. sections, no glass, per lb., 15@16c; the same in 2-lb. sections, glassed, 14@15c. Ordinary grades 1@2c less per lb. than above prices. Best white extracted, per lb., 10@11c. Best dark extracted, per lb., 7½@8½c.

Beeswax.—Prime yellow finds ready sale here at 32c. H. K. & F. B. THURBER & Co. New York, Oct. 25, 1882.

BOSTON.—*Honey*.—We quote you No. 1 white comb honey in one-pound sections at 23@25c, and two-pounds at 20@23c. Extracted at 9@10c.

CROCKER & BLAKE. 57 Chatham St., Boston, Mass., Oct. 25, 1882.

CHICAGO.—*Honey*.—Our present market quotations are 6½c. for dark and 9c. for light extracted.

Beeswax.—Choice lots, 25c. here. Bright yellow, 24c.; dark to good, 17@22c. Chicago, Ill., Oct. 23, 1882. ALFRED H. NEWMAN.

DETROIT.—*Honey*.—The honey market is now quite brisk, and the demand is fully equal to the supply, though the light-colored is much preferred. I have just obtained 18½ cents for a lot of dark comb honey, which, six weeks ago, would have brought only 15 cents. White comb honey in one-pound sections is bringing 18@20 cents; dark, 16@18 cents.

Wax.—20@25 cents. A. B. WEED. Detroit, Mich., Oct. 24, 1882.

CLEVELAND.—*Honey*.—Honey is in moderate but steady demand at 21@22c for first-class white, 1-lb. sections; same quality in unattractive packages sells at 20@21c; 2-lb. white, first-class, 19@20c. Second-grade honey about 2 cts. less. Buckwheat honey is unsalable in our market. Extracted in barrels, dull, holding 10@12 cts. Extracted, in tin pails and cans, 14@15c, as to size of pail. *Beeswax*, 25@28c. Cleveland, O., Oct. 19, 1882. A. C. KENDEL.

I want to buy good white clover or basswood honey to develop the trade in extracted honey in this section. State quantity and price, and, if possible, what it will cost set down in New Bedford or Boston, Mass., or in New York. May send barrel or keg as sample. D. C. POTTER, Fairhaven, Mass.

I will pay 10 cents a pound for clover or linden extracted honey, small packages, the former kind preferred. Send sample before shipping.

A. B. WEED. 75 Bagg St., Detroit, Mich., Oct. 24, 1882.

We have on our 3, 5, and 10 cent counters, some very pretty sea-shells. If wanted by mail, the price will be just double the above.

We have now in stock the glass honey-pails, described and illustrated in last number. Price 8c. each; 75c. for 10, or \$6.50 per 100. Sample by mail for 15 cents.

WAXED strings, for sealing up the Jones honey-pails air-tight, we can now furnish for 5 cents per doz., 60c per hundred, or \$2.00 per thousand. If wanted by mail, send 10 cents per hundred extra. They will answer also for all kinds of glass or earthenware jars intended for cement. Printed directions for use, with each package.



Vol. X.

NOV. 1, 1882.

No. 11.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 36.

QUEEN-CAGES.

WITHIN easy reach, upon my desk, lies the Official Postal Guide. So many of my customers write their addresses so indistinctly, that I never feel just right until I have looked up their postoffices in the Guide. This Guide is the one used by all postmasters. In this Guide I find the following: "The Postmaster General has consented to a temporary suspension of the ruling excluding queen-bees from being sent in the mails; but when offered for mailing they must be put up in accordance with Section 223; and so soon as they are found to injure the person of any one handling the mails, or soil the contents of the mail-pouches, this order will be rescinded."

Section 223 has nothing to say about a double wire screen; hence, according to the Postal Guide, nothing of the kind is required. Postmasters and postal clerks know nothing about a double wire screen for queen-cages, but they *do* know that the contents of the mail-bags must not be soiled, and that their own precious persons must not be injured. But let us suppose, for the sake of argument, that, according to the exact letter of the law, queen-cages *do* require a double wire screen, would it not be just as well to use our common sense in the matter, and make our queen-cages in such a manner that no harm would come to the mails nor to the persons handling them, even if the double wire screen were omitted? By the way, I think that an extract from

a letter just received from friend Good would fit as well here as anywhere. It is as follows:—

"Friend Newman said I should tell Doolittle that my cage was not according to the letter of the law, but according to the spirit, and say that 'the letter killeth, but the spirit maketh alive.'"

But what friend Doolittle said about honey oozing from the candy, and daubing the outside of the cage, is, to my mind, much more important than his remarks about a double wire screen, because the law (and common sense) expressly say that the order will be rescinded if the contents of the mail-pouches are soiled. I wrote to friend Good, asking him if he could tell how it happened that the outside of the cage sent to Doolittle was daubed with honey. Here is his reply:—

"As to this oozing business, I am satisfied that this is an exception and not the rule, as friend Doolittle is the only one who has complained about the honey oozing out of the cage. I account for it in this way: The grain of the granulated sugar is very hard and dry; so much so that it requires several days for it to become soft and thoroughly saturated with honey. If the feed is mixed and put into the cages soon after mixing, considerable of the honey will soak into the wood, while if the mixture is allowed to stand a few days, and then the surplus honey be drained off, the sugar will then hold the honey, and keep it from soaking into the wood. I have a few times this summer mixed feed and used it at once, and I suppose friend Doolittle must have received a cage in which the feed had just been mixed. As I have said before, the principal thing is to get the feed just right; if it is soft, it will leak out; if dry, the bees will dig into it and let it rattle all over the cage."

Perhaps one more paragraph from friend Good's letter will be of interest; he says:—

"Last summer I ordered a queen from D. A.

Jones, and when she came the queen and bees were all dead. I then sent Jones one of my cages, telling him how the feed was made. He sent the second queen in my cage, and she came through all right. Last week I received a letter from Jones, and he says that he has adopted my kind of cage and feed, and finds them just the thing. He sent me a queen, as a present, in one of the cages, and she and the bees came through all nice and clean and lively — not a dead bee in the cage."

The cage that I sent to friend Doolittle, in which he found two dead bees, was returned to me containing a queen and bees. The queen arrived in fine condition, and not a bee was dead. From friend Good I have received a cage containing bees, and every thing was in fine order: bees were all alive and lively, and the cage was neat and clean. During the past season I have received queens from Hayhurst, Viallon, Henderson, and several others, and all have arrived in good condition, bees and queens lively, and the cages neat and clean and *law-abiding*. Although I have replied rather critically to friend Doolittle, I think his article was timely, and will do good, because queen breeders are quite apt to forget that in sending queens by mail they are placed entirely upon their good behavior — one case of the mails being soiled, or some one being stung, would, if reported, cause queens to be thrown out of the mails, and they would, probably, never be admitted again.

HOW LONG BEFORE SHIPPING QUEENS SHOULD THEY BE CAGED?

I believe the most of us breeders try to ship queens as soon as possible after they are caged; but, is it best to do so? Here is a friend who thinks not, and perhaps he is right; listen to what he says:

Friend H. — It may not be new to you, but I think queens go through the mails safer and with less liability to injury, if they are taken from the hives and put into the mailing-cages with their attendant bees, and allowed to remain there quietly 24 or 36 hours prior to shipment, as they then have time to reduce themselves, as they naturally do before leaving the hive in swarming. Pushed right off in the mail, they are full of eggs, and can not save themselves as well from rough usage as when reduced.

JOHN A. BUCHANAN.

Holliday's Cove, West Virginia.

The majority of my queens are caged about 3 P.M., and go off the next morning on the 9:30 train.

SELLING EXTRACTED HONEY.

From Ann Arbor, Mich., a correspondent writes as follows:—

I have about 600 lbs. of extracted honey, and between 200 and 300 lbs. in 2-lb. sections; no market for it. One old woman from the country could supply this city.

Now, I should ask for no pleasanter task than that of developing a market for extracted honey in Ann Arbor or any other city. First, I should put the honey up in tin pails of the following sizes; pints, quarts, and two quarts. I should use twice as many quart pails as 2-quart, and twice as many pint pails as quart. I should adorn the front of each pail with a neat label, and upon the back of the pail I should place a "Take Notice" label; that is, a label explaining in regard to the candying of extracted honey, how to restore it to the liquid state, etc. I know that a great deal has been written in regard to the importance of having packages neat and attractive, and adorned with handsome labels, but I do not think that it is possible to make a package *too* attractive. We can not compel people to buy our wares, but we can make the wares so attractive that there will be something about them that will say, "Buy me, buy me." I should make some honey-stands, similar to the one in the Sept. JUVENILE,

and, after placing upon the counter, I should arrange the honey something like this: Upon the counter, in front of the stand, I should place the 2-quart pails, and upon the first or lower shelf the 1-quart; and upon the second or upper shelf the pint pails. Before taking the honey to market I should allow it to become candied perfectly solid. I know that candied honey does not present so fine an appearance as liquid honey, and in order to show customers how the honey appears when liquified, I should fill some four-dram vials with honey that had been heated nearly to the boiling-point. The sources from which the honey was gathered can be cut from one of the large labels, and pasted in a spiral direction around the vials of honey. In the top of my honey-stand I should bore some shallow holes, and in these holes I should place, in an upright position, my sample vials of honey. I have watched would-be purchasers of honey, and they will take out these vials of honey, hold them up to the light, and exclaim, "Well, that *does* look nice!" Thus you see we appeal to the eye fully as much as though *all* of the honey were in the liquid state. I should also have a pint pail of each kind of honey melted and set in behind the honey-stand. One of the 3-cent tinned-iron spoons should also be handy, and, when every thing else failed, a grocer could appeal to the customer's taste. I have noticed that this "last appeal" usually "fetches 'em." I should never attempt to *sell* extracted honey to a grocer who had never handled it. I have tried it a great many times, and succeeded in a *few* instances. I should visit every reliable grocery-store in a city where I wished to develop the honey market, and, if satisfactory arrangements could be made, should leave honey to be sold on commission. A great many grocers have never handled extracted honey, and, if honey is left with them to be sold, they should be thoroughly instructed in regard to the matter. I should try to call upon such a man at a time when he is not very busy, have a good long chat with him, thoroughly posting him in regard to all of the objections that might be raised against the honey. Any one who has extracted honey to sell can not do better than to obtain friend Dadant's little book on extracted honey. I have had honey, put up in Mason's fruit-jars, on sale in several stores this fall; but as soon as I carried the little tin pails of honey to the same places, not another jar has been sold, and I have been obliged to bring the jars home, while the little pails of honey were going off like hot cakes.

PAY FOR CORRESPONDENCE.

Away back in the first volumes of GLEANINGS I remember reading something like this: "We are prepared to pay for any new and valuable matter; but unless the writer has had the care of a considerable number of colonies, the chances are much against his article being considered one we can afford to pay for." Lately I have seen nothing in regard to the matter, and quite a number of would-be correspondents have quizzed me as to the "profits of the business." Only a few days ago I received a letter, from which I extract the following:—

"I believe I must write something for GLEANINGS one of these days. Will you tell me what is the prospect of pay for the articles where accepted? Does Mr. Root ever pay any but old experienced beekeepers? How did you get your position on the first page, and keep it? I have thought that you might be some relative of Mr. Root's."

W. Z. HUTCHINSON.

Rogersville, Mich., October, 1882.

Friend Hutchinson, I am very glad of the opportunity of answering the concluding item of your excellent paper for this month, and I wish, too, to take the liberty of answering exactly as I would if you were not present. I feel sure you will not be puffed up, or made vain, if I do here, in a public way, commend you a little.

It was in the Jan. No., 1878, that friend Hutchinson's first article appeared, and I wish every one of our A B C class could turn to that article and read it now. There is nothing very learned about it, but, on the contrary, our friend was just a beginner, with only about half a dozen hives. He could not well be much of a teacher, for he was, as you might say, only in his A B C's himself. Notwithstanding all this, I remarked, as I ran my eye over the letter, "Unless I am very much mistaken, this young man will some day make his mark as a writer on bee culture." Do you wish to know why? It was mainly because of the honest simplicity of his statements, and his details of the faithful industry with which he searched for knowledge. He is by no means a superior writer, and, begging his pardon, I should judge he has nothing more than a fair common-school education; neither had he much means to commence in the business. With him, it seemed to be rather fortunate for the rest of us that his means were limited, for otherwise he would not have given us the home-made buzz-saw table that he some time ago described and to-day figures in this present number. I had really forgotten to state that he is no relative of mine. I never saw nor heard of him until he wrote me in regard to bee culture. I have been pleased to note, that, while he held the first place in GLEANINGS, his writings were also gaining a prominent place in other bee journals, and I have several times watched him with a little anxiety to see how he would stand the "fire" of public criticism when it came. I hardly need tell you that he has stood it well. I believe I have only once given him a gentle reminder, to beware about getting entangled in unprofitable controversy. I have given him for his articles, from one to five dollars each, paying him, as I do all others, as nearly as I can what I think their writings are really worth to our readers. The extreme honesty and fairness of his articles, and a sincere desire to benefit his bee-keeping brothers, is what gives the chief value to his writings. I have often thought he showed forth in an eminent degree the spirit of the Master, inasmuch as he "pleased not himself," and I found out, some time ago, that he is in truth a disciple of the meek and lowly Jesus of Nazareth. His earnestness, perseverance, and thoroughness, are well shown in his remarks in the foregoing, in regard to developing a market for the sale of extracted honey.

I have refused just one article from friend H.; and when I did so I explained to him just why, and got in return such kind thanks for my advice and suggestions that I have always since felt free to advise or suggest to him whenever I thought it was for the public good.

Now, friend Hutchinson, it would not be

strange if you should meet some persecution, just because of these kind words I have said of you; but I take it for granted while I write, that you know how to bear either praise or censure, without being harmed very much. Have I calculated aright?

Now a word to those who wish to become paid contributors. Don't write until you have something valuable to communicate; and bear in mind that we always have more essays and generalities than we can possibly find room for.

Bee Entomology.

Or Enemies of Bees Among Insect Tribes.

SOME HUGE HONEY-DEW BUGS.

I SEND you by to-day's mail a cage of insects which produce some of the so-called honey-dew.

I find them on the body of the sycamore-trees, also on limbs of the same tree that have been deadened. They exude the sweet liquid in small drops like rain, which fall on the leaves and ground. Please name them.

A. COX.

White Lick, Boone Co., Ind., Oct. 13, 1882.

Answer, by Prof. Cook:—

The lice from Mr. A. Cox, White Lick, Ind., are immense plant-lice. The are new to me, and, to my sore regret, they are ground as fine as powder. I can just make out that they are plant-lice. They are all dried up, and this, with being put in a box loose, are well pulverized. I wish I had them in good shape. They are fully $\frac{1}{4}$ inch long; and if they secrete according to their size, they ought to furnish a full-sized colony with lice-neetar. I have written Mr. Cox for more of the insects, and hope that I can get some to ascertain the species; or if they are new to science, to get them described, and christen them. Let me urge all, that, in sending insects, they put some cotton in the box so that it will not serve as a rattle-box in transit. I find in my notes no mention of lice of this kind on the sycamore. A. J. COOK.

Lansing, Mich., Oct. 13, 1882.

A RAILWAY APIARY.

SOME SUGGESTIONS IN REGARD TO CONVENIENCE IN EXTRACTING, ETC.

OUR friends will remember that we have briefly touched upon the matter of a railway apiary in the A B C book. But as only a few apiaries have ever been worked on this plan, comparatively, we have never, until now, been able to give a picture of one. Our friends who own the one shown in the engraving have made some improvements in the arrangement of the car, which they describe as follows:—

Inclosed find a picture of our apiary No. 1, showing our extracting-car, etc., taken from the S. C. R. R. track. With this system, two men can extract the honey from one hundred swarms in ten hours.

M. A. WILLIAMS & Co.

Berkshire, N. Y., Sept. 8, 1882.

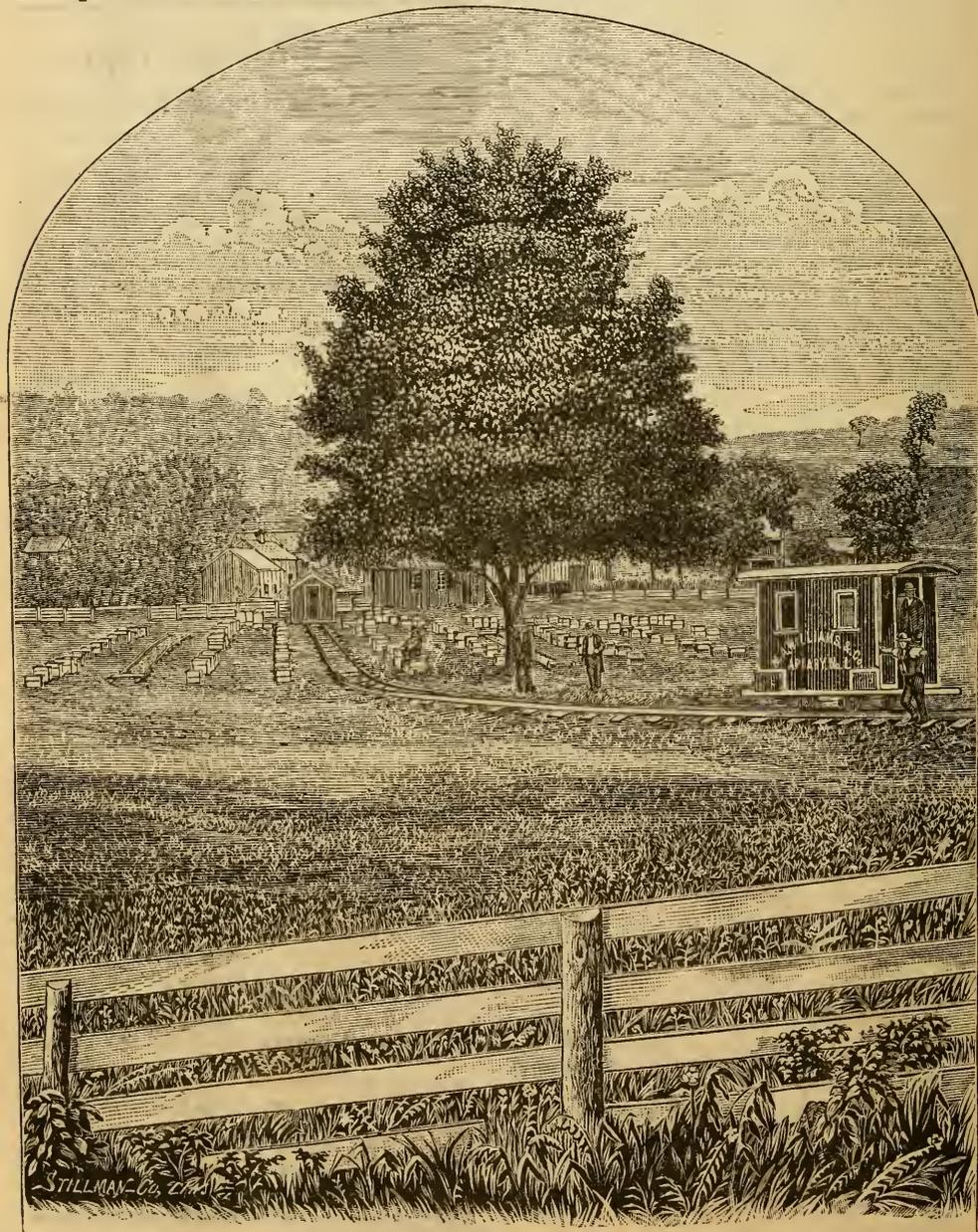
As a further explanation, we reprint from page 300, this volume:—

As our extracting-car seems to be a new idea to

many bee-keepers, we take the liberty to give you a description of it. The car is twelve feet long by six feet wide, painted bright scarlet, and trimmed with white, and makes a very showy appearance; but the car is not for show, by any means. It has a door in each end, and two windows on each side with double sash, one side being glass and the other wire cloth, so that we can have free ventilation through. Each side of the car is fitted up with two drawers that hold just ten Langstroth frames. We start out with one drawer full of empty combs on each side. Pushing the drawer alongside of the hive, we take

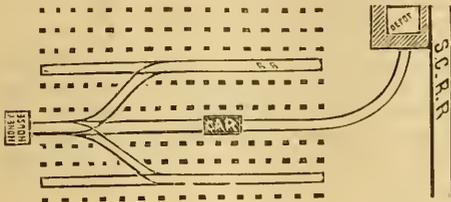
the full frames from the hive to the empty drawer and fill the hives right up with the combs from the other drawer. Then we are through with one swarm, the time occupied being incredibly short. Then we are ready for swarm No. 2, and the combs from No. 1, when extracted, go into the hive of No. 2. Of course, the honey is being extracted inside the car at the same time. The drawers are so arranged that the car is bee-tight when they are either open or shut.

By request they have also given us the diagram shown, explaining the arrangement



A RAILROAD APIARY, BELONGING TO M. A. WILLIAMS & CO., BERKSHIRE, N. Y.

for switching on to the side tracks, with the following remarks:—



As per request, we inclose a pencil cut of our track, which will show how we switch from one track to the other. Had not noticed that the original picture did not show it. There is one movable length of track that easily moves from the main track to the switch, on either side. The picture rather shortens the yard, as the distance from the maple-tree to the honey-house is greater than the breadth. The two rows on the left are chaff hives, and the remainder are Langstroth. The pencil cut will show you how we are located as to the depot, railroad, etc.

M. A. WILLIAMS & CO.

Berkshire, N. Y., Oct. 24, 1882.

It will be noticed, that our friends run their honey right to the station on this same car, so that their honey is shipped without the need of a team at all. Now, by having other apiaries along the line of the main railroad 10 or even 100 miles away, where there is found unusual pasturage, the car with all its appurtenances may be quickly and easily transported, and then, with suitable switches, the honey can be taken with little bother and expense. It rather seems to me now as if this were a more promising field to develop than the floating apiary that made such a sensation a few years ago.

SOME IDEAS FROM THE "BOY BEE-KEEPER."

REMEDIES FOR BEE-STINGS.

PROVE all things; hold fast to that which is good." Excuse me, friend Root, for quoting this text, but last season I had occasion to write a short article which appeared in the October No. of GLEANINGS, 1881, and in which was originally a paragraph on the alleviation of pain from bee-stings. You were so much at variance with my idea, that you struck this portion from the manuscript, but I see that no good thing can be hid, and others are now inviting your attention to the same principles; though when you published something to the effect in a recent issue of JUVENILE GLEANINGS, it was with doubts and wavering. For a long time my theory of bee-stings was like yours—nothing would do any good; but by the mere accident of smoking my hands to destroy the smell of where I had been stung, I discovered that, for me at least, there was yet a balm in Gilead, for a good smoking from a hot-blast smoker afforded a timely relief to the wounds. Try it yourself, friend Root; theory is very good, but experience is better.

THE DRY-EXCREMENT MATTER.

In regard to the subject spoken of by the correspondent from Maine, I will also say that I have repeatedly seen bees void comparatively dry excreta, though I admit the probability of its being oftener of a more moist character; but in either case, so far

as my observations extend, they invariably void their faeces in a state of repose, and not upon the wing.

CANDY FOR QUEEN-CAGES—STILL MORE UPON THE SUBJECT.

Everybody and his customers are jabbering about queens by mail, water-bottles, candy, etc. A queen passed into my hands early the past summer from one of our "big bee-men," as you call him, and when I released the queen I was in a quandary as to how she had come several hundred miles with such food. It was necessary, after an effort to moisten it, to take a mallet and chisel to get the candy out, and surely the bees would never have eaten it. I don't wonder that so many queens are sometimes lost by the amateur, if our criterions give us such specimens of their skill. When Viallon's candy was first introduced it was supposed to be *par excellence*, and is now, in my estimation, the best yet treated of in GLEANINGS. The sugar and honey, and the saturated sponge, each has its merits and its defects, and so, perchance, it will be with all other preparations; but since the subject is inviting so much attention, I would like to say, as I promised in my former article, something about bee feed. My favorite for queen-cages, which, for want of a better name, I will call "Mitchell's candy," is very simple of preparation, and may be always on hand. Take common stick candy, such as we find at almost every store: moisten it a little, after breaking it up into small pieces, and work it into a *stiff* paste—so stiff that it scarcely spreads at all, and just moist enough to stick in the feed-holes of an Alley's Peet cage. Fill one feed-hole with candy, shortly before caging your bees, and they will be comparatively safe on the food question, for a journey of several hundred miles, water or no water. If the weather is warm, the heat will assist in keeping the candy soft; if it is damp, the dampness, ditto; but in any ordinary journey it will need no assistance, and will never get so hard that a few drops of water will not render it as good as new. If you do not use all the cages you have prepared, drop a little water on the candy next time, and you need have no fear. We also feed our weak colonies with the same, by simply laying the sticks of candy across the frames. There is no daubing nor musing about it; no bee-feeders, etc., and it answers every purpose. It is eaten in preference to any thing treated of in GLEANINGS. I have shipped all my bees with this candy the past season, and refer the readers to my customers, and especially to friend Root, as to my success. If I mistake not, I have lost only one queen of my own shipment; she was probably smashed.

Hoping that, in these few remarks, you will find nothing amiss, or to the discredit of the *boy bee-keeper*, the witness is with you.

CHAS. R. MITCHELL.

Hawkinsville, Ga., Oct., 1882.

Friend M., I haven't a doubt but that the bee-sting would feel better after I puffed some smoke on it, for they always feel better when I don't puff any smoke on them, or do anything else; and if you will excuse me, I must still hold to the idea, that it is this fact that accounts for so many remedies we have offered for bee-stings. If I were to commence publishing them, I verily believe they would fill GLEANINGS from beginning to end, and all of them would be sure to afford relief too. Puffing smoke on the place is a very easy remedy; but can it be possi-

ble the smoke penetrates the skin, and goes down into the nerves with the circulation of the blood, where the pain is?—Prof. Cook's article in the *A. B. J.* for Oct. 4, seems to pretty nearly exhaust the subject of dry faeces, and, much to my surprise, he decides that it is all a mistake. I confess to being very much puzzled at present in the matter, and I really don't know who is right and who is wrong.—Even if the Good candy has virtually, as it would seem, superseded all others, it is a sort of satisfaction to talk about the other kind, after all. Friend M., why not moisten your mashed-up candy with honey, and then it won't dry up as it does with water?

CANDIED HONEY.

HEDDON'S "CANDID" VIEWS.

NEVER since I have been raising honey, I have been retailing and jobbing it on to the market more or less in all sorts of receptacles, from $\frac{1}{2}$ to 25 lbs., and so on up to kegs and barrels. During all these years a majority of my customers have "preferred candied honey." "Loved it best of all," but at the same time not one in twenty would buy it after it had reached that state. Notwithstanding that, I have faith that —

Truth will conquer at the last,
As round and round we run,
And the right will ever come uppermost,
And justice will be done.

Now, the best way to handle extracted honey, both for producer and consumer, is in the candied state. In that condition honey does not leak, and the dangers in transportation are cut down to almost nothing. If the vessels containing it are small, they can then be made of some use after the honey is removed. My opinion is, that the Dadants are on the right track, and much ahead of any of us in their practice as laid down in their little book on the sale of extracted honey. He who buys his honey candied can have a choice of consuming it that way, or clear.

In my opinion, there is at present no suitable receptacle discovered, in which to retail extracted honey. When it is found, it should not cost to exceed 1 cent per lb. for one-pound packages.

During the third year of my bee-keeping I began using the extractor, and then found out that the thinner my honey was (if not thin enough to sour), the quicker it would candy. I have bottled much honey in air-tight vessels, put up hot and put up cold, and I do not believe, as yet, that exclusion from air or light has any tendency to keep it liquid. I do know that evaporating has just that effect; but Mr. White would, in my judgment, have experienced the same results had he, after heating his honey, allowed it to get cold before he sealed it. My experience has forced me to believe, that *cold* is the only cause of honey candying; and that honey which is the most thoroughly evaporated (no matter how done), is the firmest to hold out against "old Jack."

Here are two views that I entertain: First, there is no place in which to preserve the fine exquisite flavor of choice, well-ripened honey, equal to wax cells. Second, there is no place to ripen honey that can do it as well or as cheaply as in a strong colony of bees. If there is, we have none of us yet found it out and reported. I believe that Dadant's plan of using supers enough to keep the honey ripening over the colony

all through the season, and to then extract it, just as it will at once meet its cause of candying, *cold*, is the best course. In fact, I know it is, as I have tried it. Dadant sells thousands of pounds of this choice, well-preserved honey in these useful, movable-covered regular dinner-pails (just such as are sold daily out of hardware stores) every year, and tells us that the "plot thickens" all the time. I am in favor of a vessel so cheap that the consumer can afford to throw it away; but as we have not got such a one yet, I favor the most *useful* receptacles, until we have.

QUEENS, HOW TO TEST.

Your remarks, Mr. Editor, in your foot-notes after Mr. White's article on page 481, last GLEANINGS, seem strange enough when you say, "Your remarks are more to the point than anything I have seen yet in print." "They are simply to test them (the queens and their workers) for honey." Goodness gracious! Haven't I been saying for five years, that the word "testing" has but empty sound, unless one means testing for qualities, and these are mainly honey-making and good nature?

I tell you, friend Root, we all demand honey-gatherers, but he who sells bees of pacific nature along with excellent honey-making qualities will "carry off the palm" of trade, notwithstanding the world is so full of bravos. I can bear as many stings as any one; but I don't like to, neither do they. If I can't have bees that possess to a good degree the traits of comb-building and filling, and good nature, I will quit the business. Any one who knows how to rear queens according to correct physiological laws can have just such bees at the end of five years' attention to it, and do their other apicultural duties at the same time. All hail the day when we breed for business instead of bands! when "handsome is that handsome *does*."

JAMES HEDDON.

Dowagiac, Mich., Oct., 1882.

Friend H., I fear I shall have to tell my old story over again. A few years ago an old gentleman near us used to bring honey to the groceries every winter in 1-lb. Muth jars (with the corks put in dipped in melted wax) that never candied. Year after year this honey remained as clear as crystal, while all that which other bee-keepers brought was candied solid. I set bottles of it out in the snow at a zero temperature, but it never candied a particle. He put it up while hot, and it was heated by simply setting the bottles in water, on the stove. Now, I am not surprised that one lot should have thus remained liquid, but I am surprised that he did the same thing year after year. In talking with friends Jones and Muth about it they declared the process could not be relied on, for sometimes it will candy and sometimes it will not. Now, can it be that this man's locality gave him clover honey any different, in this respect, season after season?—About the queens: Do you, friend H., advise using hybrid queens, if, after testing whole apiaries for honey, the hybrids should "pan out" best? I don't quite dare do it, but I have sometimes thought to myself that hybrids are not such a great misfortune, after all. We are now many of us getting the blacks so much out of the way that we shall soon have an opportunity to see how we fare without any taint of black blood.

HOW TO CURE FOUL BROOD.

PAPER READ BY D. A. JONES BEFORE THE NATIONAL CONVENTION AT CINCINNATI, OHIO.

THIS is a subject on which much has been said and written; and there seems to be a great many and varied ways of curing it; some of them, however, are rather difficult, and not within the reach of every bee-keeper, as well as being slightly costly.

I purpose setting forth in the following the most easy and cheap, as well as the surest method that has as yet come under my notice, and one that comes within the reach of every apiarian on however large or small a scale. This mode of procedure (by starving) has never yet failed when properly carried out, and I have tried it in many cases in our country.

I shall give the process, first where there is no brood or where one does not care to save it; and secondly, where there is brood in the hive, and one is desirous of saving it. First, smoke and drum the bees until they have all gorged themselves with honey; and it is important that they be all well filled, otherwise that portion of them whose sacks are not full will not live the time that the other portion would be required to starve, to effect the cure; hence the necessity of having their sacks filled evenly. They should not be allowed to settle down again after having gorged themselves; the operations when once commenced should be carried through without the loss of any time, as a short space only would require to elapse, if left quiet, before some of them would replace their honey in the cells again, when the work of smoking, etc., would have to be repeated. After they have been smoked and drummed sufficiently, shake the bees into a clean hive or box, over which place a wire-cloth cover, care being taken that none escape, as one bee escaping and entering another hive would, in all probability, spread the disease, as it is by the depositing of the diseased honey in the cells of clean colonies that this disease is generally contracted. To prevent the spreading of the disease, the operations should be performed either early in the morning or late in the evening, when no bees are flying; or if the work is done during the day, it should be beneath a wire tent, or in some other place of confinement, where there is no chance of any of the bees from the affected colony escaping. These precautions are required only where a portion of the yard is diseased; but where the whole apiary is attacked, the work may be carried on with impunity. When the bees have been secured in the hive or box covered by the wire cloth, carry it to a cool, dark place, and there lay it on its side; and why? First, because when in a dark cool place the bees will cluster and remain more quiet than when subjected to light and heat; and secondly, when clustering it is always at the top of the hive; and were the hive or box to be placed on its proper bottom they would all cluster on the wire cloth, and thus prevent a proper ventilation, which would cause suffocation; whereas, by placing the hive or box on its side, the other side would then become the top; and on this the bees would cluster, thus securing a free circulation of air. The temperature of the place where the starving takes place should be from 50° to 55°, never above 60°, and a cellar would therefore be the best place in hot weather. They should then be left alone, per-

fectly quiet, from 80 to 120 hours, or until the bees are noticed crawling around the bottom of the box or hive in a starving condition, and a few of them are dead; then put them in a clean hive with clean comb or foundation; if comb, there should be honey in it, and if there is not, the bees should be fed honey or sugar syrup, as also should they be fed when foundation is used, and remove them to a place one or two miles distant, where let them remain until the whole yard is cleansed, when they may be returned to their original stands in the old yard. While the bees are starving, scald the hives and frames from which the affected colonies have been taken; extract the honey from the combs, which may be boiled and fed back to them again; render the combs into wax; and the wax, manufacture into foundation, and place it in the scalded frames, for use in the scalded hive, into which put the bees, after their allotted time of starving has expired.

Great caution should be exercised to see that the queen is placed in the hive or box in which the bees are to starve, unless in the case where the stock has been queenless some days previous, when they will do almost as well without one.

Now, in the second case, where one desires to save the brood, proceed as in the former instance, with the smoking and drumming and transferring of the bees and queen to the hive or box for starvation, only sufficient being left in the diseased hive to nurse the brood. With those placed in the clean hive or box, the operations will be the same as heretofore described. The remaining brood and bees, if weak, should then be doubled up and otherwise strengthened as much as possible; and when hatched out, put through the same process as the others. This method, if properly carried out, will invariably prove successful. It was my intention to have referred to the various causes of the disease; but I find that my paper is already sufficiently lengthy. I will therefore defer it at this time. Before closing, I may say that, by referring to page 103 of the *American Bee Journal* for 1882, in its issue of Feb. 15, some further explanations may be found regarding this method of curing foul brood by starvation.

DO BEES CHANGE THE SEX OF EGGS?

MAGNA EST VERITAS, ET PREVALEBIT.

I AM afraid if there isn't more substantial argument produced "pretty quick already" on the negative side of the question, it will be decided in the affirmative by the facts which are accumulating very rapidly. It is pretty clearly proven that a change is made. Now, the next thing in order is to find out *when* and *how* it is done. Who can tell whether this change takes place in the egg or the larva? Wouldn't it be as reasonable to suppose the bees could give the egg or larva something in the shape of food to destroy the female germ, as it would to suppose that this germ is sometimes destroyed by chilling while yet in the queen's possession, thereby rendering her a drone-layer?

It is a good thing that we have able men on both sides, which enables us to arrive at correct conclusions long before we would if we were all on the same side. If you think you are right, stick to it until you find you are wrong, and then give it up.

"Laying of drone eggs in worker-cells never takes place in the beginning of the season, unless the queen is sick or worthless." The above is an extract from friend Dadant's article in the Oct. number of GLEANINGS, 1882; and if true, we have a "scunder" about this worker and drone egg business. In the latter part of February last, I had a queenless colony to which I gave a frame of eggs and brood from another colony, all worker comb, on which they started several queen-cells, capped about 50 cells as drones, and the rest as workers. The drone cells were scattered broadcast over the comb. They all hatched out the same as their building and capping indicated, from the same comb which was drawn out from worker fdn. If a healthy queen does not lay drone eggs in the beginning of the season, then the bees must surely have changed the sex of those eggs, as they were procured from a good healthy queen reared by myself last season. She has issued with three different swarms this summer, and is still thriving. I watched her brood in the early part of the season, to see if there would be any more drones, but there were none until she was prompted by the approach of the swarming season to deposit eggs in drone-cells.

His eighth proposition, and proof thereof, reads as follows: "Worker bees don't know the sex of the eggs. This proposition is proved by the fact, that a colony having laying workers tries to have queens from drone eggs." Now, my friends, is not the above disproved by the fact, that the bees foretell us what the sex of the inmates of the cells is by the manner of capping them? It is true, they try to rear queens from eggs of laying workers, but they have no choice. Still, after they have their cell capped they plainly tell us what it contains, by its smooth outside surface. The first and fourth propositions in his article contradict each other, as it seems to me. 1. "Queens don't know the sex of the eggs they lay." Extract from the fourth, "Queens find pleasure in impregnating their eggs to change the sex." If the fourth is correct, and impregnating the egg—changing it from male to female according to his third proposition gives pleasure to the queen, she would undoubtedly know by this pleasure when she was laying worker eggs, and by its absence when laying drone eggs. Further on, in regard to the change, he says: "For what purpose would such a change be effected? To raise drones which would not be fit for the function before at least 10 days after they are needed." Here he seems to credit the bees with the faculty of reasoning, thus: Now, if we do raise drones from these eggs, they will do us no good, as they will be 10 days behind time. I think whenever they need drones or a queen, and have the material to raise them from, they do so without calculating how soon they will be of use to them.

Now, I "spect" friend D. will give me "shucks" for talking so much about his article; but that will be all right, providing it is in good humor.

FRANK R. ROE.

Jordan, Jay Co., Ind., Oct. 11, 1882.

Thank you, friend Roe. I am sure neither friend D. nor anybody else will give you "shucks," so long as you clothe your criticisms in the kind words you have this time. This subject is awakening much healthful reasoning, and I am pleased to see it bring out, month by month, what we do know. Those on the negative have tried to explain

the facts presented by suggesting fertile workers; but since we have shown them the drones are Italians, when the eggs were put in a colony of black bees, they will have to try again to explain the facts that are coming forward thick and fast.

FRIEND DABANT ON HONEY AND RAILROADS.

EXTRACTED HONEY.

TO prevent the people from being cheated by unscrupulous dealers, the French law provides that every article of silver or of gold must be stamped as to purity, by assayers appointed for the purpose. If in a jewelry store I were shown two articles exactly alike, one with the French stamp, the other without it, which one, do you think, I would select? The one with the French stamp, of course; for I am sure that it is as represented; while the other may be mixed with more alloy. Now, every bee-keeper knows that the granulating of honey is the best proof of its purity; why, then, deprive our honey of a stamp that no adulterator can imitate? It would be like rubbing out the stamp that the French government puts on the jewel. By creating a market for his liquid honey, Mr. White has worked against his own interests, for he is compelled to warm every pound of his crop. Such work will do for a few hundred pounds; but how great would be the trouble of warming 10 or 15 tons of honey!

We have done exactly the reverse, dispensing with the unpleasant job of boiling our crop, while our granulated article drove all the adulterators out of our markets; for it is impossible for them to sell a pound of their liquid honey to our customers, who know by experience that an adulterated article does not granulate. Which one of these practices, selling a natural or an adulterated article, is the better one? I leave the reader to decide.

We have sold about 75,000 lbs. of granulated honey in tin cans so far, and we know several hundreds of bee-keepers who did as we do, and we would not advise Mr. White to offer his liquid honey in competition with our granulated. It is more manly to look squarely at a false prejudice, and to remove it, than to bow in humble obedience before a popular error, using more energy to comply than would be necessary to remove it.

ABOUT RAILROADS.

I am glad, very glad, to know that you never received a free pass from the railroads. I am the more glad, because the number of the reporters, editors, judges, and congressmen, who are not bribed by free passes is small. As you never complained of railroad difficulties, I inferred that, like the greater number of public men, you enjoy free passes. Please excuse my suspicion, and forgive it.

You object to laws like those that they have in France, saying that they are hardly in the spirit of a free and Christian country. I don't see how such laws can be against Christianity. As to liberty, it becomes license, and ought to be regulated, as soon as it tramples the rights of others. The French law provides that the decision of a justice of the peace is without appeal in a lawsuit of \$20.00 or under; that the decision of a county court is also without appeal for \$200.00 and under. I think that such laws

are excellent; for they prevent lawsuits like the one of a rich lady against a postmaster for six cents, which, going from court to court, ended with \$300.00 costs. These laws would also prevent such monopolies from exacting money without a shade of honesty, as, for instance, the Wabash, St. Louis & Pacific, and the Chicago, Burlington & Quincy, did in a lawsuit just pending against us. We received 1050 fence-posts by these railroads. Not contented with asking a rate of freight 25 per cent higher than is allowed by the laws of Illinois, they also increased, by a stroke of the pen, the weight of the posts from 26,500 lbs. to 36,000 lbs., asking \$43.00 more than was legally due. We remonstrated, but in vain. Finally we replevied the posts, and won before the justice of peace. We won again before the county court, for they appealed; and now we wait for a new appeal, for their attorney told our lawyer that, if we dared to prosecute them, every post would cost us one dollar; they intended to make us serve as an example, by giving us a good lesson.

Of course, we are a little venturesome about playing chess with Jay Gould; but we are tired of high rates; of losing by breakage; by goods stolen on the way; of delays in delivering, etc., and all that without obtaining any redress.

You think that the rates of railroads are too small to guarantee rapid transit on small packages. Let us see. There are, from Medina to Hamilton, 600 miles. According to the French law, the transit ought to be made, at the rate of 125 miles a day, in 5 days; the day of the remittance and of the delivery are not counted. The railroads can bring your package from Medina to Cleveland in one day, 1; 1 day at Cleveland, 1; from Cleveland to Chicago, 1; 1 day at Chicago, 1; 1 day from Chicago to Hamilton, 1; total, 5 days.

The only thing needed is, that your packages do not remain in a depot for several days, by the neglect of the agent. Don't you think that an agent can find, during a whole day, a small minute to make the bill and send the parcel?

In France there are no express companies. The agents of the railroads do all the work, and this work is made with the cheapness, promptness, and the regularity of the postoffice. But as long as our railroad magnates will swallow some hundred millions in a few years, they will be unable to pay for inspection, overseeing the manipulation of our goods, and preventing the breakage, the opening of cases to steal part of their contents, and punishing agents for neglect in forwarding the goods as soon as they arrive in their hands. This state of affairs has already lasted too long. But I see people everywhere awakened, forming anti-monopoly leagues, and I foresee that all these evils will be mended before long; for the monopoly question will be the platform in a few years.

CHAS. DADANT.

Hamilton, Hancock Co., Ill.

I do not see that sealing up honey so it will not candy is in any sense making it unnatural or altered, friend Dadant. It is simply treating it in the natural way, as the bees do when they seal it up in their combs. Very likely some will prefer it in the candied form, and I presume friend White supplies it in either way. Friend Muth said, when we were at the convention, that sometimes honey would candy in spite of the sealing; and again, the same lot would not candy when sealed. Friend Jones agreed, and

both said, also, that now people no longer object to the candying, which I think is so. —I accept your apology, friend D., on the railroad matter, and I should be very glad indeed if something could be done to protect us from the often grievous losses we have to bear on account of heedless railroad employees. I fear you are a little uncharitable, but I know, too, that we have much to bear. When I went to Cincinnati, a bag-gageman pitched my trunk clear over the truck on which he should have placed it at a transfer; and as it struck on one corner on the platform, it was burst open, and my things scattered everywhere. He made no apology, nor did he seem to care for the ruin he had made. Neighbor H. thought the case one where all process of law should be waived, and a proper chastisement be given then and there on the spot; and, to tell the truth, I can't even write about it now, without a something coming up in my breast that I feel ashamed of. I found out who he was, but I had no time then to try what might be done with him, in case a proper remonstrance were unavailing. What ought to be done in such cases, friends?

THE SHEPARD SWARMING-BOX.

MORE ABOUT IT.

I WAS quite interested in Mr. E. E. Hasty's article about swarming, for I did not know that anybody's bees swarmed this year very much. I want to say a few things about that "hiver of ours." As I am said to be the inventor of this, I suppose I ought to understand its value in an apiary, and how to use it. Friend Hasty says he "had 12 swarms in one day, and 5 swarms tangled up in one mess." Now, I have had 15 in a day, all first swarms, and none tangled up together. Six of these were taken from one limb of an apple-tree. Thanks to the "hiver." If it had not been on hand and rightly used, I should certainly have had six together, and perhaps more. At that time I had, I think, over 100 colonies. I had 6 hivers, and hooks to match, and I had these all full at one time before I could get time to hive any. One was carried into a barn; some were laid down and covered with a sheet; some stood leaning against trees 50 or 100 yards away; but they all had their own queen with them, and remained quiet till I could attend to their case.

But, says one, what do you do when two or more swarms start at once? I stop them up and make them wait a minute or two till I can get most of the swarm on wing into the hiver; then I open one, and sometimes they will come along, and sometimes they will pout over being stopped up till next day, and then come along. And now I have come to this conclusion: That, with plenty of hivers properly used, there is no need of swarms getting mixed up or going back to the old hive. If your queen's wing is clipped, or if she can not fly from any cause, cage her; then put the cage in a hiver, and set it up in a tree where they are seeking a place to alight, and they will soon gather to the hiver. I agree with friend H., that they feel better about going to a tree than going back to the old stand.

Again, with plenty of hivers I never climb trees or cut off limbs. I place all my hives beforehand right where I want them, then carry the swarm to the

hive. Some one may ask, What about swarms that happen to alight on large limbs or bodies of trees? They never alight there. In my apiary I have some light poles with a bunch of straw tied tightly to the end of them. If I see they are inclined to alight in any place not easy to hive, I place it there, and they soon all leave for other quarters. Many times they alight in some of the hivers which stand leaning against the trees.

So much for the hiver. But my article is too long. I will just say, I never have swarms run away to the woods. I may tell you, before swarming-time comes again, how I prevent that, for my bees try hard to get away sometimes.

N. N. SHEPARD.

Cochranon, Pa., Oct. 3, 1882.

TAKING THE NONSENSE OUT OF 'EM.

ANOTHER OF FRIEND HASTY'S NOVEL INVENTIONS.

THE great mass of the fraternity will not appreciate this article, I imagine; they seldom have more swarms than they want; and if perchance they do, it suffices with their bees to cut out the queen-cells, and return the swarm immediately to the old hive. I think, however, that there are many here and there who have been greatly tried by the evil of excessive swarming—who have seen stand after stand cut short for the season from stinging, and their own time almost wholly taken up in a vain struggle to regulate matters, until almost driven to just "shriek," as Freedom did when Kosciusko fell. This smaller company will probably feel a keen interest in the simple method herein described.

The old way of controlling increase is very good as long as it works; but in the hour of your direst need it won't work. The swarm you return to-day comes out to-morrow, and so on until it succeeds in getting away from you. As the moderate amount of sealed brood in the hive is rapidly cutting out, they can come out stronger each time you fail in making them stay, and leave the old hive more and more enfeebled. The finality of the struggle is likely to be a big colony off in the woods, and an old hive not only very weak but *queenless* also.

Well, it was friend Martin who touched off the idea, in one of his *Exchange* articles, some time ago. He told of a neighbor of his who cured swarms that deserted the hives they were hived in by hanging them up in his cellar for a couple of days. I think he owes it to us to give the name of this ingenious neighbor. I said to myself at once, "Why will not the same treatment make a swarm stay when returned to the old stand?" I can now answer from experience that it will, with almost absolute certainty. Of course, it is not convenient for the most of us to use the cellar as a swarm penitentiary; and the possibility of having 20,000 bees go on a rampage in one's nether apartments is not altogether pleasant. I laid a plan to sink some large boxes in the ground for this purpose, fitting covers to them over which earth might be shoveled. Time passed on, and I didn't get the boxes ready—glad now I didn't, for swarms move about in the pit sometimes, and would attach themselves to permanent woodwork so as to make some trouble to get them out. At the last moment, when something had to be done, I hit upon a still simpler method.

Take two pieces of scantling three feet long and nail upon them boards two and a half feet long, thus

making a rude cover $2\frac{1}{2} \times 3$ feet. I used second-hand boards and the debris of an old picket fence. Next, in a suitable shady place dig a hole in the ground two feet square and two feet deep. When the cover is laid over the hole and the loose earth put on top of it you have a pit that is cool, dark, and perfectly secure. No arrangements for ventilation are needed, as the air that percolates through the soil is sufficient. The pits can be used all summer without caving in, and the soil at my apiary is quite sandy and loose. Take down your swarm in a five-cent basket; the most elaborate swarm-box is hardly one whit better. (We owe the editor of *GLEANINGS* thanks for this suggestion.) I can't go over the whole wide subject of taking swarms in this article—it's all in knowing how to do it. For the present purpose we want the basket modified just a little. Place four bits of lath ten inches long against the corners of the basket, and drive a few tacks through from the inside. This makes a basket with short legs to it; and after the swarm is taken down it can be set anywhere without hurting a bee. Take swarm in basket, set basket in the hole, lay on cover, shovel on earth; two days later, at nightfall, shovel off earth, lift cover, carry basket and swarm to old hive, and run them in. No particular need to stop and fuss with them; dump them down, and they will get in, in the course of the night. The queen sometimes shows a curious determination to run anywhere and everywhere rather than into the entrance, but she will come to it when the bees have all gone in. If she refused it would be just as well, as there is one queen within already. If it is desirable to cut off the branch and swarm rather than to use a basket, lay a small box in the hole, open side up, and lay the branch and swarm across it. Before returning the swarm I usually look over the combs to destroy any queen-cells that may remain, but sometimes omit that part of it. The rationale of the process is, that the bees are so exceedingly glad of a home and liberty and daylight that they won't listen to any more talk about picnicking in the tree-tops. As stated last month I treated 64 after-swarms in this manner, and only 2 came out. One of these was made to stay by a second burial, and one beat me by entering another hive.

I think it unnatural and unwise to try to return a prime swarm to the old hive when they have left it full of sealed brood; but repeaters with a fertile queen will sometimes issue when the hive is hardly half full of comb. I buried and returned two such this season with success. Neither of them remained quiet all summer, however; one swarmed again in 15 days, and one in 31 days. One prime swarm which was not a repeater, but quite small, and the hive from which it came not crowded, I buried and returned successfully. This hive swarmed again 14 days after. I think I was under the impression at the time that it was an after-swarm; at any rate I buried and returned them, and they stayed the remainder of the season.

Deserters, for whose benefit the penitentiary plan was originally devised, I had but little chance to experiment with. I think I disciplined one such colony successfully, but I do not find a record of it. I certainly treated one unsuccessfully. They went to the woods after being buried. Burial won't make queenless swarms stay unless you give them a frame of brood. I had one failure of this kind. I was in such a confused state of mind that I did not think of the brood.

I had 13 of these little pits in use, and had them all occupied on two different occasions. When affairs were at their hottest I used to bury temporarily all sorts of swarms until I could get something extemporized to hive them in. The ability to do this was a very great relief to me. And now I mean to see how my pits will answer for wintering bees.

Just once in the whole summer's use a bad result ensued. It was a little bit of a swarm, and so many more important ones were out that I kept them waiting a long time by drenching them repeatedly with water. When removed from the pit, more than half of them were dead. Evidently the cluster was so small that they had not animal heat enough to dry out the water and get themselves comfortable. Moral: Don't wet little swarms if you mean to bury them.

On the other hand, one good-size swarm was left by oversight three days in the pit. What do you think they did? Starved to death? They made in their dungeon 20 square inches of comb; and when they were taken out, 177 cells contained honey! The authorities, you know, tell us to confine bees for two days if we want them to consume all the infected honey in their sacs. It is evident, that it would have taken twice as long to make these fellows consume all their honey. I imagine they would have held out about a week without perishing.

Perhaps for the benefit of beginners I should state that the burial tactics here given, and the other course I mentioned, are not the only alternatives in case excessive swarming has to be dealt with. Some hive temporarily in a box, and return next day. Some return each colony to a different stock than the one from which it issued. Hitherto I believe the best practice has been to return each after-swarm *once*. If they stay, well and good; if not, a separate hive is given. Then the next lot of "come-outers" are united with these first, and so on until enough to make a strong stock are put in. I object to this course in both directions. The old hive is stopped from storing surplus surely; and I think it often happens that the mixed lot do not work with the spirit that bees should—besides the liability of having the later colonies that are put in, come out and make further trouble. Rather than to unite swarms, I think I should prefer to give each after-swarm its own quarters—a simple rabbeted box of unplanned lumber, any thing that would hold a frame; let them gather what fall honey they will, and then destroy them and extract the honey. Hist! Was that the editorial bootjack that whizzed by my head? Let us play that it wasn't I who said such a naughty thing, but some old Rip Van Winkle just up from a long sleep in the apiarian cave.

Richards, O., Oct. 17, 1882.

E. E. HASTY.

Friend H., your invention is certainly novel, and no doubt valuable, but I confess that I can hardly get reconciled to the idea of losing the honey that a new swarm might gather in those two first days. I know it is better than to lose the swarm entirely, but is either necessary? I must think your experience this season a little singular. Now and then we have a case where a whole apiary gets the swarming mania, as yours did, but it does not happen very often, if I am correct. I know we often have refractory swarms, and I think your burying plan will be an excellent one; but I hardly think that many of us will need as many pits as you

suggest. I am very glad to know that you succeeded with the five-cent basket for a swarming-box. What size basket do you prefer—the $\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{8}$ bushel? You know they are all sold for the same price. I do think you need a bootjack held over your head, friend H., if nothing more, for soberly advising to kill bees under any circumstances. We find no trouble at all in uniting, and we shall unite perhaps a hundred nuclei this week. Well, now, if you believe in getting along by making every after-swarm a colony of itself, why not give them a good queen and build them up? It seems to me I can take the latest and smallest after-swarm you have, and by feeding and proper care make it a nice little colony for winter. In fact, I have always wintered such, so far as I can remember, and they will certainly sell for all they cost.—Now a word about this swarming mania. Why not control it by making the swarm queenless, and giving them a frame of brood? After they get well to work, give them their queen back again. Surely this would be better than to lose two days. How about wintering in these pits? Of course, you must make sure they don't fill with water; and to do this, each pit must have a good under-drain. Well, let this under-drain take in air, on the sub-earth principle.

MY REPORT FOR 1882.

G. M. DOOLITTLE.

IN the fall of 1881 I had 80 colonies of bees to begin the winter with, and for once at least I had the good fortune to be enabled to count 80 swarms all alive on the 15th day of April, 1882, all of which were in fine condition. After the many hints that were thrown out, that "Doolittle did not know how to winter bees," I confess to being a little proud of having it to say, *not one lost*, and all in splendid condition. But the last of April was unusually cold, averaging colder than the winter months, and by April 30 some of my stocks were reduced to mere nuclei. April 30 was quite a fine day, and I saw a few loads of pollen come in for the first. An examination showed that my very best stocks at this time had brood in only 3 frames, while the poorest had none at all; but I thought warm weather would soon bring all through right. May 2, as I arose early in the morning, I found the ground covered with snow to the depth of two or three inches, while on the hills the sleighing was fair. Snow and frost was the order of the day from this till the 12th, which killed all the pollen blossoms that were ready to open. At this time we had a few warm days, and soon pollen became quite plentiful, and the bees set about building up. Owing to the continual sickness of my father, and other business pressing me, I reduced my bees by sale to 45 stocks. Of these, 35 were tolerably fair, and 10 weak. I decided to work 30 of the best for honey, and use the remaining 15 for queen-rearing. Apple-blossoms opened June 5, but it was so cold, cloudy, and windy, that, with the exception of a little honey obtained on the 8th, the bees got nothing from this source. As but little brood had been reared up to this time, there was more old honey than usual in the hives, so I did not feel the loss of the honey from apple-bloom as much as I should had the case been different. White clover blossomed

quite freely; but owing to wet and cold, no honey was obtained from it. July 4th and 5th were two very rainy days; and as the honey had all been equalized, I found, on the 6th, that starvation of the whole apiary would be staring us in the face unless I fed my bees. Accordingly I purchased a barrel of sugar; but at 10 A. M., the 7th, I found that they were getting honey from some source, so I have the most of the sugar on hand yet. The cool weather had started a new source of honey, which proved to be the wild mustard, which makes the faces of our farmers look black hereabouts, as they see their fields of grain a sea of yellow about this time of the year. From the 12th to the 20th, a gain of from $\frac{1}{2}$ to 1 pound a day was made from this source. On the 26th, basswood opened, being 10 days later than I ever knew it before, and 18 days later than the average time of blossoming. At this time the weather was favorable for the secretion of honey, the mercury standing about 70° in the morning, and 90° in the middle of the day, so that the yield was immense for 5 days. Then came two days of gradually drawing to a close, and our honey harvest was over for 1882. Although there was a large acreage of buckwheat, no honey was obtained from that source, and for the fifth year I chronicle no honey from buckwheat, and class it as a plant of fickle honey-producing qualities, in this locality. All through the time of bloom, the bees made a merry hum over the sea of white blossoms, and brought some huge loads of pollen; but there was not a cell of colored honey in the sections to cheer my sight. As a result of the 7 days' yield of basswood, I took from the 30 colonies set apart for honey, 1089 lbs. in sections, and 441 lbs. of extracted, making 1530 lbs. in all, or an average of 51 lbs. to the colony. My section honey was sold at 17c per lb., and extracted at 10c. Besides this I took about 500 lbs. of sealed honey in frames, to winter my unite nuclei upon; but this will not enter the report, as I report only that actually sold. In 1876 my average yield was 50 lbs., which proves that I have had one poorer year within the last decade of years than the present.

From the 15 colonies set apart for queen-rearing I have sent out 197 queens. After uniting my bees to where I consider them good for winter, I have 80 to begin the winter with; leaving the same number I had a year ago. Upon footing up the total net cash proceeds from my bees during the past year, I find I have \$322 as a year's income from 80 stocks of bees for this, about the poorest year ever known here in York State, as is reported by nearly all.

Perhaps it may be interesting to your readers to know how our report stands for the past 10 years, for it is only by a number of years' experience in any business that a true result can be obtained. Our average yield for each stock in the spring of 1873 was 80 lbs.; in 1874, a fraction of a pound less than 100 lbs.; in 1875, a little over 106 lbs.; in 1876, it was 50 lbs.; in 1877, a little less than 167 lbs.; in 1878, just 71 lbs.; in 1879, it was 58 lbs.; in 1880, a little less than 62 lbs.; in 1881, nearly 135 lbs.; and in 1882, the present year, 51 lbs.; making an average yield for the past 10 years of 88 lbs. per stock, five-sixths of which was box honey. By looking over my diary I find that this honey has been sold at an average price of a trifle over 20 cts. for box honey, the highest price (28 $\frac{3}{4}$ c) being obtained in 1874, and the lowest (10 $\frac{1}{2}$ c) in 1878. Thus it will be seen, that if a man keep but 50 swarms of bees they will give him 4400 lbs. of honey each year, on an average, according to

the above figures, which, at 20 cents per lb., would give him an income of \$880 yearly, which gives bee-keeping as good a standing as nearly any other avocation in life.

G. M. DOOLITTLE.

Borodino, N. Y., Oct., 1882.

RAISING PLANTS FOR HONEY ALONE.

EXPERIMENTS WITH FIGWORT, ETC.

JUST now I don't know of any subject that interests me more than that of bee pasturage. I am not yet certain that it will pay to raise any crop for honey alone, but I am experimenting in that direction. There are a good many in the same position, but I don't know of a single beekeeper who has planted an acre or more solely for honey, who can as yet give any definite statement as to results. If there is such a person in this section of country, I would give a good deal for a half-hour's chat with him. Now, if each one will give the results of his experiments in securing a growth of honey-plants, particularly the failures, it will benefit others and help them to avoid the failures already made.

So far I have experimented with figwort and melilot mainly, and with not very flattering success. Still, I have learned something, and am not discouraged. My first trial was sowing in the open ground in early summer, in good rich ground, a package of figwort seed. Not a seed ever came up. Then in the spring of 1881 I drilled in a larger quantity of seed in the same way. Perhaps half a dozen plants came up, and the ground was left undisturbed. The following spring (1882) hundreds of the seeds came up, having lain dormant in the ground a year. I hoed them out a little, but being kept very busy with my bees, I left them pretty much alone, and I don't think they've done much. I'll go this minute and see.

Well, I've been out by the pasture, and I don't believe there's one plant now for every twenty that were there. You see, the weeds came up thick around them, and then when it became hot and dry they just dried up and died. Those that are left are weaklings about 6 inches high.

Last fall I got a pound of seed, and sowed most of it broadcast on a quarter of an acre of ground unplowed, which had raised a crop of corn. I have looked over that ground a good deal, and don't believe I ever saw six plants on it. Possibly they may come up next spring, but I think I shall plow it up. I found a few figwort plants growing wild last summer, and in the fall I brought home the roots and set them out—about a dozen. They grew up as high this summer as I could reach, producing plenty of the little flower-cups, which, before the bees found them, were full of nectar which could be plainly seen, and easily squeezed out with the thumb and finger. It was so sweet that I think it would require little evaporation to make honey. Last March or April I took a 3-inch pot filled with soil, sprinkled a pinch of figwort seed on top of the soil, laid a piece of paper on top to prevent evaporation, and set it on the window-shelf near the stove among the house-plants, keeping it watered. After waiting a good many days, and almost despairing of ever seeing the seed grow, finally two tiny specks of green showed themselves, and proved to be figwort. I took off the paper and the seeds kept slowly coming up till there

were about a hundred of them. These I set in the open ground, perhaps in June, one rainy day, putting them in different places, some in hard and some in soft ground; some in shade, some in sun. I think every plant grew, although all were small, and some had only the two first or seed leaves. Some on hard ground and in shade have made little growth; others in better surroundings have grown two or three feet high, and blossomed nicely. To-day, Oct. 16, they still have some blossoms, and are full of seed-pods, none of which are ripe, while the old plants were so ripe that I cut down the stalks about a week ago to save the seed. Even on these last there were still a few blossoms. After the bees found the figwort blossoms they kept them clean; but for some time now the bees don't seem to notice the figwort, and it is monopolized by hornets, which seem quite thick on it. Query.—What do the hornets get? and if nectar, why don't the bees get it when they seem to have little or nothing to do?

This spring or early summer I sowed broadcast about three square yards of ground with figwort, not raking it in at all. One part I covered with newspapers, weighting them down with stones, and kept all well watered. Thousands of plants started, and I could not see any difference in the two parts, except that the part covered with paper started a little the sooner. When the figworts were a couple of inches high, the weeds and the hot sun dried them out; and of the thousands started, only five plants can now be found. Some time in June I sowed a little over a square rod of ground in drills, and as the rain kept the ground wet I did not water, and plenty of seed started. The seed previously drilled in had been lightly covered with soil, and this was not covered at all; so I conclude that figwort seed should be sown on ground well prepared and not covered at all. A rank growth of summer grass (perhaps I ought to call it fall grass) covered this last sowing, and to-day I can find only 45 plants. Most of these are on a spot where the grass is not so rank, and is somewhat shaded. I suspect the shade was of no benefit only as it kept down the grass.

Now you have my entire experience with figwort—very unsatisfactory, it is true, but I feel pretty safe in drawing from it the following conclusions: Figwort seed will start readily if sown uncovered on good soil in the open ground, if it be kept moist enough. It is perhaps surer to come up if sown in the fall. After starting, the weeds must be kept down or the young plants will be burned up as soon as dry weather comes. On this account it is better to sow in drills. It stands transplanting well; and if the roots are divided and transplanted in the fall, every one is sure to grow. Cover two or three inches deep. Seeds started in the house early will blossom the same year to some extent.

After my past experience, here is what I am going to do: I shall this fall have some ground plowed and harrowed, and marked the same as for corn, the hills being about 3 ft. 8 in. apart each way. I have ordered a couple of barrels of figwort roots from a man by the name of A. I. Root, and these I shall plant, one root in each hill, or, rather, one eye in each hill, if they will bear dividing. I shall also try a bit of ground prepared the same way, by putting a few figwort seeds in each hill. The thing that puzzles me is to know how to mark each one of these hills so as to cultivate it next spring. Will Ed. GLEANINGS tell me how? The seeds come up so very small at first

that no one could see them plainly enough to cultivate.

C. C. MILLER, 174, 202.

Marengo, Ill., Oct. 16, 1882.

Seed of the spider plant may be planted where it is to grow, I presume, but I know of no way in which we can do the same with the figwort, for the very reason which you have mentioned, friend M. The little plants are so slow in getting started, the weeds would smother them. Get them started in a hotbed, or get roots one or more years old, and plant them out, and cultivate like corn, and then there is but little trouble. We have this year again in our cornfield adjoining the figwort patch, thousands of nicely rooted young plants, which will be ready to bear a full crop of honey next year. These come up of themselves now, all along our creek bottom, and as they are the first green thing to be seen in the spring, they are easily taken up before we plow, and planted out where we want them. It is almost impossible to test the plant fairly here, where four or five hundred colonies are kept; but I should very much like to see, say ten stocks, placed near an acre of figwort in full bloom. Who will try it? If the soil is suitable, loose and rather sandy, I think you will have all the plants you want in a few years, without taking any especial care.

MORE ABOUT CYPRIAN BEES.

THE HAYHURST QUEEN, AGAIN.

YES, friend Hayhurst, I have brushed Cyprian bees from their combs, and if you will now come to my little apiary you can see me brush them from full frames of honey at night, and generally without suffering stings. They do not bear it so well in daylight. Frank Benton wrote to GLEANINGS from Larnaca more than a year ago that the process of brushing Cyprians angers them, and this statement, like all his other statements about Cyprian bees, I have found true. It is also true, that I once kicked a Cherokee (Indian) cow, and was kicked over by the cow in return. This, however, was an impressive lesson to me. My rough treatment of the poor animal was changed to one of kindness, and gentleness came from the cow in return for this kind of treatment. Gentle and kind treatment by us inspires the kindest feelings in the minds and hearts of our fellow-beings, and this rule applies equally well to brutes and to Cyprian bees. My Cyprians are gentle, and I handle them carefully to keep them so. Now, brother Hayhurst, you are at liberty to "smile" again.

I sold all the Cyprians I had in the spring, except the "Hayhurst imported queen" and her colony. Early in April I divided this swarm, and on the 25th of the month I had eight young queens purely mated and laying. By frequent divisions in early spring, and the free use of old combs and foundation, I now have 33 colonies of Cyprians from this one queen, all the result of one season's work. I have purchased 7 black swarms, and now go to winter quarters with 40 colonies, all told, and about 2000 lbs. of honey. Blacks and Italians have never done so well under my observation as my Cyprians have this year. Who else will report on the Cyprian bee?

W. MCKAY DOUGAN,

Seneca, Newton Co., Mo., Oct. 16, 1882.

HOLY-LAND BEES, ETC.

A GOOD REPORT FROM THEM.

I THOUGHT I would like to say a few words in favor of Holy-Land bees. You may remember when you first advertised Cyprian and Holy-Land queens, I ordered 4 Cyprians and one Holy-Land. I have both swarms yet, but think the Cyprian has changed its queen; but the Holy-Land seems to be the same, having a moldy look on the under side of the workers, and they are very gentle. I got her, I think, in the fall of 1880. During the year 1881 they were very strong in numbers, but did not swarm; but this I can say of them: Out of 34 stocks all told, old and young, they gave me more honey than all the rest together. It was so exceedingly dry here that only four besides them wintered without feeding. But this year it gave me 3 swarms, all small, the old queen leading the smallest; the second being a little larger, and the third some larger yet. The old, or parent hive, and first two swarms are in the sections, and the third I put on sections this morning. True, I fed some 5 lbs. of sugar to each in July; but this I did to all others that needed it in order to keep up their strength. I forgot to say, that I captured from the second swarm an extra queen, which I introduced in her virgin state to a very small black swarm, and now they are ready to go into sections. I consider this a fair record for that Holy-Land queen and her progeny. I will also add, that I wintered the old stock in chaff hive on summer stand. All my others, with the exception of Cyprians, were on summer stands, without protection, and yet I lost only one out of 34, and that was queenless. I united this early in the spring with another stock.

The summer was very dry till after buckwheat came up, and even now the rains are very moderate, but the honey is coming.

FEEDING BEFORE INTRODUCING.

I have had better luck in introducing during a scarcity of honey than I ever had, which I attribute to liberal feeding, and introducing a few days after.

A. W. LUNDY.

Frenchtown, N. J., Sept. 9, 1882.

COMB BUILT IN WIDE FRAMES FOR USE IN THE EXTRACTOR.

13 LBS. TO THE COMB.

YOU wish to hear from those who have tried thick combs for extracting, so I will give in my experience, as I think it may benefit some who may intend trying them. It has been slow work getting them, with me. The queen takes possession before the bees can complete the work of building them out thick enough to exclude her. When the combs are once occupied by brood, the queen keeps possession, and of course there is no more lengthening of cells. I think we shall have to use a piece of perforated tin between the brood and the honey apartment. I have combs enough for about 20 chaff hives, thick enough to exclude the queen, but I have been two seasons getting them. I like them, but think I should prefer a smaller frame, on account of the weight. Some of my Langstroth frames with thick combs weighed 13 lbs. when filled and capped. The wide frame for sections are too wide. I have used some, but like a frame 1½ in. wide better.

The combs should be built out thicker than the

frame, for uncapping handily, and the screen in the extractor does not sustain the comb unless it extends beyond the wood. You can not get a comb thicker than two inches in your extractor. I tried separators made by fastening thin pieces of wood, sawed from ¾ lumber, in the center of a frame. I left spaces of about ¼ in. between the pieces, so I had a perforated wooden separator ½ in. thick. This worked well in three hives that I tried, but may not always work as well. There was nothing to hinder the queen from taking possession, but perhaps she disliked so much wood in her nest.

Is there any serious objection to using a sheet of perforated tin between upper and lower frames to keep the queen below? and is there any difficulty in accomplishing the desired results? Of course, I would not use them after I had got my thick combs.

J. R. COLTON.

Waverly, Bremer Co., Ia., Oct. 15, 1882.

Many thanks, friend C., for your full and valuable report. The perforated zinc we have been selling for the last year, friend D. A. Jones informs us works nicely to keep the queen below when working for either section or extracted honey, and it also does away with all the trouble of having the bees build the upper and lower combs together. I think combs 13 lbs. in weight would be about what I should want, because it would "get along so fast."

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

EARLY in the spring my little daughter promised to report to you how much honey we got from the "Branch Apiary." How bright were our prospects then! Seven colonies in new chaff hives, all in good condition in a white-clover, bass-wood, and buckwheat region. Why, we expected ere this to be "bloated bond-holders;" but here we are in Blasted Hopes. We have the meager report of about 300 lbs. comb honey, and increase of colonies to 14 stocks, all in apparent good condition for winter, plenty of sealed honey, without feeding a single pound of sugar. But what is that compared with B. F. Carroll's report, and others'? And yet with it all we would say to all our sisters who wish work for both head and hands, keep bees of your owl, if you can; if not, hire for a season with some good bee-keeper, even if the compensation be small; and if you are a faithful and obliging assistant, your employers may (as mine have done), in addition to your wages, present you with a fine colony as a "starter" in the business.

MRS. BELL L. DUNCAN.

Black Lick, Indiana Co., Pa., Oct. 16, 1882.

Why, my friend, from 7 colonies to 14, and 300 lbs. of honey, isn't Blasted Hopes at all; but as no one has before applied for space here, we have put your letter in. Come, boys, can't some of you beat the ladies in this line, and send us a real genuine letter fit for Blasted Hopes? Where is your gallantry? Hurrah! here is friend Pierce already. See:—

Not a pound of surplus honey; I shall have to feed 500 lbs. of sugar.

J. H. PIERCE.

Dayton, O., Sept. 25, 1882.

COURTESY IN JOURNALISM.

ADDRESS DELIVERED BY A. I. ROOT, BEFORE THE NATIONAL CONVENTION, AT CINCINNATI, O.

DEAR FRIENDS, I assure you I should never have chosen such a subject had not Professor Cook kindly asked me to take it, or, rather, suggested it, as it were. In the first place, I do not feel sure that my experience in journalism would warrant my taking such a subject; and then again, I am not sure that my ideas might not be called queer and singular by some.

As this is a bee convention, I presume the kind of journalism I am expected to speak of is bee journalism, if I am to be allowed the term; and as we now have a half-dozen or more bee journals published in our own country, and about as many more in other countries, it very likely behooves us to consider well this very matter of courtesy in journalism. Are the editors and the writers for the bee journals more uncourteous to each other than those of other class journals? I trust not, although I think it *has* been said, that all bee-men, so long accustomed to stinging ways, sometimes go so far as to think that stinging things in print are right and proper.

A manager of a theater once said, by way of excusing himself for some things in the play, that theaters are just what the public demand they should be, thus throwing the blame all on his patrons. Editors of bee journals might doubtless say, that their journals are edited in such a way as to please the wants and wishes of the greater number of their subscribers. There may be truth in this, and it would be a very convenient way for us who have the journals in charge, to throw all blame for what want of courtesy there may have been in our respective journals on to the shoulders of our patrons and contributors. It might be very convenient, but it would not be right. At the same time that we strive to please those who give us their support, it is our duty to strive to elevate and ennoble. It is every teacher's duty to do this; and what teacher should be more careful than the editors of our journals? These journals go into our homes, and it is to be hoped they are read by our children. We all know it will not do to give children all they ask for. As we are all but children of a larger growth, the same rule will apply to most of us, I believe. It is not always well or wise to give us all we ask for. All bodies are in the habit, usually, of choosing some one from among their number to look after their best interests. We have teachers for our youth, pastors of our churches for grown-up children, and our papers and magazines for the people at large. Perhaps these latter are primarily for the purpose of keeping us informed of the events of the times; but at the same time they must exercise a powerful influence over the morals of the people before whom they speak. What, then, should be the character of these leaders and teachers? If it is a fact, that our papers and journals are to a great extent what we as a people demand of those who publish them, what is our duty as a people in the matter? Your pastor is very

glad indeed to have you take him by the hand and tell him that his sermons have been helpful to you, and your doing so helps him, perhaps more than you imagine, to preach better sermons. So every editor is glad to hear from those whom his words reach; and not only is he glad of words of commendation, but those of kind criticism. In fact, he is often led to do things he would never think of doing, because some one suggested it. Of course, these suggestions are not always wise, and on this account an editor needs more than ordinary wisdom and discrimination.

I need hardly say that those who wield the power of the press should be free from and entirely above, if it were possible, all feelings of prejudice, spite, or jealousy. The wants and needs and rights of his readers should be all equally dear to him. The peculiarities and perhaps weaknesses of each member of his large family should be held sacred, and touched upon with the greatest gentleness; and he, above all others, should have a wide charity.

Think gently of the erring:

Ye may not know the power

With which the dark temptation came

In some unguarded hour.

Whatever appears in print is a public matter. It is more public than any that can be said in any public meeting, because it stands there to be read of all men — ay, and women and children too. When we have visitors at our homes we are very careful to be courteous to them, and we are on our best behavior, as it were; for who would think of indulging in little spites, or unkind words, before company? Well, friends, I fear we sometimes forget that whatever is printed is before a very large company. Few can realize how it cuts and smarts to be held up in derision in public print, who have not passed through it. It may be urged that this dread of being published is a most powerful restraint to one who is strongly tempted to do wrong, and I grant this, and would by all means advise warning the public when the matter is something demanding they should be warned. I think we all agree in this; but at the same time I believe in putting it mildly, and using only a few kind words instead of harsh, to do the most good.

There is one kind of temptation into which we may almost all of us be drawn, that I would speak of. Sooner or later somebody will "come down" on you a little roughly, and perhaps a trifle unjustly, or, what amounts to the same thing, you may, if you are of the proper temperament, *imagine* some one has publicly insulted you, when such is really not the case. In either instance, what ought a real live man do, when publicly and falsely accused? In a great many cases I would say, do nothing at all. One reason for giving this advice would be, because if you say any thing you will say too much. While it is bad for a contributor to fill a column or more in endeavoring to set himself right before the people, it is still worse for the editor to use space in this way.

Years ago some one accused me unjustly, through one of the bee journals. I have for-

gotten now what it was about, and who it was that wrote it. I thank God I have forgotten, dear friends; for if I should meet the man here to-day who wrote it, I could shake hands with him pleasantly, without even remembering it was he who wronged me. Well, I was so badly stirred up I could hardly write without trembling. I would write only just a few words to set myself right. Those few should be right to the point. I wrote and wrote and wrote, and still there was just one more very important point that you all ought to know in the case. I had neglected my work for an hour or more; and when I looked at the long manuscript, I had a sort of misgiving that there ought not to be any occasion for such a long rigmarole, no matter how much I had been abused. At this crisis our pastor happened to come in, and I laid the matter before him in a general way.

"Brother R.," said I, "is it not a fact, that there is something wrong, whenever it becomes necessary for us to use that amount of space in self-defense?" and I held up the long manuscript. His assent was more in his kind look than the words.

"Yes, my friend, there is something wrong when so much needs to be said, or seems to need to be said, on either side."

Down it went into the waste-basket, and you can hardly tell how thankful I am that it did go there. The controversy stopped at the beginning. I do not think I ever suffered much in the estimation of any one, for people judge more by the life a man lives right along year after year than by what somebody says about him, even if it is said in print. Do you ask, then, what harm these unjust attacks do in a journal? My friend, it harms the one who writes them; it harms the editor who gives place to it, and it harms those who read. If every word of it be true, and it be written in an unkind and unchristianlike spirit, it harms the guilty party, for it makes him harder and more wicked. As quarrels are contagious, and in one sense fascinating to the young,—are you aware, friends, that a dog-fight has its fascinations?—well, our growing-up children at your house and my house enter into the spirit of these controversies, and get to thinking it is the way to do business, to fight it out in words in this way. Both parties get stirred up, and fearfully exaggerate, without meaning to, or, in fact, without knowing they have done so, and on and on it goes, may be ending in lawsuits, and years of quarrels. Did you never observe, that when a man has a quarrel or controversy with one person, he is pretty sure to have another very soon with somebody else? He has got mentally sick, as it were; and the worst part of it is, he does not know he is sick.

It isn't alone we who are comparatively without talent, and a high order of education, that are guilty of a want of courtesy through the papers and journals; but it sometimes happens that ministers of the gospel, and professors in our schools and colleges, seem to forget, or be sorely tempted, at least, and to have faith in a war of words, rather than to have faith in the

teachings of our Savior when he said, "Do good to those who hate you."

A very good friend of mine was once shamefully abused by one who, like himself, stood prominently before the people. The injured one sat down at his desk and took the article, point by point, and paid him back in his own coin, driving him into corners he could never get out of, and he did it so nicely, and with such skill, he could not resist the temptation of carrying the paper home to his wife, to let her see how cleverly he had done it. To his surprise, she did not commend him for his wisdom and skill in making his clever hits, but, on the contrary, declared he must under no circumstances think of having it go into print. Like a good husband, he yielded to his wife's superior cool wisdom, and wrote so kind a reply that his opponent was ashamed of himself, and the two are, I trust, to-day on a friendly footing, even though their lifework both lies in the same department of natural science. I believe if these things were shown to our wives oftener than they are, it would be a better world than it is. I presume we can not all of us be always quiet and cool under all provocations; but I feel sure we can, if we try hard, let nothing ever go into *print*, over our own signatures, but what is kind and gentle, even though it be written to and of the unthankful. "He that ruleth his spirit, is greater than he that taketh a city."

THE CENTRAL MICHIGAN BEE-KEEPERS' ASSOCIATION.

SECRETARY'S REPORT FOR PUBLICATION.

THE meeting was held in the capitol building, at Lansing, Sept. 19. A call to order was made by President Ashworth; the Secretary then called the roll. The first question discussed was the size and style of

A BUILDING TO EXHIBIT BEES, HONEY, AND APIARIAN SUPPLIES.

After a spirited discussion, a motion was carried, by which a committee of three, consisting of Prof. Cook, President Ashworth, and N. V. Goodnow, *of Lansing*, was appointed, to request the managers of the agricultural fair to erect a building suitable for the exhibition of bees, honey, and apiarian supplies.

The President then called for expressions of opinions on the best methods of rearing queens. The topic was discussed by E. S. Vannetter, S. Hilbert, H. L. Denney, and others. Mr. Denney said, when rearing queens for his own use he stimulates his best stocks to breeding early, so they will have drones flying before there were any other drones out.

A recess was taken until 2 P. M., when, President Ashworth being called away upon urgent business, Prof. Cook was called to the chair, and the meeting opened with a renewal of the discussion of the best methods of exhibiting bees, honey, and apiarian supplies, at the fair.

A QUEEN FERTILIZED IN THE HIVE.

Prof. Cook, stated that he had this season a queen fertilized in the hive.

He also stated that he had used foundation this season from nearly all the different makes of ma-

chines now in use, and his bees appeared to work equally well on it all, with no trouble from stretching or sagging, except that made upon the *Given press*, and that he could do nothing with.

The next question was, "How many bees should there be in a hive, to winter well?" Mr. Wood, of Grand Ledge, wanted his hives full of bees when he put them into the cellar, and from 15 to 20 lbs. of honey in the hive. He usually feeds some in the spring to stimulate early breeding. Mr. Walde, of Grand Ledge, and E. N. Wood, of North Lansing, preferred wintering out of doors, on the summer stands.

S. D. Newbro exhibited a very ingenious device in the shape of tongs for lifting the brood-frames from the hives, and to hold the cards while examining them; also a machine for fastening the foundation into the section boxes, and other articles. Narmore & Wood exhibited their celebrated double-wall hive; also their single-wall hive, known as the Baker hive; their one-piece section boxes, shipping and retailing cases, the Bingham direct-draft and Clark's cold-blast smokers, extractors, and comb foundation, also wire nails for general use about the apiary. Narmore & Wood also stated that they had this season sold 2000 hives and over 100,000 section boxes, a large amount of foundation, extractors, and smokers, and say that apiculture is increasing very rapidly in this section of the country, and of course the supply trade with it.

The association adjourned at 5 P. M., to meet on the third Tuesday in April, 1883, at 10 A. M.

E. N. WOOD, *Secretary*.

North Lansing, Mich., Sept. 22, 1882.

HONEY-DEW, AND NOT FROM APHIDES.

HONEY FROM BASSWOOD, AFTER THE BLOSSOMS ARE GONE.

I SEE that several have mentioned honey-dew. It appears to be of general occurrence in Ohio this fall. About the 12th of August I noticed the bees working very strong, especially mornings and evenings, very often being scarcely able to reach the hive. I was puzzled to know the source, as we have few fall blossoms; but as I was passing through the woods I heard bees roaring about several linden-trees, and on examining the trees I found a great many leaves having large splashes of a sweet, sticky substance. In a few days it became more plentiful, the leaves and weeds under the trees becoming all dauby. I determined to investigate. I could see no source; it seemed to drop from above. It looked very much as if it might have rained honey. But finally I found, by looking immediately above the drops, that this liquid oozed out of the stem of the long narrow leaf which is always found near the seed, and in several cases I found large drops ready to fall right on the stems of the seed; but it afterward became more plentiful on the sugar trees; but where it issued on them, I could not tell, as I had not time to climb them. The bees worked as strong as they did in the height of the basswood season.

They got the swarming fever again, and we had more swarms in August than we had before. We had one as late as Sept. 1; some built their boxes full of comb; I extracted some, and found it to be very dark, and it had a peculiar strong taste. It will spoil the quality of all the extracted honey we have. It lasted only a few weeks, when it was

washed off by a big rain. Since that I have noticed very little.

We have now 85 stands; some of our August swarms have enough to winter. Our honey crop will not be very large—only 700 or 800 lbs. I don't believe it pays to keep bees for honey alone in Ohio. I do not know if this honey will do to winter with; some fear it may not be healthful. This dew was not caused by insects, but seemed to ooze out like sap on fruit-trees.

D. B. ULERY.

Northampton, Summit Co., O., Sept. 11, 1882.

Many thanks, friend U., for your very valuable communication. I think this source of honey has been at least once before mentioned. At the very same time you speak of, the basswood-trees on our grounds were covered with a sudsy, starchy liquid, but it was not sweet, and the bees paid no attention to it. It seemed to ooze from stems, just about as you state it; and while I tasted it, it occurred to me that if some process of nature should happen to convert this starch into sugar we should really have honey-dew, without any agency of insects. It is well known that basswood twigs, bark, and leaves, are always rich in a gummy matter, much like slippery elm. Well, this natural mucilage is almost identical in composition with honey, and trees that furnish it are almost always honey-bearing. A little change only would be necessary to convert it into a sort of sugar. As to why the substance should be in such excess as to ooze out of the twigs and leaves, is a mystery; but the occurrence is so common, that you may see it in August and September, in almost any basswood forest. As it hangs on the leaves and stems, it looks like spittle. I remember of being told, when a child, that it was snake spittle; and the association, up to this time, has made it a hard matter for me to overcome so I could taste it thoroughly. I found the taste a little strong and unpleasant—not nearly as nice as chewing basswood buds and leaves, and I judged it had got a little rancid by hanging so long during the warm weather. I am inclined to think it will not be very safe for winter food. Friend U., will you please be kind enough to report how these bees winter? Don't it pay to raise comb honey in Ohio? I fear you have not read the reports carefully, have you?

CAN A QUEEN HATCH FROM THE EGG IN LESS THAN 16 DAYS?

FRIEND POND'S EXPERIMENT.

SOMETHING is wrong somewhere. We have been led to suppose that certain things in bee-culture were axioms and not susceptible of change, among which is the statement, that from 14 to 16 days is always and invariably required to hatch a queen from the egg; and in consequence thereof, the opponents of dollar queens have argued that many of such queens are of no value, because, in all probability, they were not formed from the egg, but from larvae from 4 to 6 days old. I propose to state a fact which has lately fallen under my own observation, which would seem to disprove the axiom, and prove the writers either to be mistaken in their observations, or that they have taken the result of a few cases, and from such result predicated a never-

failing rule, which in practice proves to have at least *one* exception.

On the ninth day of September, in the afternoon, I put an empty frame of comb into a populous hive in order to get it filled with eggs from which to rear a queen. On the 12th of the same month, in the morning, I removed this frame, partially filled with eggs and honey, and placed it in the center of the brood-chamber of a queenless colony, which had been some eleven days without a queen, after cutting out every cell in their hive, intending to cut out all the capped cells from this last frame in eight or nine days from the date of placing it in the hive. Unfortunately for the queen-cells, I was obliged to be away from my apiary, and unable to examine this colony till the afternoon of the *twenty-second* of this month, when, upon looking over the hive, I found all the queen-cells torn down, or being torn down by the *workers*, and a fully formed queen, not over 24 hours old, marching around on the frames as though she were the "monarch of all she surveyed." Now, the question arises, If this queen was not hatched in eleven days from the egg, how came she in the hive? Of course, she could not have been hatched from the first batch of cells, even if it is questioned that I overlooked one on cutting them out; for if she had been, the cells would not have been capped on the last frame which was put in the hive, but would have been torn down at once on her appearance. I was particularly careful to see that every cell of the first batch was destroyed, for I did not wish to rear a queen from those eggs, and did wish to rear one from the eggs in the last frame. Now, this experiment proves two things conclusively to my mind; first, that queens do hatch out in less than 15 or 16 days from the egg, and may hatch in 10 or 11 days therefrom; and second, that the queens do not, when hatched, rush furiously around to kill their sister queens, and destroy their cells before they evacuate them, but leave its murderous job to their loyal subjects and retainers, the workers. There is no chance for a mistake in the dates, for the ninth (Saturday) and the twelfth (Tuesday) were the only days I could get from my business to attend to this work, and I set them down at once in my pocket register, and also on the frame of eggs when I placed it in the hive. The explanation of the matter, I leave to others, contenting myself with stating the fact, and simply advise that we go slow in the matter of bee culture, and not assert any state of things as a fixed rule, or that some things are impossible, or at variance with natural laws, simply because we have either been taught to the contrary, or do not understand them.

J. E. POND, JR.

Foxboro, Mass., Sept. 22, 1882.

Your experiment seems conclusive, friend P., except in one particular. The first queen that hatches does not always tear down the other queen-cells in the hive, or, perhaps, I should say, the workers do not always tear down all queen-cells as soon as a queen is hatched. In our back numbers we have once or twice reported that the cells are sometimes passed over until they hatch; and I have twice found cells started on brood when they had a young queen. The cells remained, and the result was a newly hatched queen, and a young laying queen, both in the hive at the same time. Neighbor H. has also had the same thing occur, so we have set it down that queen-cells are not al-

ways an indication that a young queen is lost. In your case, it amounts to this: If you overlooked a queen-cell, it might have been the one producing this queen; but then again, she would have looked more than one day old. I should be glad of more facts on this interesting matter. How soon can the bees get a queen hatched, after the egg is laid?

NORTH AMERICAN BEE - KEEPERS' CONVENTION.

REPORTED BY A. I. ROOT.

THE sun rose on us (Neighbor H. and I) Oct. 3d, in the city of Cincinnati, and the first object of interest was the establishment of friend Muth, 976, 978 Central Avenue. We found this place a general rendezvous for the bee-men, and the time was spent most pleasantly until 9 o'clock. Mr. Muth settled here about 23 years ago, and now owns for some distance on both sides of the street. He is not only esteemed among all his countrymen, but he is authority for the world on all that pertains to the sale of honey, more especially extracted. During the years he has been on this one spot he seems to have gathered about him his many friends and relatives; and, judging from what we saw, he seems to be a man held in universal respect by almost the whole of Cincinnati. Although he does a general grocery business, honey seems to be the main item, for we see it in bottles and cans and boxes, neatly arranged all about his store, in quantities that fairly made us stare and wonder. Still more did we stare and wonder at the cellar filled with barrels of honey, just across the way.

Our old friend Dr. O. M. Blanton, of Mississippi, had just sold him one lot of *forty-seven barrels*. A single shipment of *eighty barrels* from another man is now on the way.

This season he is getting some beautiful honey from the South, and it was quite a treat to us to taste of more kinds of honey than we ever saw or heard of before. One large shipment from Florida was so nice that he paid the owner 2 cts. per lb. more than he agreed to. Prof. Cook asked him if that was the kind of man he was. He replied, in his quaint way, "It is the kind of man I was *that time*."

His apiary on the roof is a marvel, and a most pleasant place to sit and see the beautifully marked Italians work. A part of this apiary is protected by a roof, so as to form a sort of porch, and the bees under this porch go out of and come into these hives as well as any. Although close up together, as there are only eight in a row (four rows), the bees seem to find their own hives without trouble. A plank walk is laid between all the rows of hives. The bees winter well here, and well they might; for although they have all the advantages of outdoors, they are protected on three sides, and partly so overhead. Under the roofed part, and in a room adjoining, he has all the facilities for caring for them. His report *this year*, like almost all others about Cincinnati, is no honey at all, and he has fed already about 1700 lbs. of honey.

At 9 o'clock we were assembled in a beautiful hall for our convention; and as the Secretary and Treasurer were both absent, I was asked to report, which I have done briefly as follows:—

REPORTS OF VICE-PRESIDENTS REPRESENTING DIFFERENT STATES.

CANADA.

D. A. Jones reports the honey crop of Canada as not over 50 per cent. The honey is dark, and not up to the usual standard. The increase is about a third of the usual amount—not more. Many bees, especially the blacks, have to be fed. Only in favorable localities have any yields been reported. Mr. Jones has purchased 50 bbls. of granulated sugar for feeding this fall.

TEXAS.

Judge Andrews, of Texas, reports an excellent crop from the Lone-Star State, with an average yield of 44 lbs. of comb honey per stock, and 50 of extracted. Judge A. and his neighbors have made an average of 100 lbs. per hive, and have also increased 125 per cent. Wintering has ceased to be a problem in Texas.

Horsemint is the great crop, but the flavor is at present objectionable. One may, however, learn to like it. The appearance and body of the honey is second to none. Mr. Muth has some very fine samples, but says that at present his customers don't like to take hold of it.

Dr. J. E. Lay is a live and wide-awake bee-man. His bees swarm the last of March. He has had, on an average, from 50 colonies, 140 lbs. of horsemint honey. It is an annual plant, and honey from it will weigh 12 lbs. to the gallon. Sold at 10½ cts. for the whole crop at home. The flavor is peculiar, but liked by some.

ILLINOIS.

Dr. C. C. Miller, of Marengo, reports that he started with 174 colonies and increased to 202, and got 15,000 lbs. of comb honey. He also reports cucumber honey in sections. This honey does not candy quickly, and is equal to clover. A pickle-factory furnished the vines that gave this yield. This is an important item for those living near such factories. On the other hand, ten acres of buckwheat yielded *no honey*.

GEORGIA.

Dr. J. P. H. Brown reports that he is not aware of any bee disease in Georgia at present. He also presented the following paper:

From an extensive correspondence with all parts of the State, I place the honey crop, the present season, at an average of about 26 lbs. to the colony. In some sections it has been unusually fine, while in others no surplus has been taken. The greatest yield reported from a single colony was 350 lbs. extracted honey.

The most of my correspondents reported the greatest yield when the atmosphere was moderately dry, while a few reported the largest flow when the atmosphere was "decidedly humid." Summing up these reports, we find that an atmosphere neither dry nor wet, but moderately cool and moist, is the most favorable for a flow of honey.

Our honey is mostly of a dark amber color, though

the flavor is good. This year the quality was above an average.

Geographically considered, Georgia possesses a greater variety of climate and soil than any other State in the Union, and consequently a greater variety of forage. Cultivated forage plants, including clover and buckwheat, grow well in the northern parts of the State; while in most of the middle region and southern part, the honey sources are confined to the native flora of the forests and fields.

The majority of bees are kept in the old box hive, or gum; but movable-frame hives are being rapidly introduced, as well as the improved races of bees.

IOWA — O. O. POPPLETON.

About a month ago I issued a call through some of the bee papers, asking individual bee-keepers in the State to send me reports as to the status of our industry in their several sections. In response, I have received twenty reports from seventeen different counties—about one-sixth of the whole number of counties in the State. Of course, I can not make an accurate report from such meager materials.

In my own section of the State, the northeastern, bees went into winter quarters last fall in excellent condition. The winter was short, open, and mild, and, as a general thing, the 1st of April found bees nearly all alive and in excellent condition, no matter by what mode wintered. From that time until the middle of summer, we had the worst kind of weather for bees, it being cold, windy, and cloudy nearly all the time, preventing bees from gathering much pollen or honey, or rearing much brood. As a consequence they were in poorer condition on the 1st of June than on the 1st of April, with quite a large number of colonies entirely dead, some reports estimating the loss during those two months at 25 per cent. I do not think, however, that the loss over the entire State will average so large as that, although it was very serious. It would have been much larger but for feeding having been very generally resorted to.

White clover was nearly two weeks later in commencing to bloom than ordinary, but yielded honey from the first; that is, whenever the weather allowed bees to gather it, which was but little more than one day in four, until the middle of July, when we had about twelve days of good weather, and as heavy a flow of honey from both white clover and basswood as I ever saw. Bad weather caused another interval of several days, followed by a heavy run for two weeks from buckwheat, and a light run the rest of the season.

I judge that the season over the State at large has been very similar to what we have had in our section, except that the central and southern parts of the State had less bad weather to contend with, and consequently a steadier flow and much larger crop of honey; in fact, the largest crop gathered for years. Of course, it is impossible to estimate the average yield per colony over the State, but I am satisfied that those who practice improved bee culture have obtained not less than 75 lbs. per colony. The slow but steady yield of honey during the earlier part of the season caused a larger amount of brood-rearing than common, which resulted in excessive swarming. Nearly all the reports speak of this fact.

The reports quite generally indicate an increasing interest in our modern methods of bee-keeping, also that bees are in excellent condition for winter.

All things considered, the season of 1882 has been

a prosperous one to a large majority of bee-keepers in Iowa. Those in the northern part of the State have had a full average season, while those in the other parts have had a much more than average yield. As the flow of beer and whisky has this year lessened in our State, that of honey has largely increased.

WISCONSIN — CHRISTOPHER GRIMM.

According to a request of the President, I respectfully submit my meager report from this State. To a notice published in the *A. B. J.* to the bee-keepers in this State, only a small percentage responded, and sent me an abbreviated report of the result of the season's operations. The reports I received are from 25 bee-keepers living in different parts of the State, with a return of 3025 colonies they commenced with May 1, 1882. According to said reports, the average yield per colony I find to be 60 lbs. of surplus, or 181,500 lbs. from all. The honey is of most excellent quality.

The increase reported amounts to over 80 per cent (two-thirds by natural swarming). The weather of the whole season was exceptionally cold, wet, and windy. The fall is favorable, although cold.

We had a profusion of white-clover bloom, but only a moderate yield of honey, owing to the unfavorable weather. A great part of the basswood yield was lost by rain on 6 successive days. The fall yield did not amount to any thing; they hardly got enough to keep on brood-rearing.

According to my own, and from the reports I have received, I estimate the crop of this season to be about two-thirds in Wisconsin. There are in this State about 50,000 colonies of bees; but my report is from only 3025—a little over one-sixteenth of the whole. If the 3025 colonies that are reported are a fair average of the whole, then the crop of Wisconsin honey for 1882 amounts to 3,000,000 lbs.; if it be sold on an average at 15 cents per lb., it will bring the net sum of \$450,000.

The above figures will show that the industry of bee-keeping is of sufficient magnitude to be supported by the government.

Jefferson, Jeff. Co., Wis., Oct. 2, 1882.

DAKOTA.

Number of colonies put away in fall.	Number taken out in spring.	Lost by spring dw.	Lost by other cause	Number sold.	Number at present.	Amount of comb honey.	Amount of extracted honey.	Total.	Kind of hive.	How increased.	The crop as compared to last year.
267	260	5	41	420	9381	1601	10982	80 per cent mov. frame and gum	90 p. c. nat. swarms	10 per cent division	½

The above report is compiled from tabulated reports received by me from 22 bee-keepers—about one-half the number that are in the Territory.

The fore part of the season up to July 10, was very wet and cool; so much so that bees had to be fed, being unable to obtain enough to subsist on; from July 10 to Aug. 15, the honey-flow was good; after the 15th of Aug. the weather was so dry the bees did but little; so on the whole there will be only one-half the honey here this year that we ought to have had.

W. M. VINSON.

Elk Point, Dakota, Sept. 30, 1882.

INDIANA.

Jonas Scholl reports that bees have done well this season for *themselves*, but not for

their owners; that is, a great amount of brood and bees, but only a very little honey. The crop will perhaps be 10 lbs. net per colony. Mr. S. says the black bee has nearly disappeared from his vicinity. He intends to increase, for he believes that the progress of apiculture so far is solid and permanent. There is a better prospect for white clover this year than ever before. Bees usually swarm from May 10 to July 10. Bees at present are in fine condition.

Friend Good says that he fed all through white-clover bloom.

G. Holman says he did well in the fall. While crosses of all kinds, Cyprians, Italians, and blacks, gave 40 to 50 lbs. surplus, pure Italians gave not a pound.

KENTUCKY.

J. C. Peden reports a fine prospect early; but a freeze April 10 put an end to the bright prospect. White clover gave no yield this year. Some dark honey was made from a white weed which spoiled all good honey, unless prevented by the owner. Progressive bee-keepers kept it separate. An average of perhaps 15 to 20 lbs. per colony may be expected. Queens have kept their hives full of bees.

Wm. Williamson, of Lexington, makes a rather discouraging report—not half a crop, and an average of perhaps 25 lbs.

FLORIDA.

As indicated in our introductory remarks, the honey from Florida is of a very superior quality. The chief source of supply is the cabbage-palmetto and mangove. Honey is plentiful in Florida, but—"the laborers are few."

LOUISIANA.

The honey crop of Louisiana is superior to the usual run this year. C. F. Muth bought 80 bbls. in one lot from this State.

PENNSYLVANIA.

Friend Vandervort says the outlook was never better, though he had to feed till July 4th. The yield from buckwheat during the month of August was good. The increase has not been over 1 to 2 per cent. Mr. V. had about a dozen increase from 175, and an average of perhaps 20 to 25 lbs. per colony.

NEW YORK.

Gloomy reports come from New York.

MICHIGAN.

Mr. Moorehouse, of Detroit, reports a great abundance of honey from fruit. Swarms were early and large, and did better than old stocks, with the assistance of fdn. Comb is remarkably white. Colonies have averaged about 40 lbs.

E. T. Lewis, of Toledo, reports an extra flow in the south-eastern corner of Michigan, and adjoining portion of northwestern Ohio; and, in fact, this locality always gives a good crop. Bees were building comb and capping it over, even in September.

Prof. Cook, of Central Michigan, thinks his locality equal to the above. He considers marshes an advantage. No clover, but some linn honey. The fall crop was good—80 lbs. per colony, and 1½ increase. A colony on scales lost during basswood, but right along in the fall they gained 5 lbs. per day on an average, and some days 8 lbs. For best

honey-flow, no extremes of weather are wanted.

CONNECTICUT — H. L. J. FREY.

The fall forage for 1881 was not quite up to that of 1880. A great many stocks went into winter quarters with light stores, though strong in bees. The latter part of September was very pleasant. The month of October, bees flew about half the time. During November, bees were very quiet, unless in sheltered places, until the 29th and 30th, when they flew almost as in summer, to be again shut in until December 20. Those in sheltered localities flew enough to keep them healthy, when there was another general shut-in until March 2d, when there was a general fly, and again on the 5th, but not so strong. On the 23d there was a good flying-out, and no more generally good weather till the last week in May, though in extra sheltered places bees came out a little.

Apple bloom was only patchy, and more the exception than the rule. Raspberries were fair, and worked on considerably.

HONEY FROM WILLOW.

In the northwest part of the State I found a variety of willow that is new to me (the spikes are a canary yellow, about 2 in. long, sometimes longer) that holds its bloom from two to three weeks. The wood is very brittle. The flowers possess only stamens; the cup of the flower contains a drop of honey, as large as a medium-size pinhead, light amber color, the consistency of basswood, and of good flavor. I consider it as good as goldenrod, if not better. The bees work steadily on it, and are very good natured, even hybrids being quite docile. One good stock of bees having 7 combs were given three more empty combs, and they filled and capped them in one week. The same stock boxed about 20 lbs. besides, of clear willow honey. It was the only stock tried, but all the others in the same locality did equally well, considering their chance. I have been through over one-half of the State, and I never saw but few of the same kind of willows, and then but solitary bushes always covered with bees.

White clover showed itself in favorable patches June 7, and was in general bloom by the 15th; but the general lightness of the stocks, caused by the late spring, made but little surplus honey from white clover.

Basswood was a medium bloom in a few places, though the majority of the trees did not show a single flower.

Sumac bloomed uncommonly heavy, and the flowers were dripping with honey, but of short duration, caused by the drought.

Buckwheat was a failure, as a rule, though exceptional pieces on wet land yielded honey abundantly.

The early fall-forage plants being dried up, there has been but little honey gathered since sumac; but the past three weeks of showers have made vegetation again look green, which, with some warm weather, may give us an ample late supply for winter. Brood in the hives is a scarcity, and stocks are generally quite weak.

At the New Milford Agricultural Fair, Sept. 30, through the untiring efforts of Mr. Wm. L. Burgess, of West Morris, Conn., the nucleus of a State bee-keepers' society was formed, with Mr. Burgess the elected President. He is very enthusiastic and energetic in the cause.

If I remember rightly, at the last annual meeting of the N. A. B. K. S., a resolution was passed to

make the presidents of the State societies the vice-presidents of the National Society; therefore, before I vacate to my worthy successor, I would offer as a resolution, That the National Society request all the editors of the several bee papers to send a list of their subscribers to the vice-presidents of the different States, thereby placing the vice-president in possession of a means of obtaining a general and more correct knowledge of the exact apiarian condition of his State, making his report more valuable and informative. [I heartily concur.—Ed. GL.]

As nearly as I have been able to ascertain, Connecticut contains about 80,000 stocks of bees, of which 95 per cent are still kept in box hives, half-barrels, nail-kegs, and the like *patent devices* of the foggy style.

Of the number of stocks heard of, not over two-thirds will have a supply of stores sufficient for wintering.

Woodbury, Conn., Sept. 30, 1882.

MAINE — J. A. MORTON.

County	Fall of 1881	Died winter & spring, '81-'82	Started the season of 1882	Increase, 1882 by uniting	Close of 1882	Lbs. box hon. produced	Lbs. ext. d. or st'd honey
Aroostook	2500	1250	1250	1750	3000	20,000	1000
Androscoggin	1000	400	400	400	800	3000	1000
Penobscot	2000	1250	750	1250	2000	4000	800
Waldo	1000	300	700	700	1400	12,000	1200
Somerset	1000	500	500	600	1100	3000	1000
Franklin	1000	300	700	100	800	5000	500
Oxford	1200	500	700	600	1300	5000	550
Cumberland	500	100	400	400	800		
Sagadahoc	300	50	250	125	375	500	150

To the officers and members of the N. A. B. K. S. in their thirteenth annual convention, this imperfect report is respectfully submitted.

Nine of the best counties give over 10,000 colonies at the beginning of winter, 1881, of which more than 30 per cent died during the winter from starving, freezing, smothering, and various other causes too numerous to mention. Nine-tenths were in box hives, and about the same proportion were black bees; the rest were in improved hives of various designs, mostly with movable frames, of all sizes, from 7x9 to 9x18.

Nearly all the box hives are arranged to receive sections for surplus over the brood-nest. This is especially the case in Aroostook County, where the colonies number nearly 3000, and produce 20,600 lbs. of box honey at 20 cts. per pound. These are all black bees in box hives, and nearly every one wintered in cellars or special receptacles.

In Penobscot and other eastern counties, there are a few Italians; also in Kennebec, which is a good county for bees. Many of the bee-keepers bought quite freely out of the State, thus increasing their stock, and these were nearly all Italians in movable-frame hives.

About one-half of the bees in the State are wintered on their summer stands, with slight protection. There are, so far as I could ascertain, but few chaff hives. Most of those dying which were wintered in cellars or warm rooms, die from spring dwindling, caused, as many think, by the sudden and severe changes of temperature to which they are subjected. The winter of 1881 was a hard one; spring of 1882 was late, cold, and changeable. Bees came through very weak; many had to be fed, or died before they could gather any honey. Along the northern and northeastern counties, the midsummer harvest was quite good; but along the seashore and southwest portion of the State the drought was too severe for

any honey. The fall harvest from goldenrod and other fall flowers was excellent, and I think nearly all will have sufficient winter stores. But the rate of increase, which is almost entirely by natural swarming, is low, many bee-keepers not having a single swarm come off; and the amount of surplus honey is ridiculously small — far below our usual average. Maine is not a bad State for bees; what we want is more improved methods in handling them and their products. I think almost the whole country, or the northern part of it at least, needs a universal frame, so that it may be changed easily from hive to hive and man to man the country over; then we must solve the winter problem, so that our bees will all live through and come out in the spring strong and healthy, and then we shall be able to gather up some of the best of all sweet things, which are now wasted on the desert air.

Bethel, Oxford Co., Me., Oct. 2, 1882.

CALIFORNIA — WM. MUTII-RASMUSSEN.

Locality.	No. of Bee-keepers.	No. of colonies.				Pounds of Honey.				Pounds of Wax.	
		Italian.	Hybrid.	Black.	Total.	Comb.	Ext'd.	Strain'd.	Total.		
Los Angeles Co.	39				4230						
Ventura Co.	160				7500		23000		22000	2000	
Kern Co.	3				400						
Alameda Co.					1500				75000?		
Inyo Co.	46				865	23450	6000	3750	33200	100	
Napa Co.	6	50	50	150	250	350	2000	1000	3350	100	
Total reported.	248				14735	23800	228000	4750	331550	2200	

I hereby send you my report for this State, as far as I have been able to make it out.

Owing to unfavorable atmospheric conditions in the spring, and in some localities to a total lack of rain during last winter, the flowers throughout the State have failed to yield an average amount of honey this year. In the southern counties, which is the principal honey-producing part of the State, the season is regarded as nearly a complete failure, but few bee-keepers securing part of a crop. Mr. E. Gallup writes me that the amount of honey is all guesswork. Others positively refuse to give any estimate of the honey crop. Owing to the failure, many bee-keepers are discouraged, and seem to take no interest in the matter; wherefore I find it difficult to make out any report, which will be at all satisfactory. Several bee-keeping counties have not yet been heard from. Some place the average of honey per hive at 25 lbs.; others at 40 lbs. It is impossible to form any correct idea of the true amount. But few give the quantity of wax produced; it will probably all be made into foundation. Much of the honey reported as "comb" is produced in large boxes, or even whole upper stories, without any idea or means of placing it on the market in a salable shape. Foul brood is reported very prevalent in some parts of the State, but I have no statistics in that regard. In this, Inyo County, there is no trace of it, as far as I have been able to ascertain.

Independence, Cal., Sept. 23, 1882.

MISSOURI — R. S. MUSSER.

I beg leave to submit the following report, in behalf of Missouri:—

There are but few bee-keepers' conventions in this State, consequently I am unable to give definite and certain statistical information of the productions of honey for 1882.

I know that there has been a great increase in the number engaged in the industry in Missouri in the past two years. There is more honey in the market

in the cities and country towns this fall than ever was offered before. It is in better condition and of a better quality; most of the honey offered for sale is in one and two pound prize boxes.

The "St. Joseph Inter-State Exposition" for the last two years has offered very liberal premiums in the Apiarian Department, and the premium list was a varied one, covering every branch of the apiarian business.

The past season the display in this department was limited, but very creditable. It was the center of attention, especially to the farmer. They learned the "new way," and where improved apiarian supplies can be bought. The consumer, groceryman, and producer, who were in attendance here, for the first time saw taste, order, and neatness displayed in the productions of the apiary, and preparing honey for the market; also an order and system in the handling and management of bees.

People were in attendance on the Exposition in the fall of 1881 from all the counties in Northwest Missouri. They returned home with new ideas on "bee and honey culture." Quite a number of the country papers made special mention of the display in the Apiarian Department.

Hon. Thomas G. Newman, editor of the *American Bee Journal*, attended the exposition in September, 1881, and delivered an interesting lecture on "bees and honey" one evening to a large and appreciative audience. The daily papers reported his instructive lecture in full, and in addition made very favorable comments. I feel safe in saying, that seven-tenths of the people of Missouri have read more or less on this subject and the profits of the apiary, since the fall of 1881. The circulation of the bee journals has increased in the meantime.

The display in the Apiarian Department of the St. Joseph Inter-State Exposition this fall was the largest and best ever seen at a State or county fair or exposition in the United States. There were over 3000 lbs. of comb and extracted honey on exhibition; also Cyprian, Albino, Italian and black bees, and almost every tool and implement used in the apiary.

The increased number of exhibitors, and the increased quantity and quality of honey on exhibition this year, warrants me in saying that the interest awakened in this industry in the last two years has been greater than the most enthusiastic could have expected. Most of the county fairs made an Apiarian Department this season for the first time.

From the above statements you will see that Missouri is on the right road to take a prominent position in this industry. In 1870, according to the census of the general government, she ranked fifth in the production of honey. I have been unable to procure the reports for 1880. I predict, that in 1890 Missouri will rank first in the production of honey. Nature has smiled upon this territory; she has made the groundwork for a land which will flow with "milk and honey." On account of its diversified climate, soil, foliage, wild and cultivated flowers, etc., and its abundant and never-failing streams of water, some portion of the State will have an abundant crop of honey each year.

The honey on exhibition this year at our various fairs was white-clover, basswood, buckwheat, honey-locust, goldenrod, etc. Quite a quantity of honey on exhibition this fall was flavored with heliotrope and mignonette. It was of such a superior flavor to any honey produced in this State heretofore, that

bee-masters hereafter will ornament their yards and gardens with these beautiful and useful plants, for the purpose of giving the bees something to flavor honey with.

I deemed it useless to attempt to organize bee associations this year. Until you practically demonstrate to the producer, as a general rule, the practicability of our enterprise, and that there is not only pleasure but also profit in it, you have an up-hill undertaking to encounter. I concluded that the best plan was to have the various county fair associations make an apiarian department, and offer liberal premiums; then to furnish the local papers with articles or ideas on the subject, to be prepared and published. By this means, every farmer in the several counties is prepared to learn something when he visits that department at the several fairs, and converses with those engaged in the industry, who are in attendance. The producer in each county can see the improved bee, hives, and apiarian tools and implements, and he learns the improved manner of preparing honey for market. Furnish the idea and evidence of the results, and let him draw his own conclusion, and he will go home with the consciousness that he knows more than the professional bee-master, and with the resolution that he will furnish evidence of that conclusion next season. The most conclusive idea to present is, that in an ordinary season each farmer can pay his State and county taxes from the profits of a few colonies of bees, and have something left for spending money for the "old woman and the girls." I would suggest that you by resolution indicate the best plan for vice-presidents to adopt in their respective States to further the work.

From my experience and observation, I would suggest that each vice-president give his special attention to the local fair in his county; make the apiarian department attractive and instructive. If it is a success, the papers will mention it with favor. Other papers will copy the articles, and advise their readers to do likewise. By this way you furnish ideas, and the evidence that there is profit and pleasure in the industry; and you have one less difficulty (which is the greatest one) to overcome; that is, the idea that you have some patent right to sell. Furnish the idea and evidence generally, and that there is pleasure and profit in the investment, and the producer will, in a short time, buy the improved bees, hives, and apiarian implements, and will be compelled to organize local bee conventions.

If this plan, or some one similar, could be adopted, in five years the honey crop of the United States would be enormous.

In behalf of the friends of "improved bee culture" in Missouri, I must extend thanks to the Hon. Thomas G. Newman, of Chicago, Ill., for the good send-off he gave the honey and bee industry in Missouri in September, 1881. By his coming here and delivering his lecture on "Bees and Honey," he gave character to the enterprise and stability to the industry.

Those who profited by his lecture, and bought a few colonies of bees, were again benefited by a distinguished bee-master from Illinois, Mr. Elvin Armstrong, of Jerseyville. He made one of the neatest displays of comb and extracted honey ever seen in the West. He showed producers how to prepare comb honey for market, and how to put extracted honey in good marketable shape, in glass jars and bottles neatly labeled. These ideas were practical,

and are invaluable to our people. He was awarded the \$25.00 sweepstake premium for the best display of honey; also \$15.00 for the best display of extracted honey. He had his "Crown bee-hive" on exhibition. It was the first time many of our farmers had seen a frame hive with surplus honey. Mr. Armstrong took great pains in explaining to visitors the advantages of frame hives over the old-style "gum." He was awarded the special premium, \$10.00, for the best bee-hive.

Missourians engaged in bee culture invite every person engaged in the same industry to come and contest for our liberal premiums offered by fair associations. Bring in ideas, and take the money premiums. Therefore, Mr. President, you see we Missourians are not only just, but we are generous.

St. Joseph, Mo., Sept. 30, 1882.

MISSISSIPPI — O. M. BLANTON.

The rich alluvial lands along the Mississippi River are a great source of honey, and the crop this year is above an average. Mr. B. started with 256, increased to 380, and extracted 23,000 lbs., besides 600 lbs. of comb honey. There can be no question about the profitability of apiculture in this section. Queens would lay in upper story, which was probably caused by the lower combs being moldy. Hives were five inches from the ground. One hive gave 237 lbs. extracted. Three swarms increased to 12, giving 588 lbs. extracted and 72 lbs. of comb honey. C. F. Muth bought the honey, and reports it to be the best from that State. Mr. B. thinks a great deal of honey comes from common corn.

WINTERING.

Mr. Christopher Grimm favors cellar wintering. He prepares his bees early, and they need no care afterward; uses sub-earth ventilation; has hives open full size of entrance, and $\frac{1}{4}$ inch at top, full width of hive. Cellars will not get too warm, if too many bees are not put in.

C. C. Miller has most trouble in cellar wintering just before taking them out in spring.

D. A. Jones explains sub-earth ventilation, and says he keeps his pipes clear of cobwebs, etc., by firing a musket in at one end. The pipes are 100 to 150 ft. long, and about 6 by 6 inches for 100 colonies. Would by all means use sub-earth ventilation, as it keeps bees dry.

Prof. Cook strongly advocates cellar wintering and sub-earth ventilation. The exit pipe should be only about half the diameter of the sub-earth pipe.

Mr. Jones advises 1 sq. in. for each colony for the ventilating-tube in the cellar.

G. G. Large reports, No chaff, 10 lbs.; chaff-packed, $4\frac{1}{2}$ lbs. in outdoor wintering. C. C. Miller has not had the same experience. Mr. Grimm uses 8-frame hives. Mr. Jones favors chaff and cellars combined; he has swept out from 1 to $1\frac{1}{2}$ bushels of dead bees from 150 colonies.

Rev. Mr. Johnson says dark and light Italians are like dark and light men, but he does not think that color makes any particular difference.

PLACE OF NEXT CONVENTION.

The next session is invited to Detroit by Otto Kleinow, who thinks a hall will be free.

D. A. Jones suggests Toronto, Canada, and says a hall is offered free. C. C. Miller invites to Chicago, with a hall free. Jonas Scholl invites to Indianapolis, hall free. Toronto was finally decided on for 1883.

COMB HONEY VS. EXTRACTED.

C. C. Miller's article, "Comb Honey vs. Extracted," will be found on p. 631, *A. B. J.* for Oct. 4. Considerable discussion followed. Mr. Muth thinks he can get two or three times as much extracted as comb honey. Mr. Hill thinks *twice* as much. C. C. Miller thinks not very much more. G. G. Large thinks he can get three times as much extracted; thinks the latter pays better at 10 cts., when comb honey is 20. He has 70 hives, and took 6000 lbs. extracted and 3000 comb. Colonies made from one comb in the spring gave 100 lbs. extracted, and built up full size.

D. A. Jones is strongly in favor of extracting, and thinks he can take from three to five times as much by so doing. He says he can make five dollars to one over comb honey. The latter is aggravating to ship, but extracted will ship safely anywhere.

C. C. Miller, in 1881, increased 12 colonies to 81, and 1200 lbs. of honey.

O. M. Blanton spoke of the value of the comb *saved* by extracting.

D. A. Jones says that sections not square should be put on the hives so as to be longest up and down; and, better still, after they are half sealed, reverse.

HONEY-PLANTS.

The Secretary gave a brief report of the results from the plants tested on his honey farm during the last four or five years, and quite a discussion followed.

RAPE.

The chief objection offered against rape is its multitude of enemies.

ALSIKE.

Harrington and Poppleton say that alsike should be cut just before it blooms, and it will then yield a large crop of honey just after white clover fails. O. O. Poppleton tried this during the past season, and said that the knowledge of this one fact, obtained from "Neighbor H." at the convention in Michigan last fall, was worth his whole trip there.

BOKHARA CLOVER.

Mr. Jones thinks it is different from sweet clover. It will stand quite a frost, and bees still work on it. He sows one crop to get the land in order; now sow every alternate land 12 feet wide in oats and Bokhara clover. Cut it in June, and bloom will come in just when wanted. Sow it with oats, or sow it on wheat when frozen, so as to let the seeds down in the crevices.

BASSWOOD AND LINN.

Prof. Cook says that basswood will bloom in five years from seed. Dr. Brown says it should be on low ground, and that the European linn blooms late.

WEDNESDAY MORNING.

Session was opened by prayer by Brother Boggs.

An article by P. L. Viallon, of Louisiana,

entitled "Experiments in Comb-building," is given on page 627, *A. B. J.* for Oct. 4. Considerable discussion followed. A hearty vote of thanks was tendered friend V. for the paper. That pollen is needed for queen-rearing, seems to be pretty well decided from the above paper. Q.—Is not the amount of honey for 1 lb. of comb pretty low in friend Viallon's estimate?

Dr. Brown thinks that queens reared under the swarming impulse are not necessarily any better than those reared at other seasons. D. A. Jones says he can rear better queens by getting a colony up to the swarming-point, by adding brood, feeding, etc.; then prevent swarming by removing the queen, and all cells will be strong and vigorously fed. Holy-Land colonies will build 40 or 50 cells.

HARRINGTON'S POINT.

Harrington here makes a point. The main thing is to get good queen-cells. With them, anybody can rear good queens. Well, with the aid of the Holy-Lands, and by the process just given by Mr. Jones, we can produce cells in unlimited quantities at 5 cents each, and make money at it too. Well, what will it cost each to get laying queens from these cells? Can't we rear good queens for a dollar, and make money at it?

D. A. Jones advises introducing by means of chloroform.

Dr. Brown agrees, but says it is more bother than it comes to. He says Holy-Land bees will all hatch out at once. Friend Poppleton has used chloroform, but failed.

PAPER BY A. I. ROOT.

This is given in full on p. 543. Rev. Mr. Johnson warmly indorsed the paper in a stirring speech. The following resolution was then unanimously adopted:—

Resolved, That we note with great pleasure the growing tendency of most of our bee periodicals to avoid and omit any and every unkind and bitter words toward any one. *Resolved*, further, That we request and urge every editor to omit any such words that any of us may be led to write.

Dr. Parmly sent \$50.00 for Mr. Langstroth, and Prof. Cook, D. A. Jones, and A. I. Root \$10.00 each. D. A. Jones also offered a queen, which friend Muth purchased at ten dollars. This amount was afterward swelled by the convention to over \$100.

A paper by Mr. Demaree, of Kentucky, was here read.

THURSDAY MORNING.

Mr. Jones explains dipping sheets of wax, all of one thickness, by using a dipping-board perhaps 2 feet long, and alike at both ends. After once dipping, dip the second time the other end down, and thus get a long sheet of *even thickness*.

OUR ANNUAL HONEY PRODUCT.

Pres. Cook says statistics are wanted.

Mr. J. S. Terrill, P. M. of Ridgeville, O., obtained statistics of his county by the following plan: He mailed postal cards to every postoffice in the county, asking the postmaster to write on it the names of the bee-men at his office. The cards were all addressed to himself, so the postmaster had nothing to do but to put it on in pencil, and

drop the card in the mail. Now, by mailing similar cards to all the bee-men, with a printed request, and blanks to fill out, he got almost a correct report of all the bees in Lorain Co., and of the honey raised. This list of names he considers worth all they cost, for calling a convention or any other purpose pertaining to the industry.

Mrs. Lucinda Harrison sent the following:

The North American Bee-Keepers' Society, greeting. The honey crop of Illinois for 1882 has been the best that we have had for twelve years, and the flow still continues. This large flow of honey, together with the State Fair convening at this place, prevents my attendance at the convention. The exhibit of honey at the State Fair last week was the largest that was ever exhibited in the State. I sincerely regret that I am not present with you, and hope the meeting will be pleasant and profitable.

Peoria, Ill., Oct. 3, 1882. LUCINDA HARRISON.

HONEY-PAILS AND BOXES, BY PRES. JONES.

Friend Jones has, by his neat pails and labels, done an immense work to introduce honey.

Jelly - glasses are commended, and also small packages to introduce the honey.

FOUL BROOD.

Two papers on foul brood, by Messrs. Muth and Jones, were read. Prof. Cook spoke of salicylic acid as being wonderfully potent in preventing fungoid growths, and instanced a quart of mucedage, which will sour in a very short time in summer weather; but if just a pinch of the acid be put in, it remains unchanged for months. All agree that foul brood is a terrible, terrible thing in an apiary.

James LaBarre, Ludlow, Ky., saw foul brood for the first time in Cincinnati.

Christopher Grimm thinks it best to burn hive and bees, saving only the queen. Almost all agree that the queen alone (no workers) can not communicate the disease. A queen can not be reared in a foul-brood colony.

Prof. Cook here made some edifying remarks on "How shall we know foul brood?" There is danger of foul brood in buying honey as well as in buying bees. Mr. Muth's address on foul brood is given on page 647, A. B. J. for Oct. 11, and that of Mr. Jones on p. 535 of this issue of GLEANINGS.

J. M. Hicks strongly advises rock salt as a preventive of foul brood.

OVERSTOCKING.

Mr. Jones thinks that 15 colonies this year, with a boy to carry sugar, might thrive. [Great laughter.] The general decision, all things taken into account, seems to be in favor of from 100 to 150 colonies in one locality.

OFFICERS FOR THE ENSUING YEAR.

D. A. JONES, President.

A. I. ROOT, Secretary.

C. F. MUTH, Treasurer.

VICE-PRESIDENTS FOR THE COMING YEAR.

A. E. Mannum.....	Vermont.	J. D. Davis.....	Mass.
G. M. Doolittle.....	N. Y.	J. A. Vandervoort.....	Pa.
J. H. Brock.....	N. J.	F. Della Torre.....	Md.
J. L. Bowers.....	Va.	Dr. J. P. H. Brown.....	Ga.
W. S. Hart.....	Fla.	Dr. O. M. Blanton.....	Miss.
Paul L. Viallon.....	La.	J. T. Wilson.....	Tenn.
Rev. S. Johnson.....	Ky.	Dr. Besse.....	Ohio.
Prof. A. J. Cook.....	Mich.	J. M. Hicks.....	Ind.
Dr. C. C. Miller.....	Ill.	Christopher Grimm.....	Wis.
O. O. Poppleton.....	Iowa.	J. Hayhurst.....	Mo.
Peter Scoville.....	Kas.	W. K. Musser.....	Cal.
Judge Andrews.....	Tex.	Judge Hartman.....	Ark.
A. G. Mason.....	Maine.	Harry Hammond.....	S. C.

GENERAL SUMMARY OF BEES OWNED BY MEMBERS OF ASSOCIATION.

Members Reporting.....	53
No. of Colonies last Fall.....	3,489
Colonies lost in Winter.....	66
Colonies lost in Spring.....	144
No. Colonies at beginning of Honey Season.....	3,087
Devoted to other pursuits than Honey.....	636
Present No. of Colonies.....	4,748
Pounds of Comb Honey.....	47,451
Pounds of Extracted Honey.....	99,808
Both Kinds.....	147,259

NAMES OF MEMBERS OF THE ASSOCIATION WHO PAID THEIR ANNUAL FEE OF \$1.00.

Anderson, J. R., Wash'ton, Ky.	Lawrence, G. M., Warsaw, N. Y.
Andrews, W. H., McKinney, Tex.	Lay, Dr. J. E., Halleys, Tex.
Bagby, M. G., Independence, Ky.	McVean, P., Grant's Bend, Ky.
Bagby, J. W., Moon, O.	Miller, C. C., Marengo, Ill.
Blacklock, A. C., Geigerville, Ky.	Morehouse, W., Dearborn, Mich.
Bingham, T. F., Abronia, Mich.	Neff, A., Fremont City, O.
Besse, Dr. H., Delaware, O.	Northeast, J. W., Walton, Ky.
Blanton, Dr. O. M., Green's, Miss.	Oren, Dr. J., Laporte, Ind.
Boggs, S. P., Clintonville, Ky.	Patton, R., Gray, O.
Brown, Dr. L. E., Lawrence, Ky.	Pecken, J. C., Lawrence, Ky.
Brown, Dr. J. P. H., Augusta, Ga.	Pelham, Rev. C., Maysville, Ky.
Cheney, A. B., Sparta Ctr., Mich.	Petty, W. T. F., Pittsfield, Ill.
Cook, A. J., Lansing, Mich.	Patterson, W. F., Freestone, O.
Couthard, S., Preston, O.	Pateman, E., Orsbury, Wis.
Counley, J. C., Walnut, E. Mich.	Poppleton, G. O., Wm'stown, Ia.
Cru, G. W., Covington, Ky.	Poppleton, Mrs. O. O., "
Davis, J. T., Shelburn Falls, Mass.	Replogle, J. W., Hagerstown, Ind.
Douglass, W. A., Morn'g Sun, O.	Root, A. J., Medina, O.
Earle, L. G., Green Castle, Ind.	Rulish, Dr. H. M., Nth. Bend, O.
Everett, A. C., Randolph, N. Y.	Scholt, J., Lyons Station, Ind.
Gibson, W. R., Sherman, Ky.	Shimer, J. H., Hillboro, Ill.
Good, I. R., Nappanee, Ind.	Smith, Mrs. R., Kenton, O.
Gorney, W. G., DeLossville, Ky.	Snyder, I. K., Tiffin, Ia.
Griffith, M., Ripley, O.	Stevens, Mrs. E. P., Lebanon, O.
Grant, C., Batavia, O.	Stith, A. W., Driving Ridge, Ky.
Groat, J., Batavia, O.	Terrill, J. S., Nth. Ridgeville, O.
Hallman, F. J., Terre Haute, Ind.	Terrill, O. J., "
Harrington, H. B., Medina, O.	Thornton, T. G., Gardner's, Va. Ky.
Hall, E. W., Smithville, W. Va.	Tove, F. Della, Geisters, Md.
Hicks, I. M., Battle Ground, Ind.	Trester, M. L., Lincoln, Neb.
Hill, Miss E., Cummingsville, O.	Uery, D. B., Northampton, O.
Hill, I. S., Mt. Healthy, O.	Vance, J. W., Madison, Wis.
Hyne, J. M., Stewartsville, Ind.	Vincent, W. M., Elk Point, Dak.
Jeffrey, H. L., Woodley, Ct.	Vanderart, J., Lacesville, Pa.
Johnson, L., Walton, Ky.	Victor, W. S., Normal, Ill.
Keene, Dr. R. M., Versailles, Ky.	Vincent, E. B., Sumner, Ind.
Kleimow, O., Detroit, Mich.	Volkenand, H., Alpha, O.
Lovett, D. B., Crestline, O.	Wardell, F. J., Ulrichsville, O.
LaBarre, J., Ludlow, Ky.	Williams, G. F., New Phila., O.
Large, G. G., Millersville, Ill.	Weed, A. B., Detroit, Mich.

Total No. of Ladies at 00 each.....	\$00 00
Total No. of Gentlemen at \$1.00 each.....	76 00
Money from last year, sent in.....	7 00
	\$83 00

Friend Muth reports \$84.00 on hand, and so we presume some brother's name has been omitted from the above. Will he please stand up?

RESOLUTIONS IN CLOSING.

Resolved, That the thanks of N. A. Society of Bee-keepers be extended to all the railroads centering in Cincinnati, for their courtesies in the reduction of fares for visiting bee-keepers.

Resolved, That thanks be extended, with a rousing vote, to Chas. F. Muth, of Cincinnati, for his untiring energies in rendering valuable services in procuring hall for meeting, and many other things to render our visit and meeting pleasant.

Resolved, That thanks be expressed to the proprietors of Washington Park Hall for their very hospitable kindness in tendering the use of their very elegant and commodious hall free of charge.

Resolved, That thanks be tendered to all exhibitors for their painstaking care in bringing for exhibition the many progressive appliances which are deemed necessary to modern apiculture; also for many beautiful specimens of honey-plants and many samples of honey from the various districts of our great land.

Resolved, That thanks be expressed to Dr. Sauer and Mr. Ahlers for use of microscopes.

Resolved, That our warmest thanks be tendered our late Pres., Prof. A. J. Cook, for his courtesies in discharging his duty.

Respectfully submitted.

(J. P. H. BROWN, GA., Ch'm.
 COM. } I. E. BROWN, KY.
 J. E. LAY, TEX.



CANDY FOR SHIPPING-CAGES.

STOP, stop, Mr. Root! Don't pay any one \$5.00 to help fix any other cage or candy. There can be no better candy than the Viallon, if properly used. I have shipped queens all summer to all parts of the U. S. and Canada, and, if I have lost a single queen in shipping, I have never heard of it. I attribute my success to the fact, that I moistened the candy just before I put the queen in the cage; put about two drops of water on the candy, and it will quickly run in; make it a little stiffer than common, and it will hold more water than you think.

WHERE THE DRONE EGGS COME FROM THAT ARE HATCHED AROUND QUEEN-CELLS.

Any worker bee can, if situated under the proper circumstances, lay drone eggs. "Tut, tut! that will not do." Well, say so if you please, but things have transpired under my observations of late, that tend so much to make me believe it, I can not but suggest the idea, anyhow.

WORKERS EATING QUEEN'S EGGS.

If you feed worker bees on eggs from a fertile queen, they will almost always lay drone eggs. But you say, "How do you know?" I found it out by placing a caged queen over about two dozen caged workers, with wire cloth between, the cage containing the workers having two pieces of comb in it. The queen being very fertile, the bees subsisted almost wholly upon her eggs for three days. Now, you must understand that I tried this experiment to find out whether the bees would carry her eggs, and place them in the comb.

FERTILE WORKERS; CAUSE OF SUGGESTED.

At the end of the three days I examined the comb, but there were no eggs; I then removed the queen, leaving the cage of workers a day longer; then I found a few eggs in the comb; this aroused my curiosity, and I watched them very closely. The next day I found nearly every worker laying eggs; I saw them at it. It does seem that the bees eat the eggs around these grafted cells, and lay more in their place. One proof of it is this: If you graft a pure Italian cell with eggs, into a hive of blacks, the drones hatched around the cell will be black, therefore could not be the eggs that were in the comb when grafted.

Now, friends, I do not say what I have written are true theories, but only the result of *one series* of experiments.

CHAS. KINGSLEY.

Greenville, Tenn., Sept. 7, 1882.

We are glad of the result of your experiment, friend K.; but I fear some of your conclusions are wrong. For instance, we have fertile workers when a colony has been a long time queenless, where they have had no eggs to eat at all. I think your experiment of inducing the bees to carry the eggs to the cells would have succeeded better if you had placed the caged queen over a whole colony;

but as this would have been the way we used to do in introducing, it would have been done already. Perhaps the reason why they don't do it is, that they have a queen so near they do not feel the great anxiety they do when entirely queenless. The matter about bees moving worker eggs is as yet a little mysterious.—I have moistened the candy in the way you suggest; and if we are careful not to put on too many drops, it seems to do very well. Your last observation does not agree in result with friend True's experiment, narrated on page 491, Oct. number.

RYE MEAL FOR POLLEN IN THE FALL.

I had a queen in a large colony that all at once stopped laying, although considerable honey was being gathered from goldenrod. At first I thought she must be playing out; but as she was only a year old, and had been very prolific during the whole summer, I looked further for a possible cause. On examining the combs I found but little pollen, and by watching the bees as they came in from the fields I found they brought but little with them. Arguing from these premises, that lack of pollen was the cause of no eggs being laid, I took some granulated sugar, wet it up with honey, and stirred in enough rye meal to make a soft paste. This I spread with a honey-knife over a frame of comb, and crowded it somewhat into the cells. The bees at once went to work on it, removed the sugar and honey, leaving the meal in the cells. I fed thus for three or four days, and found that the queen began laying on the second day after I began using this feed, and continued laying to the present time, the bees meanwhile having used up all the rye-meal pollen I had thus given them. I am of the opinion, that lack of pollen, even when honey is coming in quite freely, is a cause of the production of brood being stopped; and in future I shall watch as carefully to see that my bees are bringing in pollen, as I do to see that they are bringing in honey. It is possible that bees may for a short time raise brood without pollen; but my experience has been, that brood is reared in the largest numbers when pollen is the most plentiful.

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., Sept. 25, 1882.

I believe it is rather an unusual thing for bees to be short of pollen in the fall, friend P.; but as you found they used it, and it started brood-rearing, no doubt it would be a good thing, under such circumstances, where rapid increase is desired. In my greenhouse experiments, I induced them to use it after they had been some little time clear out of pollen.

CONDEMNING QUEENS HASTILY.

Please excuse me for having so much to say about my queen, but I know you will bear with me when you take into consideration that I am at the very foot of the A B C class, and that she is the only Italian queen I ever saw. I stated in my last that she was quite dark, and smaller than my black queens. I looked at her last week, and could hardly believe she was the same queen — so large, and such a beauty! Her bees are *very* yellow, and are prettier than my neighbors' best, which are produced by a tested queen. I have two young black queens which are producing hybrid bees — thanks to my neighbors' Italian drones.

HARVEY C. WARE.

Port Byron, N. Y., Sept. 18, 1882.

A CORRECTION (SEE P. 449, SEPT. NO.).

Please bear with me this once. When I said that I could count 13 swarms for 3, I counted the pound of bees and their 2 swarms unintentionally; I should have said 10; and although if I had waited until now I could have said 400 lbs. of surplus instead of 300 (45 of which is from the pound of bees and their first swarm), which would have about made up the difference in point of value, yet the report is not true, and I wish to correct it. My success with bees could not have been the result of my skill, as this is the first year's experience. I give the praise to Him who is the giver of all good.

D. S. TYLER.

Clio, Mich., Sept. 25, 1882.

BEES IN CITIES.

Sterling, Ill., has about five thousand inhabitants; on the principal street, and near the center of the city, only fifteen feet from the sidewalk, is a little inclosure, 24x32 feet, in which, last spring, were 21 colonies of bees in chaff hives. Twenty-five feet to the east is a dwelling-house, the space between being used for croquet ground, while half that distance to the west is another dwelling. The owner of this apiary has already taken over 2000 lbs. of honey this season from these bees, and will probably take enough more to make it 2500 lbs., while they have increased to 42 swarms. These bees are not troublesome to the neighbors, but, instead, furnish the boys and girls of the vicinity many sections of honey that are not filled or capped enough for packing. Why are not more bees kept in cities and villages?

CLARK, GIDDINGS & CO.

Sterling, Ill., Sept., 1882.

GETTING BEES WITHOUT BUYING, FINDING, STEALING, OR RAISING THEM.

I must report in GLEANINGS a fact that I know, for it came under my observation. It seems "snaky," it is so big. A neighbor of mine had two colonies of bees this spring. They swarmed twice apiece. Two swarms left. He has bought none, found none, stolen none; none were given him. He now has 26 fair average swarms; 22 came to him. I will report another year; I know how.

M. W. AKERS.

Marseilles, Ill., Sept. 23, 1882.

Now, friend A., that is aggravating. You know how, but won't tell. Is it some new decoy hive he has contrived, that coaxes his neighbors' bees to desert their own hives, and swarm just to go into them? If so, is it the fair thing to do? Perhaps you have so many bees in the woods they are decoyed from there. That might do, if one could only be sure they all came from the woods. I presume you have heard of the inquisitive Yankee who wanted to know how the man lost his leg. The man said he would tell, if the Yankee would ask no more questions. He promised, and was told it was *bitten* off. Now you have left just about there, but we didn't promise. Will you please stand up and tell how he managed to get 22 to come to him?

MORE ABOUT THE COW-PEAS, AND SOMETHING ABOUT ASTERS.

I wrote to you last week about the cow-peas; since then they have bloomed out, but the bees do not care much for them this year, as they have done years back. I suppose the reason is, because there are so many asters around here. I believe there are not less than 400 acres within two miles of my

bees; there are some very large fields that have not been cultivated for two years, and they are just covered with them. The plants are nearly five feet high, and just covered with bloom. During the last week the bees have filled their hives full, and now are working in the boxes; the honey is just as clear as water. When I hold a comb up to the sun, the honey in the uncapped cells sparkles like dew. There is plenty of goldenrod around me, but the bees do not touch it as I can see, and I have watched them very closely. One good thing about the asters is, the bees work on them all day until dark, and it makes a fellow feel good to see the bees come home so heavy laden that they fall down a foot away from the hive, and then crawl slowly in.

WILL A. HAMMOND.

Richmond, Va., Sept., 1882.

You are quite right about your last observation, friend H. I did not before know that honey from asters was white honey. Has that been the experience of others? We have asters about here; but although the bees are on them sometimes very thickly, they have never got enough honey from them to be noticeable in the hives. Perhaps the peas, like other plants, do not always yield honey alike; and if the asters yield so much this fall, it is quite likely they neglect the peas, even though they do contain honey.

HOW THE OLD-STYLE BEE-KEEPERS WERE MISTAKEN.

I started this spring with 11 swarms of bees, two queenless; the 9 increased to 25 good swarms; my first came the 9th of May. I took about 100 gallons of extracted and 500 lbs. of comb honey, all white-clover, as we have nothing else to produce a surplus. I had the same experience you had in commencing bee-keeping. The old-style bee-keepers told me the day for bee-keeping was past, as the land was cleared up. They now commence to open their eyes. I have introduced alsike clover among the neighbors, and my bees will have 20 acres within their range.

CANS FOR RETAILING EXTRACTED HONEY.

Do you keep for sale 10-gallon tin cans, with honey-gate attached, so they can be filled and set in groceries for retailing? It makes the extracted cheaper for the poor man, than to sell him a can with every few pounds.

CLEMENT KINTNER.

Carrollton, O., Sept. 20, 1882.

The cans on our 75-cent counter, which are intended mainly for flour-cans, are now being used considerably for extracted honey. We can put in a honey-gate for 75 cents more. They differ from the ordinary 100-lb. cans, in having a tin cover the whole size of the top. This arrangement is much better liked for candied honey than the cans with the screw caps, because if the honey becomes so thick in cold weather it won't run out of the gate, you can take the cover off and scoop it out of the top, so as not to keep your customer waiting.

COMB HONEY; HOW TO WHITEN THAT WHICH IS DARK, ETC.

I should like to know if there is any way to whiten section-box honey, darkened by bees crawling over it; also putting propolis in comb after capping. My bees are slow about filling sections out to corners and capping all cells; so if I leave them in the hive to be properly filled, they soon become dark, and are unsalable. If there is any prevention or remedy, I want to use it. Bees use a great deal of prop-

olls here, making it difficult to take the sections out of frame. Why is it the bees do not finish the sections full? There is plenty of honey coming in. They work readily in boxes. Is there any way to compel them to build less drone comb? Mine will build but little worker, therefore I have too many drones. I have used fdn. largely, and even with that they will have drone comb, but not so much. I had two queens in a hive this summer, both laying at once. I took the young one away, putting it with a queenless colony having a fertile worker that would not raise a queen—not even accept capped cells; but after the queen was caged in hive 24 hours they accepted her, and she was laying the next day. The old queen does not seem to be failing; she is the one you sent me over two years ago. Her daughter is larger and finer looking, but can not produce better bees.

I fully indorse all that the lady says in September GLEANINGS about bee-keeping being *too* hard for women. I know whereof I speak; two years' experience convinces me she is right, although I never lifted a hive full of bees or honey. I have tried both artificial and natural swarming. I find the frame of old comb tied to a light pole to be perfection in getting swarms to cluster. Thanks to the one first suggesting it.

D. C. AYARS.

Moawequa, Shelby Co., Ill., Sept. 9, 1882.

"SQUEAKY" SMOKERS.

Inclosed please find one dollar, and send me a Clark smoker, with the spring on the *outside* if you have such. My Simplicity makes a squeaky sound, and the bees try to sting it, evidently under the impression that it is some kind of animal, and I can't get at the spring to oil it.

C. S. CALLIHAN.

Jem, Clark Co., Mo., Sept., 1882.

Your idea seems to upset the theory that bees don't hear, friend C. Well, you can oil the outside spring, just as often as you choose, and I don't think you will ever find it squeaky.

I am now within 7 miles of S. I. Freeborn. He has about 400 swarms and 25,000 lbs. of honey. I have been at a bee convention since I came here. There were about 20 present. They discussed subjects, among which were "Marketing Honey," "Swarming," "Preparing Exhibitions for the Fair," etc. They meet again the second Tuesday in Dec., to discuss wintering and preparing for winter. It goes by the name of "The Progressive Bee-Keepers' Association." They meet at this place.

C. W. WHITE.

Richland Center, Wis., Sept. 30, 1882.

HONEY-DEW, AND THE HONEY OF A NICE QUALITY.

Since reading the reports of honey-dew, I thought I would say something about it. There has been dew on the black-walnut trees here almost two weeks. I have stood off from the tree 15 or 20 feet, and the leaves fairly glistened. Some leaves were entirely covered, and some had only small splotches, and others had full-size drops—so much so I could get quite a good taste of it. It is sticky, and looks something like white-sugar candy before it gets hard. Bees were working on the leaves.

HONEY FROM SPANISH NEEDLE.

Bees are storing honey very fast also from Spanish needle. It is just splendid. I like it better than basswood or clover honey. It is of a yellowish color. I guess it is Spanish needles; for when the bees

go into the hive they are all covered with yellow dust. Do the Spanish needles yield honey every year like this?

TAKING BEES THAT ARE TO BE BRIMSTONED.

Well, now I'll say something about my good luck (or bad), as time will tell. Yesterday I went to a farm some 4 or 5 miles southwest of here, in the bottom, where my father bought two stands of black bees at a sale, paying \$8.00 for them. While talking to the lady of the house, she told me that her husband had just killed two stands of bees that morning, and would kill another one next morning. I inquired what she would take for the bees, and let me take them that evening out of the hive. She looked around at me for almost a minute.

"Why, you can *have* them, and welcome," says she; "but you will surely get stung."

Says I, "I guess not much."

So I bought one of the hives they had killed the bees out of, in the morning, paying her a dollar for it. It was not long till I had those blacks out of one into the other, and did not get stung either. Now I must say they are a very fine colony, for there were 12 frames, 12x14, full of honey and brood; 4 boxes on top, 6x6, almost full of honey, and there was a good peck of bees underneath the hive, building comb and storing honey. Now, would you call this luck or not?

J. A. THORNTON.

Lima, Ill., Sept. 13, 1882.

HONEY-DEW FROM TOMATOES.

To-day, while my pickers and myself were engaged in picking a two-horse wagon-load of tomatoes for that place, Rockvale, where your railroad agent declares there is no such station, and caused my freight to be sold at Denver, I discovered on the plant's a great deal of sticky matter—so much so as to be disagreeable picking; and looking about the vines I saw some leaves quite full of a white substance, and also the ground was perfectly white underneath, while the honey-bees kept up a perfect roar all through the patch, and I soon discovered it to be the so-called honey-dew in a granulated form. So I went to the house and got a table-spoon and a dish, and began to dip it up, and here is some of it for you to see, just as I dipped it up. Some of my pickers can not be made to believe any different than that it falls from heaven. If so, I must be one of the chosen ones.

H. H. C. BREECE.

Wetmore, Custer Co., Col., Oct. 3, 1882.

The granulated honey-dew come to hand, friend B.; but if the bees make no change in it, I certainly want none of the honey. I didn't get the taste of it out of my mouth for some time. Many thanks, nevertheless.

LAYING QUEENS TAKING AN AIRING.

Seeing in several issues of GLEANINGS communications in regard to queens flying after fertilization, let me say it is by no means an uncommon thing, at least in our apiary, and I judge must be so in others. I have frequently failed to find the queen in queen-rearing nuclei during the pleasantest part of the day, generally from 11 A. M. to 4 P. M., and at first I was puzzled when, later in the day, and early in the morning, I could always find her. Concluding that she was out, I have time and again placed a wire cloth over the entrance, and in the majority of cases have found her ladyship trying to gain admittance in from 15 to 45 minutes thereafter. Since proving to my satisfaction that young laying queens do fly

out occasionally, and I have had them do so when laying 3 weeks, I have given it no further attention, and do not know whether it is a peculiarity of some strains, or whether it is more frequent in certain seasons. The queens were all daughters of an imported Italian mother. I am inclined to think that young queens, not fully occupied in laying, frequently take a play, and perhaps old ones may sometimes in the spring.

T. L. VON DORN.

Omaha, Neb., Oct. 10, 1882.

THE GOOD CANDY.

You need have no fears about the bees digging the Good paste to pieces, causing the sugar to rattle out of the cages. Their *being able* to do so, however, is one of the good features about this feed. I have experimented by keeping queens caged ten days or more, and find that they dig away only the sugar as fast as it becomes dry of honey; and as long as there is any honey in the sugar they are all right.

TO PREVENT SECOND SWARMS UNITING, AND DRIVING THEM BACK TO THEIR HIVES.

I had two swarms come out at the same time, with virgin queens, and unite. Having my smoker ready, I waited until they commenced to cluster, when, as an experiment, I thought perhaps I might not only prevent their clustering together, but drive them back to their hives; so I gave them plenty of smoke, and had the satisfaction of seeing them divide; each swarm with its queen returned to its hive, and remained, of course, as I had, while they were out, opened the hive, and destroyed their queen-cells. I don't know if this plan would work successfully at all times or not; and as this was my first experience in this direction, I rather feared that perhaps I might succeed in driving them to the woods. But as experience keeps a good, though dear, school at times, I made the venture. Who can tell us more about this matter?

TESTING TIN CANS BY VACUUM.

Being a tinner by trade, I will give you the plan we used to test our fruit-cans with at the shop. Get a thick piece of harness leather, a little larger square than the mouth of your cans. Next place a lighted lamp or candle in front of you, and a cup of alcohol at your left. Now with a bit of sponge touch the alcohol, then the candle; drop it burning into the can, and place the leather (previously softened with water) over the mouth of the can, and hold it down to exclude air. The burning alcohol destroys the air in the can, forming a strong vacuum. After two or three seconds (not longer), if in pulling off the leather it comes off with a sharp crack, or report, the can is tight; while those from which the leather comes off easily, without resistance or report, are faulty. Such can be quickly tested, and the leaks found, by applying your mouth to the seams, and trying to suck air through them. I think, after giving this plan a trial, and "kind o' get the hang on't," that you will like it as being the quickest, neatest, and cleanest.

TO STOP ONE COLONY ROBBING ANOTHER.

I wonder how many of the brethren gave my swarm-catcher a trial this season. Since sending you a description of it and its use, as mentioned in May No., page 219, I have found another use for it; and as the "robbing season" is at hand, I wish others to give it a trial, and report. This spring I had a bad case of robbing. Both hives were large and heavy; and as other means failed to stop them, I began to think I would have to get help to move the

colony to the cellar, when the idea occurred to me to try the swarm-catcher, by placing it at the entrance of the colony that was *doing the robbing*. They made a great ado about it, flying until they were completely tired out, when they finally clustered on the screen, like a natural swarm. I then reversed the catcher and let them run into their hive, and I must say that I never saw a more subdued-looking lot of bees than they were. Did they renew the attack next morning? No, indeed; not they. From their actions, one would think they had concluded that honest hard work gathering pollen was preferable to stealing honey, after the sear they had received.

JOS. M. BROOKS.

Columbus, Ind., Sept. 11, 1882.

The rattling-out of the sugar, and drying-up of the honey, we have obviated by the glass bottle, I think, friend B.—Thanks for the idea on testing cans.—Very likely your plan will stop robbing, for almost any thing that draws their attention to their own hive will break up this excitement. As the swarm-catcher is less trouble than to move a hive, I think it may be valuable for stopping robbing, when we know which hive it is that is "guilty."

CALIFORNIA PRIVIT.

Since my last communication on this plant as bee pasture, I receive lots of letters and cards; the friends taking it for granted that I am an M. C., and have the franking privilege at home during the recess, and no campaign work to do; but this, I suppose, is the penalty for not minding one's own business. One friend demands why it was not "found out before." Well, I must let his *why* reverberate away back to Columbus, and the reply will probably be, "The other fellow didn't do it." I have a small stock of the privit, but do not care to sell them. Let G. W. A., of Indianapolis, apply to his nearest nurseryman, and he can no doubt procure them for him. To those who can not obtain them thus, I will sell a few hundred cuttings in the spring; or to the Southern friends this fall, in the same way, I will furnish a few of the *symphoricarpos*.

Stelton, N. J., Sept. 9, 1882. G. W. THOMPSON.

BONESET OR THOROUGHWORT.

I inclose you a sprig of a weed that grows in great profusion here in lawns and vacant patches of ground, in wet seasons like this. It grows about 4 ft. high, and blooms from August till frost. My bees are getting about as much honey from it as they did from the linn. It has a rich yellow color, but not as good flavored as the linn honey. I am out of vessels to hold the honey, or I could have had two or three hundred pounds of it by this time. I took 50 lbs. (extracted only, from upper stories), the other day from two stands.

EXTRACTED AT 12½¢, AND COMB HONEY AT 25¢.

I think I will run a part of my apiary for comb honey next year for the McAlister market, where it sells for about 25 cts., when the extracted honey will bring about 12½¢. Do you think it would pay me to quit extracted for comb honey at the above prices, the distance to market being about 90 miles?

Poteau, Ark., Sept. 16, 1882.

H. C. BETHEL.

I would raise comb honey, friend B., at the prices you mention, even though I had to carry it 90 miles.—The plant you send is a very common one, although it does not always yield honey in paying quantities.

Bees are now making up for the time they lost in spring. My wife's stock is in better shape to-day than it was a year ago. But I find that those who usually let their bees take their own course are coming out very poorly, and say they can not see why they get neither honey nor swarms. Our bees have swarmed well enough, and are filling up every spot.

A CROOKED QUEEN.

I looked at one swarm to-day that took me back a little. It sent out a swarm the 3d of June. I put the surplus case on July 1st; took it off the 25th and put on another one, and took it off to-day, and found every thing all right but the queen, and still she must be too; but she was all crooked up, and did not seem to have any wings on her. She looked like some little old woman all drawn up.

I think the little feeding I did in spring will bring back double the amount spent. My wife has 54 colonies. I shall go into winter quarters with about 30. I shall have sold 20 as soon as they can be moved, and every one goes into chaff hives. Bees are at work on the large heart plant and fireweed, and they do get lots of honey from them. I went out last week one morning to cut and pull up a large patch, and I believe there was a good swarm on three rods square of it. I told my wife I should sow some another year, instead of cutting.

EMPTY COMBS IN THE CENTER.

— What do you think of the plan of extracting the center frame in hives, and putting the dry comb back with three or four holes cut into it to let the bees pass through? I fixed three that way last year, and I think they come out with more bees. It gives them dry comb to cluster on, and they can get at the honey through the holes. I also wintered some with 7 frames; took out two on side ones, then put back in spring. But last winter was one we can not depend on having again this year. I guess they came through anywhere and almost anyhow.

A. F. EILENBERGER.

Ladsburg, Pa., Sept. 5, 1882.

Friend E., you can't always tell by her looks what a queen may do, any more than you can tell about some people by their looks. Such queens as you describe are often the mothers of some of the very best honey-producing colonies.—Where the bees have their hives filled up solid with honey, it may be an advantage to put a couple of empty combs in the center of the brood-nest; but we never have that state of affairs in Medina County.

THAT SYMPHORICARPUS.

As I set that *symphoricarpus* ball in motion, I feel interested that it should keep right on. As things look now, we are likely to have too much of the vulgate in it. Whether it be the doctor, Freddie, yourself, or I, or all four together, it has got switched off the track. It must be spelled *symphoricarpus* — not *symphora carpus*, much less *symphora Carpus*. The doctor is right, in the main; it comes from the Greek word *phoreo*, to cluster together, and *carpos*, fruit. Like so many of our words or names borrowed from other languages, although composed of two words it is only one name. Its varieties, *racemosa*, *glomerata*, *occidentalis*, etc., are added, and always commence with a small letter, except the variety when named after a man or place; as, *symphoricarpus Sweetii*.

Stelton, N. J., Sept., 1882. G. W. THOMPSON.
Many thanks, friend T., for your correc-

tion, although the error began with yourself, as you wrote the word in your note on p. 513, Oct. No., as two separate words, and the JUVENILE was led into the same error for the same reason. It will appear as one word hereafter, properly spelled.—The meaning of many botanical terms is involved in uncertainty, and it is sometimes difficult to get at the Greek derivation; and although your definition or the doctor's would describe the plant very accurately, he says yours is more correct, upon further investigation.

SALT WATER FOR BEES.

I think salt water a necessity for bees in the breeding season. My 153 swarms have been carrying away about three gallons per day since the first of June. That amount of water contains a good handful of salt. We have been giving salt water in this way annually for 18 years. When the salt-feeders are empty, the bees swarm around the dung piles in the feed yards. To explain this: About five barrels of salt are used in salting our hay in mows. When this hay is fed in winter time to the stock, it is fed in racks 32 by 8 feet, surrounded by an offset of about 16 inches, to keep cattle from boring into the racks. By spring these racks are surrounded by embankments of hay and dung from two to three feet deep. From these piles, containing much of the five barrels of salt, a continual sipping takes place. The bees can be kept away from these piles only by keeping the feeders filled with salt water. When feeding sweets is ended, we continue with salt, etc.

RUBBER FDN. PLATES — A GOOD REPORT.

We made up over 200 lbs. of wax on your rubber dies, and were glad to put Mrs. Dunham's rolls aside.

JESSE OREN.

La Porte City, Black Hawk Co., Ia., Sept. 8, 1882.

CROSS BEES, AND A SUGGESTION.

I agree with Mr. Paine when he says, "A cross between the black bees and Italians are cross." One of our neighbors calls them yellow-jackets. I have transferred several hives of blacks; they are usually quiet, but hybrids or Italians gather the most honey. But Mr. Williamson, in August GLEANINGS, seems to think that clipping the wings of a queen will produce wingless bees, and bobbing the tails off dogs will produce tailless dogs. Why not bob the sting of a queen, and produce stingless bees? Mr. Paine, shall we try this? If the rule works one way, why not the other?

JOHN MCBRIDE.

Fredericksburg, Wayne Co., O., Sept. 25, 1882.

BE NOT WEARY IN WELL DOING.

This season in Minnesota has been a very remarkable one for bee-keepers. During the spring and early summer it was wet and cold. I felt, for one, I was almost ready to join our Blasted Hope friends. I love, as Mrs. Tupper used to say, my little pets; but, brother, just think; after "feed, feed, feeding," to keep up the "steam" till our usual swarming-time, when I visited my apiary, to find the poor discouraged creatures hauling out their drones! the prospect was bad; but the good Lord has sent us, as Mr. Vennor says, a warm "wave," and along with it a shower of honey, filling our hearts with joy and gladness, fulfilling the promise, "Cast thy bread upon the waters, and thou shalt find it after many days.

A. R. MORE.

Pilot Grove, Faribault Co., Minn., Sept. 16, 1882.

DEATH'S-HEAD MOTH.

To-day we had insects on the brain, and especially the moths, an order of insects called, scientifically, *Lepidoptera*. This has been a good year for moths—better than for bees in these parts. We have never before seen trees and plants so infested by caterpillars as this last season. The consequence is, we have now leafless willows and pear-trees, no cabbage or parsnips; but lots of chrysales hanging about everywhere; even under the eaves of our hives they have spun rows of cocoons. This afternoon we gathered a number of chrysales from various kinds of caterpillars of all sizes. Some were suspended to the ceiling of the honey-house. These had no cocoons, only a thin silken cord at the tip of the abdomen, and fastened to the ceiling (these produce the butterflies, I believe). Some were in cocoons in crevices and corners, and some in the sand. We found one very large one in the barn, about 2½ inches long, which I suspect to be the chrysalis of the death's-head moth.

A MOTH THAT "SQUEAKS."

In the L. U. K. we read this about the death's-head moth: "The insect is remarkable for emitting a plaintive squeaking sound, and is still further interesting on account of the fact that it enters and plunders bee-hives, feeding upon the honey; and although apparently defenseless, it enjoys perfect impunity whilst ravaging the stores of creatures so well provided with formidable weapons, and generally so ready to use them against an intruder. No explanation of this fact has yet been produced."

It is said, that the large ugly green caterpillar found on potato-vines is this insect in its first stage, and also that the perfect insect measures five inches across the wings. Have you, Mr. Editor, ever seen or heard of this moth making raids on bee-hives? Our curiosity is awakened, and we should like to know more about this insect.

HYBRIDS AHEAD.

We have not yet had frost here, and the bees are still at work bringing in pollen and honey. Hybrids are ahead with us. Our hives of mean pugnacious hybrids have gathered 50 lbs. of honey more than the best Italian.

STILL ANOTHER FEEDER WANTED.

Now I have a feeder in my mind that I wish I could give shape and reality, so that I could put one on each hive. The idea is this: A tin box somehow fixed into the center of Hill's device, that will hold about half a pound or little more. Then I could put the muslin right over this Hill's device, with a hole over the box, which should have wire cloth. Then all one has to do is to raise the chaff cushion and pour in a little feed—just the thing for breeding up in spring, or for feeding at any time during winter, and doing it so quietly that it will not disturb the bees. If I had such a concern on my hives, I believe I would take 10 lbs. of honey out of each hive, sell it, put the money in my pocket, and then toward spring feed syrup. S. J. H.

Spotswood, N. J., Oct. 12, 1882.

I have never heard of the death's-head moth about bee-hives. Perhaps the remarks you mention were written before the advent of Italians, and for warmer countries, where the moths are more mischievous. I confess I should like to see a moth that could "squeak."—The idea of a feeder in this wintering-nest has often been suggested,

but if I am correct, any solid substance interposed here would defeat the purpose of the Hill's device, because it would carry off the heat. A block of candy laid under has been used, but I would not think of putting in any thing like a tin box. Permit me to suggest, that you have a little dish ladle, or spoon, that will hold just as much tolerably thick syrup as can be poured right on the frames and bees, without running out at the entrance, and then, for stimulating, just raise the mat and pour it over them, say once a day. This will start brood-rearing nicely, and you don't need any feeder at all. D. A. Jones does all his feeding in a similar way, by having tight bottoms to all his hives, and the entrance tipped up a little the highest. Feed all at once, toward night, and there will be no robbing.

HONEY FROM THE MAMMOTH SWEET CORN.

I have often seen accounts of bees working on corn, but never had much faith in their getting any thing of any account but pollen until this summer, when I planted several patches of the Mammoth sweet around my house. I began to observe when the corn was not over a foot high that the bees made quite a buzzing around it, which was kept up until it began to ripen. I began to question whether they got honey or only water from it, and came to the conclusion that they got honey or sweet water, and not from the tassel or blossom either. I could occasionally see one alight on the leaves when the dew was on, and sip from a drop of dew; but most generally they would hunt around the root of the leaves, where they leave the stalk, and stick their tongues in around the stalks, and they did it in such a way that I fully decided they got something sweet in paying quantities, for they kept it up when there was quite a plenty of honey coming from other sources too. Have others observed the same?

WHITE-CLOVER PROSPECT.

If the present growth of white clover is any indication of a good clover season next year, we can soon set our coopers at work making barrels for our next year's crop, or we can not get enough when the time comes, for the whole ground in this section is one great mat of it, as thick as hairs on a dog, and 6 inches to a foot high. It is so all over.

I will give my season's report when I have my bees all put up for winter. A. A. FRADENBURG.

Port Washington, O., Oct. 9, 1882.

DRONES FROM WORKER EGGS, AGAIN.

On page 502, Oct. GLEANINGS, you ask me to state whether the queen produced worker brood both before and since I made the change. I answer, she did, both before and since. She was about a month old at the time I transferred them, and young queens do not lay many *drone* eggs; and this colony, although very strong, has never had any drones, except the two frames spoken of. You say, "The experiment proves nothing conclusively." Why not? Does one have to prove any thing a dozen times to be sure of it? Not knowing myself, I will ask how it is possible that the egg formed in the ovary of the queen, incased as it were in a soft thin shell, can be changed in making its exit. It seems to me more reasonable that the first food taken by the minute larva determines the sex. This holds good in regard to queens; for if you wish good queens they must be *hatched* as queens, otherwise

they will be part worker. An egg from a fertile queen will hatch a queen, drone, or worker bee; an egg from an unfertile queen will hatch a drone only. Is it not plain, that a hen will lay eggs without ever having seen the male? But those eggs will not reproduce their kind. Let any one take some fresh-laid eggs from worker-cells, put them into drone-cells; mark the cells, and see if they hatch worker bees. The difference in size of cells is only to accommodate the size of bee, just as the queen-cells are made to suit the shape of the queen.

J. S. TADLOCK.

Luling, Caldwell Co., Texas, Oct. 9, 1882.

I think you should read the Dzierzon Theory, friend T. If I am correct, moving the egg to a different cell does not alter the sex. A worker egg will be a worker still, and a drone egg a drone still. Every egg has a little opening near one end, called the micropyle, and it is through this opening that the spermatazoa is supposed to get, as the egg passes the oviduct of the queen.

QUEENLESS COLONIES; DO THEY KILL THEIR DRONES?

Did you ever know a queenless colony to kill off its drones before accepting a new queen? A few days ago I lost a queen, which died leaving plenty of newly laid eggs, and a large quantity of brood in all stages in the hive. Prior to the death of this queen, drones had been allowed to enter and leave the hive at their pleasure; but the very next day after the queen died, the workers began driving them out as fiercely as I ever saw done. Thinking this might be a case of dual queens, I opened the hive and found they had formed quite a number of queen-cells, thus showing that they knew of the loss, but no second queen was there to be found. I have placed a new queen on the frames, not yet accepted, but the hive has been completely cleared of drones. This is my first experience of this kind, and it is certainly contrary to the accepted idea; but the more experience I have with bees, the more fully I am led to believe that many rules heretofore laid down as infallible are subject to enough exceptions to leave me in doubt as to their correctness, if not to fully disprove them.

I should call the above, friend P., a sort of aberration of instinct. I never noticed a case of the kind.

SALT — BEES NEED IT AT TIMES.

During the summer I have kept jars of clear water on my feeding-boards, which have been visited more or less frequently; but for the last two weeks scarcely a bee has been seen on them. A week or more ago, in filling I put a small quantity of salt in each of them, and found in less than two hours that the feeders were completely covered, and so continued until the jars were exhausted; and on refilling, the same state of things continued. The colonies are raising considerable brood, and perhaps that is the cause of their taking it so freely; at any rate, I have taken the hint, and in future shall keep them constantly supplied with a jar of weak brine, believing that it will be a benefit to them; for if they do not need it for some purpose, they certainly would not have taken it so voraciously.

DO BEES EVER KILL A QUEEN BECAUSE SHE PERSISTS IN LAYING FREELY WHEN NO HONEY IS COMING IN?

I have lost several queens this season, none of them over a year old, and all have died leaving plen-

ty of eggs and brood in all stages in the hives, and showing no signs of premature old age, or that they were killed off in order that they might be superseded. As they all died just after a flow of honey had ceased, showing no evidence of failing powers, I am led to conjecture that they were killed on economic principles, not being able to discover any other possible cause. When a queen suddenly dies, we can usually discover some cause that will account for death; but in these cases, all were laying freely up to the very day and probably the very hour of death, judging from appearances — no drone eggs being laid, no queen-cells building, and no robbers had been having access to the hive. If any one can account for these deaths under these circumstances on any hypothesis other than the query that heads this article, I shall be very glad to have them do so; for I must confess, that I am completely puzzled; and while it seems contrary to reason, and all known rules, I am led to this solution of the problem as the only one that I can figure out. Can any one aid me in the matter?

J. E. POND, JR.

Foxboro, Mass., Oct. 14, 1882.

I can hardly accept your explanation, friend P., and yet I can give no reason for the sudden disappearance of a good queen in the full season of egg-laying. We might explain to our readers that the queens alluded to by friend P. were all of them our tested \$3.00 queens. I hardly need say, that the queens that live to be three or four years old are just as often found among those we grade at a low price, as any other.

PENNSYLVANIA NOT TO BE PUT IN "BLASTED HOPES."

On page 513 of Oct. GLEANINGS appears a letter by A. A. Harrison, McLane, Eric Co., Pa., in which he says: "Count Pennsylvania out this year." I think this is rather presumptuous. Is a State of 46,000 square miles to be "counted out" because one of its inhabitants failed? I do not know of any members of the Philadelphia Bee-Keepers' Association who have a "Bonanza" to report; but not any of them have done so poorly as to be counted out; for my own unsolicited report, I refer you to the *American Bee Journal*, Aug. 30, page 549. Friend Root, I think you owe the bee-keepers of Pennsylvania an apology for allowing such a letter to go into print.

Philadelphia, Pa., Oct. 16, 1882. F. HAHMAN, JR.

All right, friend H. I beg pardon; but at the same time I don't see that I have made such a very bad mistake, if I have succeeded in calling out Pennsylvania, and waking her people up. On referring to *A. B. J.* we find your report sums up, 3 colonies were increased to 12, besides giving 100 lbs. of honey. Now, who else did well in Pennsylvania?

A BEGINNER'S TROUBLE WITH ROBBERS.

I am one of the A B C scholars, and at the foot of the class. Last March I purchased one colony of bees, and by buying 3 queens and natural swarms I now have six. Every thing went smoothly until the flow of honey ceased. They then began to fight. All I knew what to do was to watch. They were fighting all along the line. I supposed they were robbing, but could not tell what to do. I then began to feed outdoors, 3 rods from hives; and as long as I kept up the feed they were quiet; but stop half a day, and they were at it again. They have been confined to their hives for three days by cold, but to-day they

are out and at it again as bad as ever. If you get this in time, please tell us in GLEANINGS at the foot of the class what to do. It may aid us in the future.

Well, I do not know but that I should keep on feeding, if that kept peace in the family, friend B. In the first place, you must see that every hive has a good queen, brood in all stages, plenty of bees to defend their stores, and a narrow entrance to enable them to keep thieving bees at bay. Now watch each hive, and make them take care of their stores. When each one does this, there will not be any more trouble. It is probably one weak colony that is to blame for all the trouble, and you must make this weak one strong, or unite it with one of the others.

How many pounds of honey does it take to keep an average colony from now until spring?

La Veta, Col., Oct. 19, 1882.

E. BURCH.

Perhaps 20 lbs.; 25 will do no harm.

QUEENS FROM DRONE EGGS.

You say in A B C book, also in Oct. GLEANINGS, that in no case will bees make a queen out of drone eggs. Now, I am satisfied *you are mistaken*. I took a frame of drone comb with eggs, in all stages up to hatching drones, put it in a new hive with two frames of foundation, moved a strong swarm, and set this in its place, and they made 6 queen-cells. I cut out two, gave them to a queenless hive, and they hatched as fine a queen as I ever saw; both have filled a Simplicity hive full, top and bottom. They are my two best out of 30 stands.

My bees have done the best this year they have in 20 years. If I succeed in wintering them I shall want 50 hives next spring. I am well satisfied that the queen's eggs are all exactly alike; all the difference is in the feed and make-up. The bees can make *just which they please*, whether drone comb or worker. I have had queens, drones, and workers, all in a little piece of worker comb.

A. BIXBY.

Foristell, Mo., Oct. 11, 1882.

Friend B., we shall become the laughing-stock of sensible men by the recklessness of your theorizing, if you don't have a care. Why do not the bees rear workers from the eggs of a drone-laying queen, or even a laying worker, if they have the power? Your frame may have been all drone comb, and it may have also contained drones in all stages of development; but it surely had also eggs that would have hatched workers (they *may* have been in drone-cells), or you would never have seen a *queen* emerge from the queen-cells built. An egg is not changed by moving it to a different kind of cell.

MAKING WAX SHEETS — A SUGGESTION.

I have just made some wax sheets for fdn. by a new process, which I think will be of value to the bee fraternity. It is merely to have a large surface of very hot water, upon which hot wax (or cold) is put, and allowed to spread itself at will. This it will do, making very even sheets; now allow the water to cool down, or *slowly* add cold water, till your wax is right to be cut into strips for the mill. Draw off the water from *under* the wax. A common deal table, with strips around the outside, three in. high, is all you want for a tank. Knowing the size of your table, say 7x4 ft., you can add the wax so as to make sheets of any thickness desired (to the pound). With your steam system, and a thermometer to tell

just when to stop cooling the wax, you could make more sheet wax this way than by any other. I have good reasons for thinking that this wax will work better, and sag less, than the old dipped sheets. By cutting the strips the long way of your "billiard table" you can run strips through the mill seven ft. long; this you can see will also expedite the process of fdn. making.

F. DELLA TORRE.

Reisterstown, Md., Oct. 11, 1882.

We have used the plan you mention, to some extent, friend D.; but if I remember, we did not get a very good surface on the side next to the water. Perhaps we may do better with more care; and I confess your idea of making sheets several feet wide and long is a new one; still, it seems to me the process must be a slower one than the one we now use.

A NOVEL WAY OF TRANSFERRING, INVENTED BY A 14-YEAR-OLD BEE-KEEPER.

Being one of your A B C class, I thought you would like to hear how I got along with my bees this season. I have had very good luck with them, but the honey crop has been considerably smaller than last year; however, I do not grumble, as I think they did as well as they could. I started in the spring with three colonies, two of which swarmed, and the other hung out. The way I fixed the one that hung out was this: I turned the hive upside down and placed a new hive filled with foundation on top of it, and smoked the bees up. They went to work all right, and are now one of my strongest colonies. I sold one colony, and now have five packed in chaff, with chaff cushions on top. I took my honey to the Galt Exhibition, and got the first prize for comb honey, and a diploma for the strained honey. I am 14 years of age, and take care of the bees myself, but my father makes my hives.

ARCHIE G. WATSON.

Ayr, Ont., Canada, Oct. 19, 1882.

WHERE DO BEES KEEP THEIR PRISONERS?

In September last I had two queenless swarms that I had failed to Italianize, so I gave each a black queen. One queen was soon laying, but the other made no sign; so, after duly watching for eggs or a dead queen, I gave them a frame of larvæ, and eggs to raise some more queens. They commenced at once, and made 12 or 15 cells. I saw them after all were sealed up. When it was time to commence hatching, I examined and found scarcely a vestige of the cells, but there were eggs, and next I saw the old clipped queen that I had put in. Now, they had a good fertile queen all the time after I gave them one, but it appears she was not acknowledged, and not permitted to lay; therefore the colony considered itself queenless. Now, why and where was she restrained, and what happy event terminated her captivity.

JOEL A. BARBER.

LANCASTER, WIS., OCT. 10, 1882.

I confess, friend B., I don't know. Had they not started queen-cells, I should have no trouble in explaining the matter, for I should say the queen would not commence to lay so late in the season; but why she should come to life, or wake up after they had got some cells nearly ready to hatch, I can't tell. Can some one else? I might say she was killed, and another queen got in from somewhere; but you say she was clipped, and how could a clipped queen get into the hive just at that time?

QUEEN-CAGES.

I have just this minute received a letter from P. L. Viallon, and here is an extract: "I used the Peet cage for the first time this season, and the reason why I wish to give it up is on account of its being too cold early in the season. I never had so many reports of queens chilled nearly to death. My old cage is very nearly like yours. Last year I mailed 915 queens, and 66 were reported dead. This year I have so far mailed 612, and 7 have been reported dead. From the reports, I see the Good candy succeeds very well, and next season I intend to give it a trial, as it is less trouble to make than mine."

THE TIN SLIDE—AN IMPROVEMENT WANTED.

On page 131, *Bee-Keepers' Instructor*, friend Heddon remarks that he does not consider the tin slide of the Peet as well adapted to the nervous feet of the bees; and I have often thought that this tin slide might not only be "cold for their feet," but, not furnishing them with a secure footing, they are thrown with greater violence against the sides of the cage. A queen, plump with eggs, might get a bad "thump." Who will invent a carpet for covering the tin slide?

Here is a report from a queen sent to California:—The queen came all right—only one dead bee, and feed partly consumed in one space. Weather is cool, and bees very quiet—little too much ventilation for this time of year. I am using the same feed with success. J. D. ENAS.
Napa, Cal., Oct. 8, 1882.

W. Z. HUTCHINSON.

Rogersville, Mich., Oct. 18, 1882.

MORE ABOUT QUEEN-CAGES.

Your card of the 5th instant in regard to last mailing-cage is at hand. I object to the "glass bottles," because they will sometimes break. If a fine queen should cut her foot on broken glass, and die of lock-jaw, it would be sad indeed.

THE PEET CAGE FOR INTRODUCING.

I also object to the Peet cage for introducing, because it does not always work. I had to lose some good queens, and had quite a lot badly balled before I found that it is not infallible. We discarded it early last summer, and introduce our queens now according to directions given by our "old friend Novice." After pulling off the wooden shields from my cage, proceed according to these directions, and you are *absolutely sure* of your queen; she, being over the cluster and under the chaff cushion, can not freeze, and, having a nice bunch of honey in the "Good food," she will not starve, and you can leave her there a month, if convenient to do so.

Kansas City, Mo., Oct. 6, 1882. E. M. HAYHURST.

But, friend H., we have some stout bottles with large mouths, that won't break. Our experience with the Peet cage has been that, in the hands of the experienced, it is by far the most successful way. Where caged queens are placed over the cluster, on the top of the frames, a great many of them are reported dead when they come to release them; and even when there is a chaff cushion over them, they have died much oftener than when caged right in the center of a brood comb, with cells of unsealed honey under the cage. I don't think I shall ever want to go back to our old plan of introducing.

QUEENS NOT TO BE JUDGED BY THEIR LOOKS.

I was much disappointed when I received a queen mailed from you June 14, she was small and black. I thought you had made a mistake and sent a black

queen; but I see by the July GLEANINGS that you do not send out any black queens, and I thought I would wait and see how it would come out. To-day I have the best-looking colony of bees that I ever saw—large, and all have three bands. Sept. 18, I gathered 3¼ lbs. of honey from goldenrod. It has been a very poor year for honey. A bee-keeper near here has 20 colonies, and he has not taken a pound of honey this year, and has had but four or five swarms come out, and that is about the average.

Keene, N. H., Sept. 21, 1882. J. A. BATCHELDER.

THE GOOD CANDY.

The following has been in type, waiting for a place several months, so they say in the printing-office. I give it now to show you friend Good was not to blame, even if we didn't get hold of the good points in his candy any sooner.

CANDY FOR SHIPPING QUEENS; FRIEND GOOD'S WAY.

If you wish to send queens long distances without loss, use granulated sugar, with honey stirred in for feed, and it will go ahead of any thing you have ever tried. You can send queens safely to California without water with this kind of feed. Not much honey in these parts. I. R. GOOD.

Nappanee, Ind., July 25, 1882.

I know by experience the above is good; but as we make our cages, I am a little afraid the sugar might get all rattled out where the queens go long distances; and I think, that during warm weather we would prefer the water-bottles.—The foregoing is what I thought July 25, but I have changed my mind now, as I presume you all know.

A GOOD REPORT FROM MINNESOTA.

We started in the spring with 12 colonies in Simplicity hives, and 4 in box hives. They have increased by natural swarming to 19 in Simplicity and 5 in box hives. We have taken 2788 lbs. of honey, 57 lbs. of comb and 2731 lbs. extracted. The box hives made the comb honey, and the swarms from them made a little of the extracted—not over 300 lbs.; this leaves an average of 200 lbs. for each of the 12 Simplicity hives. The best colony made 340 lbs. surplus; this colony made 70 lbs. in 7 days during basswood bloom. Two others did nearly as well. These three are hybrids. Our bees were all blacks until last fall when we bought a dollar queen and raised six from her. They, of course, produce hybrid bees.

HYBRIDS AHEAD.

Notwithstanding all we have read in GLEANINGS about the superiority of the Italians, we were surprised to find the hybrids so much better than the blacks. They make nearly twice as much honey.

HONEY-DEW.

Between the yield of basswood and fall flowers our bees gathered 325 lbs. of honey-dew. They got it from the leaves of various plants growing in a swamp near by, and also from oak leaves. This honey, like that they gathered at the same time in 1881, is dark and of poor quality. It does not candy in cold weather, like other honey. While the bees were gathering this honey they tracked it into their hives so that the alighting-boards were quite wet and sticky. We noticed that the plant-lice were very abundant on the plants which yielded the honey-dew, but there were frequently no lice on the leaves which yielded the most.

POND BROS.

Bloomington, Minn., Oct. 10, 1882.

I would here direct attention to the great

number of reports in favor of the honey-gathering abilities of the hybrids, several even claiming they gather more honey than the pure Italians. Well, now, one of the greatest objections that have ever been urged against untested queens is, that an inexperienced person might get one, and, not knowing a pure queen from any other, innocently Italianize his whole apiary, raising his queens from a hybrid. Now, I confess I can not see that he has made such a terrible bad job of it, if he does; for almost invariably the result is that he doubles his yield of honey, even if they do turn out hybrids.— I am very much obliged, friends, for your valuable report, and to know that Minnesota has basswood honey yet, even if Hosmer does not tell us any more about it.

REPORT FROM AN APIARY OF 6 COLONIES.

Here is my report for this season:—

No. 1, increase 2, extracted 81 lbs.	\$10 12½
No. 2, " 0, " 320 "	40 00
No. 3, " 0, " 48 "	6 00
No. 4, " 0, " 220 "	27 50
No. 5, " 0, " 221 "	27 62½
No. 6, " 0, " 191 "	23 87½
Total	1081 lbs. \$135 12½
Increase, 2 swarms	10 00
Grand total	\$145 12½

From No. 2 I extracted 12 gallons during 12 consecutive days, when linden was in bloom. No. 3 was nearly destroyed by mice last winter. My bees are black except a few hybrids. G. D. BLACK.

Brandon, Iowa, Oct. 11, 1882.

A gallon a day from 12 colonies is pretty fair, friend B. Wasn't No. 2 one of the hybrids?

HOW TO TRUE A SQUARE.

You say, file a square to true it; but I think that should by no means ever be done; for if a square is filed, accurate work can never be done with it again; for where a square is filed it is made either too short or too long, and always too narrow. Now, as squares often get out of true (at all events mine do, although I have the best I can buy, and am as careful as I can be; but a fall from a work-bench, sufficient to spoil it for accurate work, sometimes happens), I am not able to keep mine perfect for any great length of time without occasionally truing it. The way I true my square, and I was taught to do so by a man of very great experience in carpenter and joiner work, is by taking hold of the *main branch* of the square; and if the tongue has sprung in, as is usually the case, near the end, tapping the end of the tongue on a block of wood until it has sprung out sufficiently. It is best to spring it out a little beyond true, then tap it back true, and it will be more apt to remain correct.

If the tongue has gone out, of course reverse the operation, but by no means ever use a file on a good square. I own a square costing \$1.00, and of the best quality before getting out of order and filing, which renders it now worthless. If you can not succeed with my plan, take it to a machine shop.

DRIVING BEES OUT OF A ROOM BY BURNING SULPHUR.

I have noticed, too, the difficulty you had in keeping bees out of a cider-mill. If you had burned a little sulphur occasionally in the mill you would have had no further trouble. I have kept them out of my kitchen in the month of August, when honey was scarce and they were disposed to rob, and I was

straining honey in the old-fashioned way, within ten feet of a colony of blacks, and with an open window between me and them besides. They came in like a swarm, but a little sulphur sprinkled on the stove now and then drove them out and kept them out. I have never had trouble in driving them out of a room in this way.

INTRODUCING VIRGIN QUEENS.

Introducing virgin queens seems to be attended with loss, though it is at times very desirable to the small bee-keeper. I have never had a failure when I caged my queen and changed places with this colony and another until the strange bees came in in sufficient numbers to confuse both parties, and then letting her go in at the top of the hive. I have not, however, tried this plan often enough to recommend it to others. D. H. PERRY.

Dresden, Ont., Can., Oct. 12, 1882.

Thanks for hints about squares, friend P.; but it seems to me you would need a file to bring the edge of the blade exactly straight again. If I were you I think I would have my tools arranged and kept in places so they would not get tumbled down in the way you mention. Do we not have mechanics who never let their tools get knocked off the bench? How is it, friends?— It strikes me that, unless you make your room so suffocating with the fumes of sulphur you could not stay in it yourself, you will find that bees well started in robbing will push in, in spite of the sulphur. We tried smoke at the cider-mill, but it was too much trouble to keep the smoke going.— I do not think that your plan for introducing unfertile queens can be depended on, for we have tried nearly the same thing. Mixing two colonies, while it answers at times, at other times seems to make them worse. Many thanks for the suggestions, nevertheless.

ANOTHER BIG REPORT.

Bees have done remarkably well this season. I have taken over 6000 lbs. of honey from 54 colonies, and increased to 138; 4000 lbs. was comb, the rest extracted.

HOW TO MAKE RETURNED SWARMS STAY.

I have obtained the best results by returning first swarms, and removing the four center frames of brood, and placing in their stead four sheets of fdn., being careful to remove all queen-cells. Colonies thus treated have given, on an average, over 150 lbs. of comb honey. From the best, I have taken 264 lbs., and I have yet more to take.

HOW TO PREPARE SECTIONS FOR FOLDING.

In dampening your Simplicity section boxes, instead of using a paint-brush, according to directions sent, I simply pour a small stream of water along the joints while the sections are in the box, thus dampening 500 in about 5 minutes.

Sterling, Ill., Oct. 8, 1882.

EZRA BAER.

Many thanks for your valuable facts, friend B., as well as for your excellent report. I have used a similar plan in returning after-swarms; that is, by giving a large amount of room in the center of the hive, and have generally succeeded in making them stay; but others have not succeeded so well. Your plan for dampening the joints of sections is a most ingenious idea, but we rather object to getting the section wet any further than just on the joint, and

it seems as if your way might wet the wood a good way further, unless one were very careful of the amount of water poured on them. As soon as we have another lot to put up, we will give it a good trial, and we tender thanks for the suggestion meanwhile.

A HYBRID QUEEN GIVES 11 COLONIES, AND 110 LBS. OF HONEY IN ONE SEASON.

You seem to like to hear from all bee-keepers, so I will give my experience for this year. I commenced in the spring with four colonies—one Italian, the other hybrids. One was a hybrid received from you June 5, 1881, with one pound of bees. This queen led out her first swarm June 25; another, August 5; 2 second swarms, from the old hive she came from the first time, one second the second time, and the two after-swarms cast one swarm apiece, one the 22d and the other the 23d of August. Now, this is from one to 11, is it not, friend Root, besides getting 60 lbs. of surplus from the old stand, and 50 more from three of the after-swarms. Honey was stored in the brood frames, without any fdn. or comb to start with. Now, from the other three one cast a swarm, and the other 2 did not swarm at all, for I kept taking brood away from them, and they stored more honey than the rest. I built several colonies artificially in July from the colonies that did not swarm. I gave one frame of brood to all swarms to start with, so I have now 19 colonies of bees on 9 frames of brood, and honey to commence the winter with, taken one frame from each colony, so I could spread the others further apart. I have 550 lbs. of comb honey; 375 lbs. stored in L. frames to extract. The rest is in one-pound boxes. I had two swarms in September—one first, and one after. They have both enough to winter on.

J. A. THORNTON.

Lima, Ill., Oct. 9, 1882.

I do a great deal of the work with the bees. Our honey crop is rather poor, but it has been a good year for selling bees and queens. The last order is filled to-day, and I hope no more will come, for there are no more queens to spare. I think there are some of the bees in a deplorable "fix." They didn't keep enough honey down stairs to winter on, but there will be enough unsalable honey to feed most of them. They are getting some honey from the red clover. Inclosed find seeds of a good honey-plant. What is it?

EMMA VANKIRK.

Washington, Pa., Sept. 22, 1882.

Thanks, friend Emma, for your report. The plant you send is the well-known motherwort.

FRIEND FOX'S STORY.

YOU will please now let me unload. I have been loading a long time, and I now have so great a burden I can't carry it any longer.

A DISEASED COLONY.

About the first of July I had a full colony of pure Italians, with a prolific queen raised this year. I noticed the bees, full of honey, would come out of the hive, and try to fly, but could not, and then run as if they were in a terrible hurry, climb up on a weed or something, and try to fly, but fall down and run again, stop occasionally and wipe their mouths with their fore legs, and brush the abdomen with the hind legs, as if daubed with honey. I examined them with a glass, but could see nothing on them.

The yard was full of bees running in all directions. None of the other colonies were affected. I found the hive queenless, and the larvæ dried in the cells. A great deal of the capped brood was dead in the cells, some partly gnawed out, with their tongues sticking out, dead. I gave them brood, but they would not raise queen-cells, and even let the larvæ all die. In a week it became so reduced I took the upper story of honey off, and part of the combs of the lower part; put the bees in a 6-frame nucleus, and in a few days I feared my bees might rob it, and I carried it to the woods and hid it in a thicket. I kept giving it brood, and finally a hybrid queen, and it is now a fair nucleus, and every thing all right, but I think every old bee left and died.

INTRODUCING QUEENS.

About 3 weeks ago I got 3 queens from Hayhurst, and introduced them *a la* Benton, which I wrote you some time in the spring was an infallible way. The next day after releasing I found the three balled. I cut down cells, re-caged, and tried again. The next day after releasing I found one received right. The other two balled; re-caged, cut down cells, and tried again. Next day, after releasing, I found one balled, and I caged her; the other was in a bunch of bees on the bottom-board, dead. I then introduced the balled queen according to *your safe way* detailed in the A B C, and she now has a pretty fair colony working all right. Now, friend Root, I have followed Benton's way for 8 years, and never have lost a queen till this, and I will now haul down my colors, and say that it, too, won't work at *all* times.

QUEENS MATING THE SECOND TIME.

About ten days ago I received a Holy-Land queen from I. R. Good; and for fear I might lose her in introducing, I adopted your safe way again; i. e., put 3 frames of hatching brood into a nucleus, and turned her and her bees in, etc., and she has not yet laid an egg. The Hayhurst one commenced laying in the cluster the next day after being put in.

Yesterday afternoon I opened the nucleus, and she had just returned from her *wedding flight*. The marks of copulation were on her as plainly as I ever saw them on any queen, and the bees were chasing her on the combs to remove it, which I have always found to be the case on such occasions. In an hour after, I looked again and the white substance had about all disappeared. She is a little bit of a thing, like all virgin queens. Her wings don't rest on her body, but she carries them erect. Friend Root, you can tell a virgin queen as quick as you get your eye on her, and so can any body else who ever raised many queens, and has noticed them as closely as I have. I am not going to accuse Mr. Good of sending me a virgin, and yet such a one might have been introduced as I introduced this one. When the queen came to hand she evidently had been a laying queen; her abdomen was plump and somewhat distended, but not so much as a queen is when they are taken from a hive. I have kept laying queens caged as much as a week at a time, and they will never look like a virgin queen, and therefore I know this one was once a laying queen, and must have lost her fertility *en route*, and re-mated.

TOBACCO.

I am now 59 years old. I commenced the use of tobacco when 20 years old, and have faithfully followed the habit ever since, chewing but not smoking, and the habit has grown on me so that I could chew up almost as much tobacco as a cow would of

bushes. I have read your tobacco accounts, and have studied about it, but I thought I was too old, and could never quit, and that it would be useless to try, for I have but a few more years yet to live any way, and I might as well gratify my appetite. Last April I gave the matter a serious consideration, and I determined to make an effort to quit it, and I have proved faithful so far, and, by the grace of God, I hope I shall never be tempted to use it again. Sometimes, however, I get pretty "bad off," and will then get some oak leaves and chew them up, and that satisfies me. Now, I am not telling this for you to send me a smoker, for I don't think I ought to be paid for doing right; but I relate it so that others may see what can be done, even in old age. My former weight was about 165, now between 190 and 200.

Oct. 13 (evening). Holy-Land queen not laying yet. I have been to a neighbor's to-day; his, of the same lot, is not laying yet. I can not say whether the other three are laying or not, for I have not seen the parties. Is it not unusual? S. C. FOX.

Maysfield, Milam Co., Tex., Oct. 11, 1882.

To be sure, I will let you unload, friend Fox, every time you come with as many valuable facts and good ideas as you have this time. The disease you describe is one that is nearly allied to the nameless one I describe in the A B C. We have also had several reports quite similar to yours, but most of the affected colonies have, after a time, recovered just as yours did.—Your experience in introducing is like that of many others. Even though we have not had a failure for 8 years, it hardly justifies us in saying our plan will *never* fail.—Your statement of the queen mating the second time exactly agrees with the experience we have had in our own apiary. I am now well satisfied that laying queens do, sometimes at least, go out and get fertilized a second time, after having had a rather long shipment. Without doubt, this very thing has been the cause of unkind thoughts and uncharitable words more than once. It will very likely account for friend Heddon's suggestion, that a pure queen might turn out a hybrid, after a trip through the mails, for no doubt they do sometimes, but it is because of this second mating. I know the queens sent out by friend Good were laying queens, just as well as if I had myself seen them laying. Laying queens do sometimes, in the fall of the year, after they have ceased rearing brood, look to me almost exactly like virgin queens; but whether such do ever take another flight is more than I can say; but I am inclined to think it very seldom indeed, unless they have passed through the mail, been caged, or had some unusual experience.—I presume your closing remarks should be put in the Tobacco Column; but it seems too bad to break the thread of your story by dividing it, and so it all goes in together. May God be praised, that good fruit still continues to be borne as the result of that little simple idea of giving the boys a smoker for dropping tobacco! I thank you, too, friend F., for your kind and encouraging words. If it is not too late when this reaches you, feed your colony, and, if you can, give them some unsealed brood from another hive, and I think you will find the Holy-Land queens all laying all right.



I AM a beginner in the bee business, but have experimented considerably this summer, and also watched my bees very closely, and have taken 100 lbs. of nice honey from each of my young swarms that came out first. I had but one swarm apiece from my old stands. S. SHOUR.

Coloma, Mich., Oct. 11, 1882.

My bees have gathered enough from aster to winter. S. W. MORRISON.

Oxford, Pa., Sept. 28, 1882.

Honey crop is light; 16 lbs. per hive, average, spring count; 100 hives. CHAS. H. RUE.

Manalapan, N. J., Oct. 12, 1882.

FLORIDA.

Bees are swarming and honey is coming in fast. No winter here. G. DE LONO.

Key West, Fla., Sept. 23, 1882.

Bees have done well; over 4 tons from 51 colonies, spring count. Increased to only 60 now.

JOHN A. JENSEN.

Chamalion, Will Co., Ill., Oct. 12, 1882.

I now have 150 colonies of Italians and hybrids. They made about 4000 lbs. of honey from horsemint; are now working on aster and goldenrod.

Bonham, Tex., Oct. 3, 1882.

A. W. EVANS.

I started in the spring with 5 swarms in box hives; have sold 4; gave one away, and have 10 left, nicely quartered in Simplicity hives. I have taken about 250 lbs. of honey, most of it from sections in upper half-stories, leaving frames below well filled.

CHAS. W. KIRK.

Grand River, Indian Territory, Oct. 12, 1882.

I am a beginner in the bee business. I started this spring with 4 old colonies; have increased to 15; got about 200 lbs. of comb honey. This has been a splendid season for bees. There was plenty of honey-dew here. It was on the hickory and oak. The honey is very dark colored. J. E. DAVIS.

Mill Creek, Wis., Oct. 9, 1882.

I started in the spring with two colonies, and now have 8 in good condition, and received over 200 lbs. of nice comb honey. Was not that good, and not an acre of clover in range, or less than 15 miles? I intend to keep most of my honey till about Christmas, for I think I can get a little better price then.

S. C. FREDERICK.

Coal Yale, Cramford Co., Kan., Oct. 7, 1882.

SMOKER FUEL, HOW TO MAKE.

Take 2 lbs. sawdust, 2 ounces saltpeter, 2 ounces common glue, each dissolved in 1 quart of warm water, then mix it and put in the sawdust while warm, and work it well. I then fill paper tubes a little smaller than my smoker; and if well dried, I find it good fuel.

LOUIS HOFSTATTER.

Louisville, Ky., Oct. 13, 1882.

Only one-third crop of nice honey; bees strong, and increased one-half. Hard frost Sept. 22, 23, and 24, and thus I lose my fall honey. Tough!

DR. J. E. BREED.

Embarrass, Wis., Sept. 25, 1882.

HEART'S-EASE HONEY.

Am now extracting heart's-ease honey that is so thick it will not run out of a Muth extractor as fast as we extract, and so have to wait.

Rantoul, Ill., Sept. 9, 1882.

H. M. MORRIS.

The honey crop in this section is short, and the first crop of inferior quality. The later honey is good. Price, extracted, 15 cts.; comb, 20 cts.

Troy, Ky., Sept. 11, 1882.

N. H. ROWLAND.

SMARTWEED.

The bees are just booming down here on the smartweed. They have been on it for about four weeks, and will be on it till frost, which will be five or six weeks yet.

J. P. LYONS.

Budgett, Scott Co., Mo., Oct. 9, 1882.

I put out 21 in the spring; one died; 2 queenless; 50 now all in good order for wintering, and have taken 2200 lbs., mostly comb honey. I think that pretty good for one 78 years old, with one side almost helpless by being paralyzed.

A. HUNT.

Peoria, Iowa, Sept. 21, 1882.

HONEY-DEW IN OREGON.

I heard of an old lady who a few years ago (possibly 1869) spread sheets and table-cloths out nights, and in the morning pressed out the dew, and made syrup of it, (in Clackamas Co., Ore.), and it isn't in Texas either.

E. S. BROOKS.

Silverton, Ore., Aug. 21, 1882.

BEEES NEAR THE ROCKY MOUNTAINS.

I have just started in the business here in the foothills of the old "Rockies;" bought one colony last spring. I now have six. As to honey, I have taken only 50 lbs., but they are storing it now very fast. They appear to do well at this altitude, 7000 feet.

La Veta, Col., Sept. 19, 1882.

E. BURCH.

YELLOW LOCUST.

It will not do to recommend the yellow locust for all localities — here for instance. The borers destroy the trees before they are large enough for fence-posts, and then the roots throw up suckers all over the neighborhood. They are a perfect nuisance, and hard to get rid of.

BURDETT HASSETT.

Howard Center, Iowa, Sept. 21, 1882.

MAKING HASTE TO COMPLAIN.

Here it is now — just what you expected, I will warrant. I wrote you, "Queens laying and brood hatching, and no indication of Italian bees." In justice to you, I ought to say my conclusions were too hasty—all show Italians now, and some of them nice ones too; but it was about 30 days after we saw the first eggs till we saw the first Italians. I thought the dollar-queen traffic was spoiled, but it isn't.

E. S. BROOKS.

Silverton, Marion Co., Or., Aug. 21, 1882.

Our Itallans are doing well. I have one Langstroth and three Simplicity hives; one swarm had two queen-cells, and one hatched, and I cut the other out and put it in the warm kitchen. Pretty soon I thought I would open it, and then wax the cell up again, as directed in the A B C, but the queen was alive, and crawled out on my hand. We have had a

case of absconding in spite of unsealed brood; the bees were wild ones, and demoralized.

Dimmick, Ill., Sept. 1, 1882.

C. F. KELLOGG.

DON'T LET THEM STARVE.

I had 20 swarms of bees in the spring; had to feed them through the month of May to keep them from starving to death. One did starve. I now have 48 swarms; 4 came off the 17th of July; on the 25th of July one of the four had filled the lower story, Langstroth frames, and on the 3d of August I took 56 1-lb. section boxes nicely filled, and it is almost ready to take off again.

J. H. BROWN.

Creston, Union Co., Ia., Sept. 19, 1882.

FROM 2 TO 18 BY NATURAL SWARMING, ETC.

I started in spring with 2 stands of bees; increased to 18 by natural swarming, and all are doing well; had an after-swarm send out two first swarms; did not let any escape. I had first swarm April 9 (Easter Sunday). No feeding was done in the spring nor do we now. Can any one beat it? I stop robbing by cutting a small hole in a piece of carpet, and saturating it with turpentine, and placing it before the entrance, so that bees have to pass through the hole. I prevent jarring by placing a small piece of rubber under each corner of the hive.

Clifford, Ind., Oct. 11, 1882.

W. H. BUTLER.

BEEES AND GROCERIES.

My bees have not done much better than in former years; but my want of honey-making is, not enough time devoted to bees. Running a grocery store and a successful bee-yard is one of the impossible things.

A. W. WILMARTH.

Embarrass, Wis., Sept. 11, 1882.

[As a rule, friend W., I would not advise a man to divide up his energies by two or more kinds of business; but many whose occupation is mostly indoors take up the bees as a sort of outdoor recreation, as it were, and as such they often make it pay quite well. If a man had a large grocery and a large apiary at one and the same time, he would either have to get a competent hand to assist, or let one or the other suffer, I presume.]

Bee Botany,

OR HONEY-PLANTS TO BE NAMED.

STILL another flower to be named. It grows on marshes, and around creeks on low places; it produces nice yellow honey, with a peculiar flavor, which I rather like. It grows from two to four feet high; produces large quantities of honey some falls, in rather dry weather.

Eureka, Wis., Aug. 3, 1882.

ALBERT POTTER.

Answer by Prof. Lazenby: —

The plant is what is commonly called "tickseed" — *Coreopsis palmata* — composite family. Most of the species belonging to the genus *Coreopsis* are natives of the South; but the one named above, and a few others, are found in Mich., Wis., and south-westward. They are mostly perennials — quite showy, many being cultivated. They are propagated by divisions of the root, or by seed. Except as ornamental plants, and possibly honey-plants, the members of this genus are of but little practical importance.

W. R. LAZENBY.

Columbus, O., Sept. 11, 1882.



INCLOSE you an advertisement clipped from the American Poultry Adviser, published at Zanesville, O. Please show up in next GLEANINGS. W. CHAPMAN.

Earlville, Portage Co., O., Sept. 15, 1882.

BIG SECRET OUT.

DISCOVERY IN SCIENCE—TICKLES EVERYBODY.

To manufacture honey on bee principles, at a cost of less than 6 cents a pound. To use it is a luxury and a matter of economy. Nature's process shortened by science. Not artificial or a substitute, but real, pure, sweet, and superior to the average product of the hive. Simple process; 300 per cent profit. Pays big to sell or use in families. Recipe and right of sale, \$2.00. Send for registered letter. CHARLES TAYLOR, Commerce, Ia.

Thanks, friend C., for promptly reporting the coming-up again of an old swindle. Since GLEANINGS began, this same fraud has been several times exposed. The recipe does not make honey, nor any thing like it, and there is no "right" about this, nor any other recipe that is offered for sale. Look with suspicion on every man who wants to sell you a recipe for doing any thing. Our books and papers now contain all that is valuable in this line, and \$2.00 should buy a large nicely bound treatise on almost any subject, instead of paying that sum for a mere scrap of paper, with just a few lines printed or written on it. Journals that give place to advertisements of this class will surely suffer for it, sooner or later.

GIVE PATENT-HIVE MEN A WIDE BERTH.

Mr. J. H. McIntyre came into our neighborhood last March, representing a patent bee-hive, patented by one James T. Fife, Corning, Iowa. He sponged two weeks' board for himself and team, and obtained some two or three dollars in money for bee-smokers and seeds of honey-plants, and two or three 10-dollar notes, and traded the notes to innocent parties, and promised to be back the first of June, then left, and has not been heard from since. I have written twice for information, but can not hear from him. Please give this a corner in your journal, and may be I can hear from him.

WM. MALONE.

Oakley, Lucas Co., Iowa, Sept., 1882.

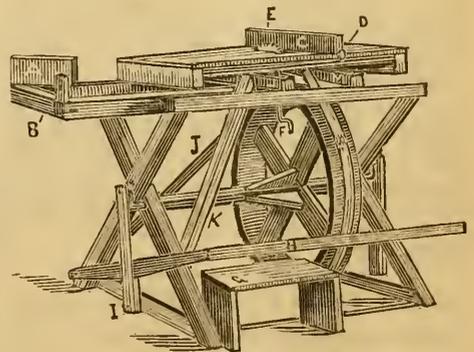
HOME-MADE BUZZ-SAW.

ALSO SOMETHING ABOUT A SKETCHING-CAMERA, AND HOW TO USE IT.

THE evening train of Oct. 3d brought GLEANINGS. While "skimming" it (as I always do before sleeping) I noticed that a picture of my buzz-saw was wanted. For a few minutes I was puzzled. Take that great, unwieldy thing a dozen miles to a photographer's! It would have to be taken to pieces, brought home, and set up again. To get a photographer to come here would cost \$10.00. If only I were artist enough to make a pencil sketch, was my next soliloquism. Then, like a flash, came

the recollection of an artist's sketching camera, that was advertised at \$1.25 in the *Youth's Companion* premium list; but after a thorough search it was decided that the children had had the premium list to "look at the pictures;" only a few leaves could be found, and no camera was advertised upon those. "Oh, yes! neighbor P. takes the *Companion*;" perhaps I can find a premium list at his home;" and with this remark I went to bed to think. The next morning, soon after breakfast, I found a premium list at neighbor P.'s. Out from my pocket came some stationery and a fountain pen. An order was written then and there, and, by taking lively steps, I managed to have it go off in the morning's mail. Oct. 11 (in just one week) the camera came. The next morning I took the "machine" over to the shop, and was not long in making two discoveries: the shop was too small and too dark; and so after all, the saw would have to be taken to pieces and set up out of doors. In about two hours I had it in position out on the "green grass," as the little girls said. The sky was a little "hazy," and the image formed upon the piece of ground glass at the back of the camera was not so clear as it ought to be, and when I covered it with the piece of white paper upon which I was to draw the sketch, I found that it was "no go." But, having gone so far in the matter, I was determined not to be frustrated; so I oiled the paper, and was then enabled to make a sketch without much trouble; although after it was finished I noticed that the oil had caused the color from the pencil to soak into the paper, thus giving the drawing somewhat of a blurred appearance. About noon, the sun came out bright and clear, and I found that I could make a sketch upon clear white paper that had not been oiled, so I made another drawing. Inclosed you will find both sketches.

You asked for a picture in which I was standing at the table, as when at work; but as the least movement would destroy the picture, it would be very difficult for me to remain perfectly quiet long enough to have a sketch of this kind made, while I do not think it will be very difficult to imagine some one standing there at the table, with his "fore foot" on the little bench (G) and his "hind foot" kicking the treadle (H).



HUTCHINSON'S HOME-MADE BUZZ-SAW.

In addition to the description given last month, I will explain as follows:—

The framework that projects at one end of the saw-table is to support one end of a long board, while cutting pieces from the opposite end. The piece A

can be raised or lowered so as to have it on a level with the saw-table. It is hinged at the back end, and is held in position by a thumb-screw that passes through a slot in the standard B. When not in use, this frame-work can be shoved, telescopic fashion, into the rest of the machine. C is a gauge that works parallel to the saw. There is a piece of wood fastened to the back end with screws, that project an inch below the edge of the saw-table, and at the front end is a thumb-screw (D) that turns against the front edge of the table. A piece of hoop iron is nailed against the front edge of the table for the thumb-screw to work against. The saw can be seen peeping through the table at E. The screw that raises the saw-table can be seen at F. G is the little bench upon which the operator stands, while the treadle-bar H comes up *behind* him. The top of the treadle-bar never goes lower than the top of the bench G. In order to make the pitmans as long as possible, a piece of wood (I) is bolted to each side treadle-bar, and to the lower ends of these pieces of wood are fastened the lower ends of the pitmans. J and K are braces. L and M are the pieces upon which the boxes of the saw-mandrel rest.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., Oct. 13, 1882.

P. S.—At the postoffice, 9:20. I happened to think, as I was coming along, that I neglected to say, that in order to make the large wheel heavy, 4 large stones are fastened inside, one at the *edge* of each spoke. These stones cause so many "shadows" that they were taken out when the picture was taken.

P. S. No. 2.—If ever I felt provoked at myself; if ever I realized, to the fullest extent, my *thickheadedness*, it was to-day. One of my younger brothers made me a visit, and, after a few experiments, he demonstrated that the way to make a sketch with the "Artist's Sketching Camera" is to *first* mark the picture, with a pencil sharpened to a pin point, upon the piece of ground glass at the back of the camera, and *then* lay a piece of white paper over the drawing, and the drawing can be seen *very* plainly.

October 18.

W. Z. H.

I am sure we are much obliged, friend H., for the idea of the cheap camera for making drawings of bee implements, as well as for your full description of the home-made buzz-saw. But why did not the makers of the camera send printed instructions for using it, instead of obliging each user of the instrument to work it out as you and your brother have done? or did they do so, and you have improved on their process? In any case, I think you should send them this article, and direct their attention to the matter. Such outlines as you sent will do almost as well for our engraver as a real bonafide photograph, and we will take measures at once to add these little cameras to our counter store.

DRONES FROM WORKER EGGS, AGAIN.

A WEAK SPOT DISCOVERED IN THE CHAIN OF EVIDENCE.

ON the 9th of September I removed a virgin queen from the stock containing my choice drones, and inserted a strip of comb from my breeding stock, containing fresh-laid eggs. I cut it from where I found the queen laying. With my extractor knife I beveled one side that they might the

more readily start cells, and start them all on one side. In a few days I found queen-cells, and I also found them enlarging some of the cells around the edge, as though starting queen-cells. But they built them out horizontally, and sealed them up just like drone-cells. Any one would call them drone-cells. I determined to save them after the workers had all hatched, and cage them to see what manner of beasts they were. So on the last day of September I went to that hive to get my drone-cells, and put them where I could watch them. The workers were just beginning to hatch, and, to my surprise, *one of the drone-cells was also hatching, and it was a worker!* An examination of the other drone-cells showed that they also contained workers. After the worker was allowed to crawl out, the cell looked for the world just as if a drone had hatched there. The cell was both long enough and large enough. One that I opened contained a worker which did not occupy more than half the room.

Now, like Mr. True, I have stated the facts just as they are. But you will observe, the two experiments differ in one essential: I saw the cells in question *hatch*, and he did not. If I had not seen them hatch, and had found drones there not there when I inserted the comb, could I not have asserted that they came from those large cells? And would not my story have been a very plausible one? Well, I did find plenty of drones in that hive not there before. The drones already there were the finest drones I ever saw, and very uniform. But at the time I speak of, there were black drones, and even fertile-worker drones, lots of them. Could not his Italian drones have come from some other hive as well as the black and fertile-worker drones in my case? In my humble opinion, friend True's facts don't include the fact that those drones hatched from those so-called drone-cells. And you will also notice that none of our correspondents on this subject ever mention having seen the drones hatch. Friend Flanagan told you the drone-cells were there for you to make the most of. Why did you not tell him to watch them till they hatched, and then send them to you? I affirm most positively, that nothing but seeing the drones hatch is any proof that workers or any thing else can change the sex of eggs after they are deposited by the queen. I have more on this subject, but will stop for the present.

Mt. Zion, Ill., Oct., 1882.

J. S. HUGHES.

Well and thoroughly done, friend H. This is a most important point indeed. I hope you will excuse me for not telling, until this late hour, that we did watch one lot of drone-cells that hatched out workers. As Ernest held up the comb and pointed to them he said, "Pa, don't you think anybody would have called these drone-calls?"

"Surely, no one could have been *blamed* very much for calling them drone-cells."

"Well, just look here. That worker came out of that cell!"

I at once suggested that this explained the whole matter; but he declared the other drone-cells did hatch drones; and although you may blame me for my carelessness, I can only say, the matter was dropped there and forgotten. Now, don't let us be too hasty, but let us listen to what others have to say to this, and Ernest among this number. It has brought out many valuable facts, any way.

Our Homes.

Awake, awake, put on thy strength, O Zion; put on thy beautiful garments, O Jerusalem.—ISA. 52:1.

SOMEBODY has said, that order is heaven's first law; but before we can have order we must have life and wakefulness. Go into an unbroken wilderness, and all is disorder. It may not be particularly displeasing to the eye, for order is not expected there; but let human habitations come in, and what a great change must be wrought! Without the guiding care of man, what a fearful disorder nature makes! Every thing drops and tumbles and scatters, dies and decays, with no one to even look on or care. Even if man should come in and put the crooked, broken branches straight, make paths around, through, and between the great monarchs of the forest, turn up the soil, and plant a garden, unless he were constantly on hand to fight against the devastation and ruin of nature, how quickly would it all go back! You may have noticed, perhaps, some spot where a log house and little home has some time been started and then abandoned. How quickly and surely disorder and decay again resume sway! It is not only the winds and the storms that scatter and cover up, but foul weeds soon choke up the doorway; and the squirrels, and birds of the air, the spiders and insects, seem to make haste in making the spot uncomfortable and dismal. Humanity and human life stand alone in favor of law and order. All else of nature, animate and inanimate, is against it. They are dead set against all progress and improvement. My friends, it is so with sin. Sad as it may seem, it is the rule and natural tendency.

Humanity unrestrained is like the work of the elements of the forest — devastation, decay, ruin, and death. Let an ungoverned child come into a well-kept household; have you not seen them make a wreck of almost every thing that could be wrecked, in a space of time so short that one wonders to see how they could, during the interval, accomplish so much. The first work of the baby, after it learns to use its hands, is to tear the books and litter the floor; after it is old enough to climb to the bureau drawers, its delight is to pull out the things and scatter them over the floor, in a scene of disorder that an older person could hardly produce if he should try. If he gets into a pretty garden, the flowers are torn in pieces, the dirt scattered about, and destruction seems to be his delight. Like the winds and the storms, the rank weeds, the squirrels and the spiders, he seems to have no desire but to assist in the general work of destroying and leveling to the earth all that has been built up with so much care and pains. A mother's care often stops the baby; and with an amount of pains and care that can hardly be computed, she pleads and entreats, reasons and explains, and finally develops intellect and intelligence, where there might otherwise have been — what? Dear reader, can you form any idea of what a child would be, nursed and brought up by one of the lower animals,

if such a thing were possible? We sometimes have a feeble illustration of what a child may be, by noting those who grow up almost without training, or those who have their own way through life.

In these past Home Papers I have given the histories of a few such. They trouble, vex, and injure those about them while they are young; and when they get old enough they injure themselves. As they have not been accustomed to restraint in childhood, why should they impose any restraint on their appetite and passions? With the same want of reflection, or care, with which he destroyed the things in his untrained childhood, he now without scruple, or care of consequences, pours down the fiery liquid that destroys both soul and body, and finds the only possible stopping-place for such as he in a drunkard's grave.

You may say, that education and civilization should teach our children and our boys better. I grant it; but what if they won't be educated? Within the past few months I have had quite a little tussle with the boys and girls of our establishment to get them to go to school. Most of them are in school; but a few of them would not go, and they are not all boys either. What shall we do with those who will not be taught? What shall we do with those who deliberately choose darkness rather than light?

The natural man, uneducated and untrained, chooses that which will minister to his animal wants and his own immediate passions and desires. The God part of man is in direct opposition to all this. Jesus pleased not himself. Can any thing more emphatically describe the difference between man unsubdued and unconverted, and man after Christ has come into his life? At first he lives only to please himself; when converted he pleases not himself, or the selfish part of his nature, but he lives to please God and his fellow-men. Again I come around to my favorite and oft-repeated text, "Thou shalt love the Lord thy God with all thy might and with all thy strength and with all thy mind, and thy neighbor as thyself." Now to go back a little, you will see that the task of lifting and enlightening and subduing this savage nature, God has so arranged, that it falls on one's fellow-men. The task of training the infant not to destroy every thing, and cram it into his mouth, devolves upon the mother, and the child grows up a barbarian or a civilized being, according as the parents teach and restrain it. It is not only the parents who are responsible for their children, but to a certain extent brother is responsible for brother. Cain did say, it is true, "Am I my brother's keeper?" but then, Cain was a murderer when he said it, and it has been characteristic of murderers from his time down, to say pretty much the same thing. Saloon-keepers say to-day, when kindly talked to for the ruin they have done, "Why, do you mean to insinuate that I am to blame for that man's having the delirium-tremens?" Well, while we can curse and kill each other by our example and counsel, we can also (thank God) in the same way lift each other up. God knows we need lifting up, each and all of us, and that we

need it day by day, every day of our lives, or we slip back again into indolence, depravity, and death. Well might the old prophet Isaiah say, as in our opening text, "Awake, awake." To the Church of God, the united people of God, were the words addressed. "Awake, awake, put on thy strength, O Zion." It is in the power of a church to have strength, and it is in their power to put on strength. May God help us, when our churches are weak and their members sinful! How beautifully these plaintive, pleading words are put! I fear it is now, as it was then, that our churches and our Christian people have good reason to be called sleepy and feeble. We need to awake, and we need to arise in our strength, and we need to put on the beautiful garments of righteousness and purity before we can be the messengers of Christ to a sinful world. It was but last evening that I found these beautiful words in my Bible, dear friends, or, rather, it was but last evening that I first noticed their meaning; and although I have read them now many times, yet even when I read them now they fall on my ear like music, and like a call coming down from heaven to a sinful world.

"Awake, put on thy strength, O Zion; put on thy beautiful garments, O Jerusalem."

Do you want to know what these words mean to you, my friends? Are you loyal to the Church, and are you holding to it with all your might and mind? In olden times God spoke to man direct; but now he speaks to us through our fellow-men. Through them we see God; and united together, it is that we are to put on those beautiful garments. If there are things in the Church that are bad, and you see it, and know of it, the more need is there that you hold to it, and remain among them, as I told you last month. Divided, we should surely fall and go to ruin; but united, with God in our midst, we shall stand through death and eternity.

In my recent visit to Columbus I had a grand old visit with our friend Mr. Oldroyd. I need hardly tell you that God has heard his prayers, and that his pecuniary troubles are almost if not quite at an end. Well, during our visit something was said about the act of withdrawing from a church.

"Friend Oldroyd," said I, "did you ever know of a case where a man became better, or where any kind of good came from it, by his withdrawing from the Church?"

"Friend Root, I have watched that thing from a boy, and I can not remember a single case where the one who withdrew did not, from that day forward, go down."

I think, my friends, that would be the testimony of you all. The one who has stood up for Christ can not withdraw without the desolating process commencing — may be very slowly at first, but soon it is like the cottage in the wilderness, after the family have moved out; spiders and reptiles, and all manner of unclean things, soon begin to creep in.

Suppose you feel you have grown cold, and would like to awake and put on those beautiful garments again that you had when first you put yourself in Jesus' care. What is to

be done? If you have "aught against your brother," or are conscious of any transgression, of course that is to be attended to first of all, and forgiveness asked. But suppose there is nothing of this sort; what is to be done? Suppose you have only become somewhat listless and indifferent in your religion, what then? My friend, I would take the text literally at first. Get up early Sunday morning—just as early as you do week days. Let the first move you make, even before getting dressed, be to kneel down and ask God's blessing on the duties of the day. Now, if you haven't had a bath the night before, make yourself as clean as you well can be. Attend to all needful duties, and never think of letting stock, children, or neighbors, or any thing else, be neglected because it is Sunday. Do every thing your conscience tells you ought to be done, and do it well and faithfully, in a way that a Christian ought always to do. While you shun the appearance of evil as far as may be, use good common sense. Necessary work being done, put on your best garments, and make yourself as pleasing to the eyes of your friends (consistently) as you know how, and you will be pretty sure to feel you are pleasing in God's sight. Now study your Sunday-school lesson thoroughly. Of course, you have a Sunday-school lesson, if you are in the army of the Lord, no matter who you are, nor your age, sex, and condition. Read the lesson, and talk about it with the whole family, and spare no pains in getting all together to Sunday-morning prayers. Don't hinder anybody by making this exercise lengthy, but do your level best to make it all so lively and interesting that it will be no task to get the children and all to come and kneel down with the rest. Do not have the prayer long, but have it so the children will never urge, as an excuse for being away, that they know already just what you will pray about. Now get up from your knees, and pitch right in and help everybody who may be late in getting ready for church. Make yourself really useful. Don't have any loitering, loafing, or talking about the neighbors around your home, on Sunday morning. Bend your whole energies toward getting all hands to go to church. After you have got your own family ready, see if there isn't a neighbor's child you can take along.

"Awake, put on thy strength;" and if everybody else who goes to your church does likewise, you will fulfill the command of the old prophet pretty thoroughly, in your neighborhood. When you are at church, give the minister your whole attention, as completely as you would the doctor if he were telling you about the health of one of your children whose symptoms were alarming. I do not believe there would be very much danger, at such a time, of letting your thoughts wander off on crops, and affairs of business, while the doctor was speaking. There is no need now for any one to say they can't help their thoughts, for that day and age are gone. You are responsible for what you think about, very much as you are what you read about. Listen to the sermon. When church is over, stay to the Sabbath-school, and take hold and help as you would if they

were raising a barn, and were short of help. Make yourself useful, just as you did in the morning getting the good wife and children ready to go. Of course, you know I don't mean you should be officious, but just take hold of every thing you are asked to do, and do it the very best you know how; and when you are crowded with responsibilities and commissions, thank God; for it is him you are serving, and his house you are helping to care for.

Blessed are they that dwell in thy house: they will be still praising thee.—Ps. 84:4.

By all means, attend the church prayer-meetings, and, in short, all prayer-meetings where your pastor expects to be, and where he expects and wants to see you. Never speak ill of one of the officers of the church, and do not allow a remark in your family, detrimental or derogatory to one of them. Don't speak of the minister, or allow him to be spoken of in a critical way. Don't compare God's servants by saying, or allowing the children to say, "I think Mr. So and so preaches better than"—some other minister. Tell them we are no more to compare ministers than we are to compare our children. Just imagine how it would sound for your mother to say, "I like John ever so much better than Mary." Be loyal to the Church, loyal to yourselves, and loyal to God.

Who is there who has not, some time or other, been tempted to think of withdrawing from the Church? Satan whispers, "You are doing more than anybody else, and are not half appreciated." Nobody speaks to you, or takes any notice of you, perhaps, at times. The Church may have all gone into something that does not seem right to you, and Satan whispers again, that all the rest are worldly, and following after their own selfish plans, while you alone are pure and holy. It would serve them just right, if you were to stand up and protest against the whole piece of iniquity. Suppose you tell them that, if they do as they propose, you will never set foot inside the church doors again. Whew! Do you think one can talk like that, or even think like that, and be a Christian? It may be one way of waking the Church up, but it certainly is very far from the way to induce the Church to "put on her strength." Would such a course help to make the Church strong? People who have yielded to temptations like these are the ones who have weakened the churches down until they fell to pieces—until they were not only sleeping, but dead. Is one who stands in such an attitude helping the Church to put on her beautiful garments? The spirit that the Master taught is always beautiful in its holiness and purity, even under trying emergencies; but there is never any thing beautiful and lovable about threats, and they are never a part of the implements of warfare that a Christian uses. It is next to an impossibility, that the Church should all be mistaken, and you alone right. There are good conscientious people in the world besides yourself, and very likely there are a good many in your church who are just as faithful as yourself. To be sure, there are differences of opinion, and this it is that gives the Church its strength. How long

would a tree in full leaf, exposed to the wintry blasts, stand if the roots were all on one side, or if it had only a single root? Well, you are one of the roots; your neighbor is another, and, all together, you hold the old tree firmly against a blast from any direction. Well, do you imagine that a tree would ever stand any firmer by having one of its roots cut off, even if the one to be taken off were a poor one? There is a chapter in Matthew that tells us how to fix differences, not only in the Church, but also among neighbors.

Once during one of our prayer-meetings a stranger came in from the court-room near by. When an opportunity was offered for him to speak, he remarked that he had been several days away from home, and had longed for the companionship of Christian people. He spoke of the wonderful difference between the spiritual atmosphere of the room of law and that of the Church of God. He said that the contrast was greater than he could well describe, and he thanked God for the privilege of being among those who worshipped God. This, my friends, is the "beautiful garments" that should always adorn the Church. These garments are in our keeping. Strength and beauty. We may be strong to resist the inroads of Satan, and at the same time we may wear the beautiful garb of gentleness, love, and charity.

How amiable are thy tabernacles, O Lord of hosts! —Ps. 84:1.

Also in the chapter in which our text is, we find,—

How beautiful upon the mountains are the feet of him that bringeth good tidings, that publisheth peace; that bringeth good tidings of good, that publisheth salvation; that saith unto Zion, Thy God reigneth!—ISAIAH 52:7.

Some years ago an intemperate man was reclaimed. He arose in meeting, and asked to be allowed to be one among them. For a time he was all that any one could have asked; but in time he drifted back, and seemed to have deserted his Christian friends and the Church. I visited him and had a long talk with him. Of course, such a man would make excuses, but I fear the poor fellow had some grounds of complaint in one of the excuses he made. He said there had been so much quarreling in their church of late, that it wasn't pleasant for him. With sadness and a bowed head he said it, and then was silent. From reports that came to the outside world, I fear there was some truth in it. Very likely this dissension was on points of doctrine, or some like unimportant matters, while here was a soul going to ruin because those beautiful garments were being dragged in the mud. May God help us, as a people and a nation, that we may be able to keep up the integrity and purity of the house of God!

While on this point I wish to give you a little bit of real life. When the country was new, my father came into the wilderness and settled on a new farm. As is usual with the early surveys, things were not quite as accurate as they might have been; and years afterward there was some dispute among the neighbors in regard to boundary lines. On the principle, that right harms

no man, my father had a new survey made, in order to have the road before his house made straight. Well, as other interested parties preferred to have it crooked, the surveyor's stakes were pulled up by night, and so nothing was gained. Years passed, and it was evident to his family that the fence matter was robbing him of his peace of mind. He used to dwell on it, and talk about it. He would stop his work and talk with neighbors as they passed by; and if one came near enough to overhear, it was always the same old subject. We began to fear that so much dwelling on it would affect his mind, for he would recount the whole story to visitors who came from a distance, and ask their opinion in regard to the matter.

The pastor of the church advised him to let it go, and consider the acre of ground, more or less, that he was lacking, as so much given to the Lord for the sake of peace. Right is right, he insisted; and when surveyors intimated that it was rather unusual to break up old landmarks that had stood for such a term of years, he felt hard toward them, because they were inclined to obey the spirit of the law, rather than the letter. Father was given to insisting that his children should obey to the very letter, and I thank God he was so; but his stubborn will, when he thought right was on his side, made him much trouble during his life. It was not long before he refused to commune with the Church because they were more lenient with some of its members than they should be. He insisted they should strike his name from the church-books; but old and tried friends gathered around him, and good-naturedly coaxed him out of it. When it came communion Sunday we plead with him, and sometimes he would soften a little, and commune with the Church; but next time he was hard and severe again, and would attend meeting at some of the other churches when it was communion Sunday. We could tell by his face when the hard spirit was uppermost; but it seemed almost in vain that we plead and prayed for him. I told him, that if he encouraged such feelings they would grow on him, and that he would soon have trouble in other matters besides about the road. It happened as I said; and as he grew in years it seemed to me he grew more exacting, and had less charity. When anybody gets so determined on any thing, is it any use trying to get them to relent? I remember pondering on the above, and I confess my faith was getting weak. We could sometimes coax him out of it, and he even went so far as to shake hands with those against whom he felt hard; but he kept slipping back into the hard spirit again, although he continually kept up family worship. He was upright, and fair in deal, and was loved and respected by a large circle of neighbors; but he lacked the spirit of our Lord when any one suspected there was a Judas among us.

Communion Sunday seemed the great day of conflict; and, oh how mother did dread to see him absent himself! I remember one day when he told the pastor that he would have withdrawn from the Church long ago,

had it not been for his companion (meaning mother).

"Brother Root," said the pastor, "your good wife, with her bright faith, has pulled you through many a danger here in this world, and I hope and pray she may be the means of taking you safely into the kingdom of God, in the world to come." He smiled, and, if I remember rightly, a tear glistened in his eye as he replied briefly,—

"Perhaps she will."

One Sabbath afternoon, perhaps a year or more before his death, I was disappointed in the brother who promised to carry me to the Abbeyville Sunday-school. I waited until I could hardly have time to get there on foot, my horse being gone, and then I started out on foot. The old homestead was just half way, and I knew if I could get my eye on father as I passed, he would get up the buggy and take me that last half of the five miles in a twinkling. He was out in the barnyard, and I called to him. I don't believe he has a son, or grandson either, who could have got the horse out of the stable quicker than he did. I ran the buggy out of the carriage-house, and we got to Sunday-school in very fair time, after all. On the way home I gave him a pretty severe talk on the road matter, and urged, with all my energy, arbitration. He had always declined arbitration. I quoted the Bible, and Christ's plain words on every point, telling him he was old, and his example before a large family of children and grandchildren might be a curse to them for years to come.

"Father, do you want to see me using my brains and money in law and quarreling, instead of doing as I have for a few years back?"

"No."

"Then set me a good example, and put this whole matter in my hands, to be settled by arbitration."

The effect of the Sunday-school, the texts the children had repeated, and other things, perhaps, were telling on him more than I had counted on, and, to my great joy, he consented, and gave me the promise.

"Now, father, let us finish it up now and for ever. Who will be the arbitrators?"

"Well, I do not know that I want any, after all;" and after he had once turned his back on Satan he made swift headway back to the Church, and back to his God. He was never absent from communion afterward, and the last year of his life was characterized by a childlike gentleness, and a softening of his stern will that was in strong contrast to his life of a few years before. No more did we fear his mind might be affected, for Satan's sway was over, and the beautiful garment of meekness and charity was his after that, until the day of his death.

Despair not, my friends, even though you have plead and urged and prayed. Human nature *does* change when the spirit of the Master is allowed to come in. Being present at communion is but a simple matter of itself, it would seem; but when it comes to be a test of loyalty to God and the Church, life and death may be centered in it. I have sometimes thought that indulging in hardness of heart is a danger almost like intem-

perance. At first it is a little thing. One can put it away almost as well as to encourage it. By and by it gets to be a fetter, and requires an almost superhuman effort of the will to break away from it. A sort of sleep, or apathy, entralls us, but it is the sleep of death. Are the churches where you attend awake and in their strength? and are you, my friend, fighting earnestly to preserve in unsullied purity the beautiful garments of the new Jerusalem?

Jobacco Column.

I HAVE made up my mind, since reading GLEANINGS, not to use any more tobacco.

R. H. GRIFFITH.

Pittston, Pa., Oct. 5, 1882.

I have been using tobacco for over 30 years, and I am going to quit if you send me a smoker; and if I ever use tobacco again, I will send you the 75 cts.

VALENTINE LATUS.

Goldsmith, Tipton Co., Ind., Sept. 19, 1882.

I have been using tobacco since I was ten years old, and I now give you my word that I will quit if you will send me a smoker, and I will give you my word that I will pay for it if ever I use the weed again.

JOSEPH COLINS.

Big Spring, Calhoun Co., W. Va., Sept., 1882.

I have no smoker. I quit the use of tobacco years ago. I am much better without the filthy weed. I can be a better Christian, a better husband, a better father, and a better neighbor. I made up my mind years ago never to support a minister who is a slave to the filthy habit. I am an unworthy member of the denomination friend Heddon speaks about—the Free Methodists, who make tobacco a *test of membership*. I am in sympathy with all who work for Jesus on the Bible line.

F. H. KENNEDY.

DuQuoin, Ill., Sept. 9, 1882.

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE OF READING MATTER.

MEDINA, NOV. 1, 1882.

I have been young, and now am old; yet have I not seen the righteous forsaken, nor his seed begging bread.—PSALM 37: 25.

GLEANINGS never stood before where she does now in her subscription list. We are to-day, Oct. 30, 5371 strong.

I HAVE been feeling so happy of late, that I am almost ashamed of myself while there is so much trouble and sorrow in this world of ours.

WE have just purchased of D. A. Jones 100,000 of his new honey-labels. They are giving the sale of extracted honey a wonderful impetus. Samples sent free.

In answer to several friends we would say, that on supplies purchased before Jan. 1st, for use next year, you may have a discount of 3 per cent. On many of our goods our profits are so close we can not offer more than this.

A GOOD many inquiries are coming in, in regard to buzz-saw tables for hive-making, to be run by power. Next month we will give engravings, and tell you all about making them, with dimensions of all the different parts.

REMINDERY.

Now is the time when beginners imagine their hives are queenless, because the queens are so small they can't find them, and because they don't find any brood. Very few queens, except young ones, will lay now; and many times they won't even if you feed them, so don't worry.

A LADIES' knife, white handle, two-bladed, a blade at each end, is the latest novelty on the 10-cent counter. The first man to whom I showed one bought two right away, and I do not know but that nearly all of you would do the same, if I should hold one up before your eyes. If you want one, send quick, for we have only one gross. We have written to see if we could get more. Two cents more sends it by mail.

SUGAR-SHELLS for only a dime, that look almost as well as silver. At first I could not understand how it was possible; but I found, by bending, they are made of soft white metal. Well, this might not do so well for a teaspoon, but if you use granulated sugar, no great strain is ever required on a sugar-shell. I admire the one we have in our lunch-room, every time I have occasion to use it. They are silver-plated, and we can send them by mail for a dime, and two cents more for postage. Just try giving one to a little girl, and see how it will make her smile.

HILL'S DEVICE.

WE have been asked if we shall again use the Hill device under the cushions this winter. Most assuredly, we shall. Our bees were never in better condition than last winter, so far as dryness and ventilation were concerned, and over 200 colonies are now fed up nicely on granulated-sugar stores, and we intend to try how the Hill device will answer for a cold winter, if we get one this time. As we are filling a great many orders for them, we opine others have been as well pleased with them as we have. Price 5 cents each; by mail, 10c. Per hundred, \$4 00; in flat, \$3.50.

THE IMPROVED WATERBURY WATCH.

ANOTHER series of Waterbury watches is just out. The principal feature that is new is, that the dial is covered entire, and the hands and figures are very strong and plain, making it much easier to see the time without spectacles, or in a dark day, or by moonlight. We have just given four dozen of them a 24-hour test, and only one acted "balky." The rest all ran exactly on the dot. Now just a word in the way of suggestion. These watches all run right when hanging up. Before we send them out to you we are going to try every one, carried in the pocket also; but even after all this testing they will occasionally stop, like all other watches. Well, if yours does, don't write a long letter about it. We send them to the factory to be repaired, without ever looking at them, and so details are of no kind of interest to us. Just say it stops, and send it back with your name marked plainly on the box, and we will send you another. If it stopped because you dropped it, of course we expect you to say so, and to send along 50 cents to pay for fixing. It is because the Waterbury watches can be fixed so cheaply, and without long stories, that is placing them so much

ahead of all other watches. May be this sounds a little like scolding, dear friends; but I don't mean it so. Details of the way your bees behave are of value, because they give me a better knowledge of the way the little fellows behave under all kinds of circumstances; and you know I ought to be learned in all possible phases of bee lore; but two or more pages of foolscap, written in regard to the behavior of a watch, does not give any new facts in natural history. Do you not see the difference?

FOUL BROOD.

FRIEND POND'S EXPERIENCE AND ADVICE IN THE MATTER.

MUCH has been written in regard to that dread scourge of the apiary, foul brood, and much advice in regard to its eradication has been given from time, which would seem to carry the idea that it is quite a simple matter to perform a cure. I do not know, personally, whether the disease—or whatever other term may be given it—is curable or not; but I do know, personally, that its virulence is such that, if allowed to proceed unchecked in a single colony, one season would be sufficient to contaminate every colony within flight distance of the affected stock. So much has been written descriptive of the disease, the way in which it commences, and proceeds until a colony is totally destroyed, that I will occupy no space in describing it, but proceed to give my views as to its treatment, and my reasons for the same.

In the fall of 1867 I carelessly fed two or three colonies with West-India honey, without taking the precaution to thoroughly boil and skim, in order to cleanse from all impurities; and the result was, that the next season I saw those colonies affected with foul brood. These colonies were Italians, and one of them had a \$20.00 queen procured of Mr. Langstroth, and of course I desired to save them; and in order so to do, I tried all the means that at that time were recommended, except the correct one—total destruction. This was before salicylic acid had been discovered and made known, and consequently I had no opportunity to make use of that so-called specific. The result of my attempts at cure was, that every colony in my apiary became diseased; and not only that, but every colony in the neighborhood became affected also; and from later results I conclude that some colonies in the woods also became affected, for the reason that, for four or five years after, I would find an occasional reminder of the disease in one or another of my hives, in the way of a few cells of dead brood, and I almost made up my mind to give up bee-keeping entirely.

As good luck would have it, however, the winter of 1875, I think, proved an exceptionally cold one; and as I have seen no traces of foul brood since that time, I conclude that the colonies in the woods were killed off, and the spores which carry the disease (seeds, I presume friend Robinson would desire me to say) were rendered entirely innocuous by the extreme severity of the winter, as extreme cold is said to eradicate the disease, root, branch, and seed. My advice now, and until I have further light on the matter, is, to burn and totally destroy by fire, every particle of hive, frame, section, and comb, of a contaminated colony, and at once; and in thus advising, I admit that, according to the best evidence we have, the disease is curable. My reason for this ad-

vice is purely on the moral ground that, in the hands of an experienced person, much time, trouble, and an immense amount of care must be taken in order to eradicate every trace of the disease, as those who assume to have cured it admit that it took more than one season to accomplish it. Now, if this is the case, what will be the result in the hands of an inexperienced person? If a bee-keeper is the owner of every colony within range of his apiary, he, of course, morally may do as he chooses, for no one but himself can be affected thereby; but has any man the moral right to expose his neighbors to the danger of communicating to them any infectious disease? and if not, has he any more right to expose their bees to the danger of having foul brood communicated to them? The answer is plain, and I put it as a purely logical proposition, that a colony of bees affected with foul brood will, in a short time, contaminate every colony within flight range; to cause your neighbors' bees to become affected with such a dread scourge as foul brood, is a moral wrong; therefore he who does not at once either remove a colony so affected to a place beyond the reach of his neighbors' bees, or destroy it at once, totally and entirely, commits a wrong, and one that, in some States, is punished as a crime. Policy alone would dictate me to destroy an affected colony as soon as I found out its condition; for, as I have previously said, I have experimented all I wish to with the malady, and I wish to close every avenue by which it can possibly come again to my apiary.

Foxboro, Mass., Oct., 1882. J. E. POND, JR.

Conventions.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1882.

Nov. 1.—New Jersey and Eastern Convention at New Brunswick, N. J.

Nov. 9.—Maine Bee-Keepers' Association at Bangor.

1883.

Jan. 19, 20.—Mahoning Valley Bee-Keepers' Association at Berlin Center, Mahoning Co., O.

FARM AND BEES FOR SALE

Thirty acres nine miles northeast of Des Moines, and $1\frac{1}{4}$ miles from R. R. station (Ora Laber), on C. and N. W. R. R., $\frac{1}{4}$ mile from school and church. Bearing orchard, $1\frac{1}{2}$ -story house, stables, etc., all fenced. Ten acres in cultivation; ten in meadow and ten timber. Running water. Price, \$1000.00—\$600.00 cash, \$400.00 five years' time, with 7 per cent interest; 50 stands bees, Italians and hybrids; 10 chaff hives, \$8.00; 40 Simplicity, \$5.00. Also some stock and tools, if desired. MILO SMITH, 11d Greenwood, Polk Co., Iowa.

165 Colonies of Bees For Sale.

45 Colonies in Chaff hives, 56 Colonies in Simplicity hives, 26 Colonies in Improved Simplicity hives, 18 Colonies in Langstroth hives, 20 Colonies in Box hives.

About two-thirds of my stock is pure Italian bees. I will sell cheap to the party buying said bees. I will weigh 40 lbs. of sealed honey with each colony; price \$8.00 per colony, in lots of ten or more, delivered on cars. Reasons for selling, ill health. Address 11d W. G. CRAIG, Clearmont, Mo.

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Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Columbia Co., Pa. 10¢d
- *Paul L. Viallon, Bayou Goula, La. 10¢d
- *S. F. Newman, Norwalk, Huron Co., O. 10¢d
- *Wm. Ballantine Sago, Musk. Co., O. 10¢d
- *D. A. McCord, Oxford, Butler Co., O. 3-2
- *Jas. A. Nelson, box 83, Wyandott, Wy. Co., Kan. 5-5
- *C. G. Dickinson, Sou. Oxford, Chen. Co., N. Y. 6-12

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 10¢d
- S. F. Newman, Norwalk, Huron Co., O. 10¢d
- F. A. Snel, Milledgeville, Carroll Co., Ill. 3-2

Department for those who wish to be considered SQUARE MEN.

Names will be inserted in this Department free of charge the first time. After that, 10c. each insertion, or \$1.00 per year.

If thou bring thy gift to the altar, and there rememberest that thy brother hath ought against thee, leave there thy gift before the altar, and go thy way; first be reconciled to thy brother, and then come and offer thy gift.—MATT. 5: 23, 24.

We whose names appear below do not know that we have a single dissatisfied person with whom we have had deal; but if we have, such will confer a favor by writing us kindly, and we will do our best to render satisfaction.

- I. R. Good, Nappanee, Elkhart Co., Ind. 9¢d
- E. M. Hayhurst, Kansas City, Jackson Co., Mo. 9¢d
- E. A. Thomas & Co., Colerain, Mass. 9¢d
- J. P. Moore, Morgan, Pendleton Co., Ky. 9¢d
- G. W. Stanley & Bro., Wyoming, Wv. Co., N.Y. 9¢d
- Bright Bro's, Mazepa, Wabasha Co., Minn. 10¢d
- T. C. Crilly, Grafton, Lorain Co., O. 10¢d
- S. C. Perry, Portland, Ionia Co., Mich. 10¢d
- D. E. Best, Best's, Lehigh Co., Pa. 10¢d
- A. B. Miller & Son, Wakarusa, Elk. Co., Ind. 11¢d
- S. D. Buell, Union City, Branch Co., Mich. 10¢d
- R. Steble, Marietta, Wash. Co., O. 10¢d
- Hiram Roop, Carson City, Montcalm Co., Mich. 3-3
- J. H. Myers, Saratoga Springs, Saratoga Co., N. Y. 9¢d
- Byron Walker & Co., Capae, St. Clair Co., Mich. 9¢d
- J. A. Osborne, Renton, Champ. Co., Ill. 9¢d
- Chas. D. Duvall, Spencerville, Mont. Co., Md. 9¢d
- J. T. Wilson, Mortonsville, Woodford Co., Ky. 9¢d
- J. J. Kiser, Des Moines, E. S. Station, Iowa. 10¢d

NOTICE TO BEE-KEEPERS.

The undersigned, having experience and skill in handling bees and manufacturing hives, offers his services as manager or assistant in the apiary, and would be glad to correspond with bee-keepers who carry on a large business, and who may need the help of one who understands each part of it.

Refer to Ed. GLEANINGS.
11-1d D. F. SAVAGE, Medina, Ohio.

100 NICE straight TULIP or POPLAR TREES for \$1.00, sent by express. Better than linn for honey; beautiful for shade, and good for timber. Address CHAS. KINGSLEY, Greeneville, Tenn.

I WILL exchange 5 dozen gents' knit undershirts and drawers, assorted sizes, worth \$6 per doz., for bees. Send in your offers. Describe condition, kind, and hives. ELWIN M. BIDWELL, 12-1d Mellenville, Col. Co., N. Y.

The Excelsior Poultry Yards

are always well stocked with Pure-Bred Poultry and Italian Bees; Extractors, Foundation, Hives, etc., for sale. Job Printing of every description done cheap for cash. Circulars free.

Address J. T. FLETCHER, West Monterey, 12-9d Clarion Co., Pa.

SEND 10c. for a pkg. of BLACK or YELLOW LO-CUST SEED, postpaid. Address 12d CHAS. KINGSLEY, Greeneville, Tenn.

BEEES AND QUEENS FROM MY APIARIES. QUEENS AND NUCLEI IN SEASON. 37fd Circular on application.

J. H. ROBERTSON, PEWAMO, IONIA Co., MICH.

Honey Column.

Under this head will be inserted, free of charge, the names of all those having honey to sell, as well as those wanting to buy. Please mention how much, what kind, and prices, as far as possible. As a general thing, I would not advise you to send your honey away to be sold on commission. If near home, where you can look after it, it is often a very good way. By all means, develop your home market. For 25 cents we can furnish little boards to hang up in your dooryard, with the words, "Honey for Sale," neatly painted. If wanted by mail, 10 cents extra for postage. Boards saying "Bees and Queens for Sale," same price.

CITY MARKETS.

CINCINNATI.—Honey.—Demand is good for extracted honey, both for manufacturing purposes (by the barrel), and for table use. The demand is very good for honey in 1-lb. jars. A good deal of comb honey could be sold if we had a good article at a rate within range of the views of the consumer; i. e. which could be wholesaled at 20c, and retailed at 25c. We pay 7@10c per lb. for extracted, and 16@20c per lb. for good comb honey in sections.

Beeswax is scarce, and in good demand at 27@27c per lb. on arrival. C. F. MUTH.
Cincinnati, O., Nov. 18, 1882.

NEW YORK.—Honey.—Our present stock of comb honey is light, and demand limited, owing to high prices asked. Prices range as follows: Best white in 1-lb. sections, looking neat, clean, and attractive, 22@23c; the same, in 2-lb. sections, 20@22c; fair, 1-lb., 19@21c; fair, 2-lb., 16@18c; buckwheat, 1-lb., 16@17c; in 2-lb., 14@15c. Extracted clover honey, 10@11; buckwheat, 8@8½c.

Beeswax is scarce, and finds ready sale at 31@32c. H. K. & F. B. THURBER & CO.
New York, Nov. 22, 1882.

CLEVELAND.—Honey.—Honey is unchanged. The demand for best white in 1-lb. sections continues very fair at 21@22c, though large sales are hard to make at over 20c. Second grade, 1-lb., sells at 18@20c; 2 lb., first quality, 19@2c; second grade, 17@19. Buckwheat not wanted. Extracted is slow at present in all shapes; prices range from 9 to 11 in bbls., and 12@14 in cans. Beeswax, 28@3c.
Cleveland, O., Nov. 29, 1882. A. C. KENDEL.

DETROIT.—Honey.—The honey market, upon the opening of the month, was active, and prices firm. This satisfactory condition was soon followed by such a large number of shipments that prices were greatly depressed. The surplus is being gradually absorbed, but prices are still low. First-class comb honey is worth about 18c; dark, 15@17c. Wax is so scarce that it is hardly quotable, but is worth 30 cts. Detroit, Nov. 24, 1882. A. B. WEED.

CHICAGO.—Honey.—I am paying 6½c for dark, and 9c for light extracted honey. The supply is plentiful.—Beeswax.—Choice lots, 27c; common yellow, 25 cts.; dark and off colors, 17@22c.
ALFRED H. NEWMAN.
Chicago, 923 West Madison St., Nov. 21, 1882.

BOSTON.—Honey.—One-half pound sections, 30c; 1-lb., 22@25c; 2-lb., 20@22c; extracted, 10c.—Wax, 30c.
CROCKER & BLAKE.
Boston, Mass., Nov. 22, 1882.

I will sell basswood and clover honey at 16 cts. for large boxes (net weight), and 13 in 1-lb. sections. Send cash with order. H. BARBER, Adrian, Mich.

I have 1500 lbs. honey in one-pound sections to sell, put up in cases of 48 sections, no glass on sections, but the cases have glass on both sides; cases thrown in and delivered on board the cars at Lawn Hill, Hardin Co., Iowa, at 20c per lb. A. LINDLEY.

I have 5 barrels of extracted honey, and 2000 lbs. comb honey in 1 and 2 lb. sections. What shall I do with it all?—My respects to the boys, and especially the girls in the shop. J. L. GRAY.
Lee Center, Lee Co., Ill., Sept. 29, 1882.

[The above should have been given before (I mean the part about the honey), but it was overlooked. If friend G. has got it yet, perhaps some of the friends will tell him what to do with it. The boys and girls are all doing well, thank you.]

I will pay 10 cts. a pound for pure extracted honey in half-barrel packages, cash on delivery. Write particulars before shipping. E. KRETCHMER.
Coburg, Iowa, Nov. 6, 1882.

I have 1 bbl. of white-clover honey; 1 bbl. of white-clover and heart's-ease; 1 bbl. of heart's-ease; 1 bbl. of heart's-ease and Spanish needle; 1 bbl. of Spanish-needle, in open whisky-barrels, coarse cloth cover; was ripe when extracted, but is very thick and nice. I will sell in barrels at depot for 11 cts.
Nokomis, Ill., Nov. 3, 1882. E. SANDFORD.

20 NICE TARTARIAN CHERRY-TREES for \$1.00 (by express). Good fruit, and makes "lots" of honey. Address
12d CHAS. KINGSLEY, Greenville, Tenn.



I advise dear reader, to ask if you have seen

DOOLITTLE'S Bee-Keeper's CLUB-LIST

for 1883. If not, you want one, as it is full of good things, is worth reading, and will save you money. To get one write your address plainly on a postal card and direct it to

G. M. DOOLITTLE,
BORODINO,
ONONDAGA CO., NEW YORK.

A NEW IMPORTATION OF CHOICE

Bokhara Clover Seed

has arrived, and is for sale cheap. Apply to
12-3d CHAS. F. MUTH, Cincinnati, Ohio.

20 GOOSEBERRIES by mail, \$1.00. Good roots; Houghton's seedling; bears well; produces honey very early. Address
12d CHAS. KINGSLEY, Greenville, Tenn.

NEW AND NECESSARY

BEES and POULTRY Combined, only \$1.25 a Year.

The 32-page *Bee-Keepers' Magazine*, for 1883, will be greatly enlarged and beautified by the addition of a department devoted to *Poultry*. Many are now keeping both bees and poultry successfully, and find their net yearly income much larger and more reliable than from either industry separately. Hence the desirability of the combined journal Agents Wanted. Best inducements ever offered, in Cash or Five Premiums.

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A. M. PURDY, Palmyra, N. Y.

SEND 10 cts. for a pkg. of SUMACH SEED, post-paid. Address
12d CHAS. KINGSLEY, Greenville, Tenn.

JOB PRINTING.
Cheap! Cheap! Cheap!
Circular free. E. H. COOK, Andover, Conn.



Vol. X.

DEC. 1, 1882.

No. 12.

A. I. ROOT,

Publisher and Proprietor,

Medina, O.

Published Monthly.

Established in 1873.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00, 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POST-OFFICE. Clubs to different postoffices, NOT LESS than 90 cts. each.

NOTES FROM THE BANNER APIARY.

NO. 37.

A LITTLE ENCOURAGEMENT — WHAT IT WILL SOMETIMES DO.

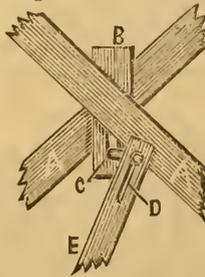
"It seems a story from the world of spirits, When any one obtains that which he merits, Or merits that which he obtains."

WELL, I think that the last number of GLEANINGS contained all the praise that I merit.

I had no idea that that short extract that I gave would bring down upon my head such a shower of praise. I expected that the reply would be something like this: "Friend Hutchinson being the only one who furnishes us with an article each month, we thought it best to publish his 'Notes' in the same part of the paper each month." Yes, friend Root, I think I know how to bear either praise or censure; but I do not mean by this that I am *indifferent* to either. When I have worked hard, it is very pleasant to know that my efforts are appreciated. It is working simply for the sake of being praised that I detest. If I am in the wrong, I am thankful to the one who points out my mistake. There are quite a number of apiarian writers who are, I think, more deserving of praise than myself, and I should be very much pleased indeed to see them receive it. Before leaving this subject I wish to especially thank you, friend Root, for the encouraging and instructive words that you used to send me occasionally, when I first began to contribute to GLEANINGS. Had it not been for your kindly recognition of my one little "talent," it is doubtful if I should now be earning \$20, or thereabouts, each year, writing for the bee journals and agricultural papers.

A LITTLE MORE ABOUT THAT BUZZ-SAW.

The illustration of my buzz-saw, in the last GLEANINGS, is excellent, and, with the exception of the bearing of the main shaft, shows every part quite distinctly. Had I known how to properly use the sketching camera, I do not think there would have been *any* exception. Standing at the end of the machine, the bearing of the main shaft looks something like this: —



FIXING THE TREADLE.

In the Oct. GLEANINGS, this part of the machine is described as follows: "The legs (A A) are 5 feet 6 in. long, and cross each other 3 feet 4 inches from their lower ends. Where they cross, a perpendicular slot $\frac{3}{8}$ of an inch deep and 4 in. wide is made upon the inside of each leg, and into this slot is fitted a piece of hard wood (B) 4 in. wide, one inch thick, and one foot long. The bolt that passes through the legs where they cross also passes through a slot cut in this piece of hard wood. Through the lower end of this piece of wood is a hole (C) in which runs the iron gudgeon on the end of the main shaft. Of course, each pair of legs is furnished with such a piece of wood." Had I gone more into details when writing the above description, I should have said that the hole (C) is an elongated hole, or, rather, a slot, through which can be passed the crank upon the end of the main shaft. The slot D, in the end of the pitman E, enables a careless visitor to get his

foot under the lower end of the pitman, and yet escape with badly *pinched* instead of *crushed* toes.

MY REPORT.

Two or three weeks ago the editor of one of our county papers, while driving through the country, called upon, chatted with, and quizzed me a few minutes, and the next issue of his paper contained the following:—

“Mr. W. Z. Hutchinson, of Rogersville, who a year or two ago wrote for publication in the *Globe* a series of exceedingly interesting articles upon bee culture, gives us the following in relation to his operations in that line the present season. He commenced the season with 25 swarms of bees, and closes with 65 swarms, all having sprung from the original 25, and all supplied with sufficient honey to winter them. He has sold 528 Italian queen-bees, at an average price of 7 shillings each; 800 lbs. of light honey at an average price of 14 cts. a pound, and 500 lbs. of dark honey at an average price of 11 cents a pound. Estimating the bees that he now has on hand at \$5.00 per colony, Mr. H. has, the present season, received from his bees, in clear profits, the snug little sum of \$650 — exactly \$26.00 per colony. We have strong hopes of inducing Mr. Hutchinson to prepare a paper on the subject of bees and honey, to be read at the winter meeting of the State Horticultural Society, to be held here in December.”

FROM 3 TO 30 IN ONE SEASON.

I started last spring with the determination to increase 3 colonies to 50, and, by furnishing the new colonies with laying queens, and supplying the old colonies with empty comb or comb *fdn.* in place of the combs of honey and brood that were removed in making up new colonies, and had, upon the opening of the buckwheat-honey harvest, increased them to 30, when somebody carried off all of my empty hives. Now, don't be alarmed; the hives were not stolen. Last spring I had in my possession 25 empty hives belonging to a bee-keeper living a few miles distant, who gave me every assurance that he would not need the hives the present season, and that I was perfectly welcome to use them. About the middle of August he called upon me and said that his bees had increased altogether beyond his expectations, and that he would be obliged to have the hives. Of course, I let him have them; but it put an end to my “increase experiment.” As my time was wholly occupied in the apary, not a minute could I spare for hive-making. The 30 colonies remained undisturbed, and became very strong in numbers, and heavy with honey. Perhaps it is all for the best.

W. Z. HUTCHINSON.

Rogersville, Genesee Co., Mich., Nov. 15, 1882.

Your invention to avoid pinched toes is quite an important one, friend H. In foot-power printing-presses, and other similar machines, the same thing is accomplished by having the pitman turned into a hook at its upper end, and this hook catches over the crank or cranks. If any thing gets under the treadle, the pitman simply unhooks.—It seems to be quite the fashion nowadays for both the bees and their keeper to see how many can be made from a few, as this number of our journal abundantly testifies. Had you not run out of hives, I presume you would have easily doubled the 30, and so made 60 from three. Am I right, friend H.? Well, if you winter the 30, I presume that will be much better than to have had 60 and lost half; so, now, let us see you winter them

THE MOST EXTRAORDINARY RESULT YET.

ONE COLONY AND A NUCLEUS INCREASED TO 37, GAVE 1662 LBS. OF HONEY, AND THREE SWARMS RAN AWAY BESIDES.

I WILL give you some of my success in handling bees this summer. Last May, a year ago, I bought an Italian queen of you, and in getting it here it was crippled so it died, and you sent me another, and from this queen I built one strong colony and one nucleus during the summer, and the nucleus had only about one pint of bees when they went into winter quarters (as the summer was very poor for bees here), but I brought them through all right, having to feed the nucleus, and they commenced swarming April 8th, and from those two colonies I now have 37 stands of Italians, and I let three swarms get away from me, making 39 stands in all from the two stands. You may open your eyes at such a statement, and say “bosh!” but I have the bees as living witnesses, and have taken from them 1662 lbs. of honey. To show the contrast between the blacks and Italians, I would say, that in the spring I had five colonies of blacks and now I have 15, and gave them the same treatment. You can publish this if you think it worthy a place in your journal. Send the journal, for I have tried doing without it for a year, and find it up-hill business when I want to know any thing, and don't know where to find it.

J. W. MCKEE.

Southland, Camden Co., Mo., Nov., 1882.

I don't say “bosh” at all, friend M., but, on the contrary, thank you for telling us of it; and I congratulate you on your success. We should be very glad to have a fuller report of the way they did it. The whole secret of it was the swarming, or commencing, rather, in the fore part of April. This year has given us results showing possibilities we hardly dreamed of before.

A VISIT AMONG THE BEE FOLKS AROUND OBERLIN.

SKETCHES BY E. R. ROOT.

DEAR PARENTS:—Last Saturday I took a general stroll around the immediate vicinity, to visit bee friends whom I had never seen, but who knew us indirectly. I had a grand good old time, as you might expect. Mr. Fowls was along with his team, so that we had an opportunity of seeing a great many more bee-keepers than we would otherwise have done. We first went to Mr. Jump's. This gentleman, as you know, has the Diamond hive, after his own pattern. It possesses some good features over other hives; but on the whole I do not think I should like it. His hives were all arranged with neatness and order, numbering upward of 150. A strange fact is, that his bees, with one or two exceptions, are all blacks, and Mr. Jump says he would not have any other race. But what interested me more was his large collection of stuffed specimens, including all wild species, both bird and quadruped, within the surrounding district, besides many others gathered from different parts of the U. S. In my estimation his collection in taxidermy was much more extensive and better than that contained in the college museum. When you make me another

visit I intend you shall make Mr. Jump a visit also, as I am sure you will be well repaid.

We next went to the apiary of Mr. Fowls, where his hives are arranged in a hexagon, in a neat, tasty manner, according to the directions given in the A B C. His hives are chaff, and, from all appearances, seem to be well equipped for winter. Mr. Fowls' enthusiasm really inspired me anew on the subject of apiculture. I found, also, that he was well read on subjects pertaining both to bees and agriculture.

We next went to Amherst, a town about 9 miles from Oberlin. After some inquiry we found where Mr. Hopkins lived. By the way, he is not only a bee-keeper, but quite an extensive fruit-grower. He has about 70 colonies, all in the American hive, such as were once in our old apiary. After having shown us his methods of putting his bees into winter quarters, he invited us to take a look over his fruit farm, consisting of 80 acres, all devoted, if I am correct, to his favorite pursuit. He showed us a strawberry patch of about an acre. The plants were set out in May, and when I was there the ground was just one heavy mass of strawberry leaves, so that it seemed impossible for weeds to grow. According to my notion it was in about as fine a condition as one could ask. Then he showed us his peach orchard, which was one of the grandest sights I have seen in the shape of an orchard. It really made me feel enthusiastic on the subject for once. I am sure that you would have enjoyed that visit too, had you been there, as Mr. Hopkins explained his different methods of fruit-growing, which I know would have been very interesting to you. Mr. Hopkins made me partially promise to bring you out there some time, especially during peach or strawberry harvest. During supper I was asked a number of questions relative to the journal, etc. Among them was, Who is Merrybanks? and whether he were a fictitious character; and if not, how long he had been in that business. He said he thought it was rather strange that, if Merrybanks were a true character, he should make such rapid advancement; and, also, since he was almost a dunce, should turn out to be a smart business man.

You remember Mr. Hopkins' little girl wrote in the May number of the JUVENILE about the death of her little sister. There are several "blue eyes" in the family yet; one just about Caddie's age. This made me long to see that young "Cad," but she will have to wait till Christmas.

Well, it is about time for me to study now, so I shall have to close.

E. R. ROOT.

Oberlin, O., Nov. 13, 1882.

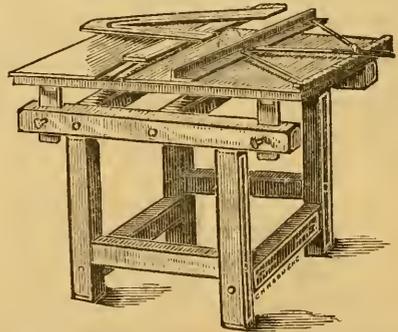
Our friends will notice that the above was not intended for print, and, in fact, it was only after arguing the case that I obtained it. I wished it, chiefly because it gives one a vivid idea of the good that may be gained by both parties in these friendly calls, by the mutual interchange of ideas. It occurs to me just now, to mention that friend Fowls has a novel package for extracted honey, in the shape of a glass pitcher holding $\frac{1}{2}$ gallon. He sells these in the city for \$1.00 each, honey and all; and from the number of pitchers we are selling him, I think he is doing quite a trade in honey by the "pitcher full." Speaking of taxidermy and the strawberry bed reminds me of how often bee-men are given to excelling in some such specialty. Are we not, as a class, a rather *progressive* people?

TABLES FOR CIRCULAR SAWS, FOR HIVE-MAKING.

ALSO SOMETHING ABOUT HAND AND FOOT POWER SAWS.

WHILE a foot-power saw does very well for making, say 100 or even more hives a year for one's own use in his own apiary, when it comes to making hives for his neighbors, or perhaps to ship off to distant customers, almost every one soon finds it too laborious to be pleasant. It is true, he can hire help; but I believe it is generally a pretty hard matter to find help with the necessary enthusiasm to be willing to tread a buzz-saw many hours in the day. The owner of the bees will do it, I know, and thrive on it, for that matter, especially when fighting his way to making a start in the world; but most people during this present age will very soon want to bring in the aid of steam, or something else, to do the work of bone and muscle.

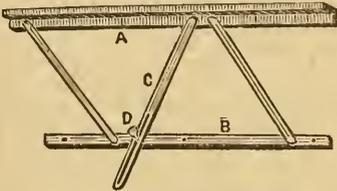
Now, it is almost always suggested by a new hand, that steam or other power be applied to the foot or hand power machine. This can be done, it is true; but as a rule it does not in the end prove satisfactory, for the reason that all foot-power machines are of necessity made just as light and easy running as they can be consistently, and are therefore not calculated for much more strain than the power of a man. If you put on a horse-power or two they will quickly wear out, or break down. What you want to stand a horse or steam-engine, is something like the cut below.



BUZZ-SAW TABLE FOR HIVE-MAKING BY POWER.

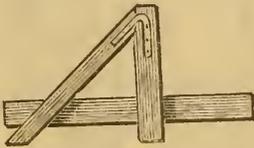
The table is made of 4x4 hard-wood scantling, say maple or ash. The sticks are sized, and the "wind" taken out of them, and then the whole is put together with mortise and tenon, and then drawn up tight with lag screws $\frac{1}{2}$ in. in diameter, by 6 in. long. The table is 48 in. wide, and 42 in. long. It is made of hard-wood boards securely screwed fast to four bars of hard wood about 2x2. A bar is placed at each end, and the other two at equal distances under the middle. The table-top is hung on hinges at the further end as it stands in the cut, and at the end nearest us, in the picture, it rests on hinged strips, resting in mortises, as shown. Set-screws fasten the table at any desired height. Strips of iron should be let into the wood where the points of the set-screws strike, or the wood will soon be injured and mashed

up. In the drawing, two gauges are shown. We term these the "figure four" and the "parallel" bar. The former is for cutting off stuff, and the latter for ripping.



"PARALLEL BAR" GAUGE.

This is to be made of the best piece of seasoned maple or cherry you can get. It needs about a 3x4 scantling, one foot longer than the table-top. Rabbet out a piece as shown, to make a bearing for the bars of iron that it swings on. These bars are iron, 1x $\frac{1}{2}$, pivoted at each end with heavy screws. They allow the bar to swing clear up against the saw and back away from it, far enough to cut off the cover of a Simplicity hive, which is in length 20 $\frac{1}{2}$ inches. To fasten this parallel-bar securely at any point, a third iron bar, C, is placed between these two. Instead of being screwed fast to the parallel bar, it is simply slipped over a steel pin driven into A. There are, in fact, two of these pins, at a distance of perhaps a foot apart. This is to keep the adjusting bar always at pretty nearly a right angle to the parallel bar. Now, this strip of iron has a long slot in it, and a thumb-screw D goes into the slot. By this arrangement it will be noticed that the parallel bar can not swing or move, unless the thumb-screw lets the slotted bar slide under it. By tightening the screw, the parallel bar is a fixture at any point, and it is always parallel to the saw, when once adjusted as described in the A B C book.



THE "FIGURE FOUR" GAUGE.

This hardly needs explanation. That it may slide easily, and without shake, it runs on an iron track. This iron track is simply a straight bar, $\frac{1}{2}$ inch square, screwed fast to each of the strips on the under side of the table-top. It is made of hard-wood stuff about $\frac{3}{4}$ thick. The longest piece, which is grooved to run over the iron bar, is exactly the length of the table. The right-angled piece is two feet long. All are about 4 inches in width. This right-angled piece must be so adjusted as to cut boards off exactly square; and when right, it should be screwed down and braced with iron, as shown, so it can never get racked out of true. On the accuracy and fineness of this adjustment depends all your work. If one could afford it, it would be a fine thing to have the whole table-top, and all of these gauges, of planed iron.

The mandrel used for these saw-tables is

our \$7.00 one, generally; but for a great deal of work I would advise the heavier one, costing about \$10.00. A *still* better one, with united boxes, and self-oiling attachment, is worth about \$14.00.

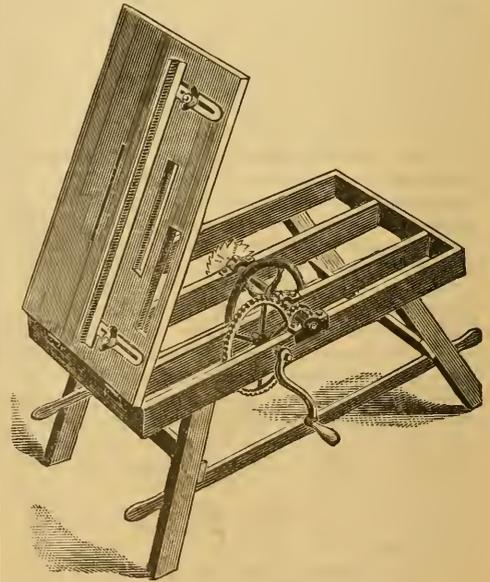
While I am on this subject, here comes the following:—

Would you please inquire in Dec. GLEANINGS for a description of, or how to build, a hand-power circular saw? Perhaps you have had some experience in hand-powers yourself. If so, please let us have it.

GEORGE CORK.

Niagara, Ont., Can., Oct. 31, 1882.

Well, friend Cork, almost in the same mail with your letter comes one from one of our juvenile class, describing a home-made hand-power saw. We have had an engraving made of the sketch he sends, and below it we give you his letter:—



A HOME-MADE HAND POWER BUZZ SAW.

I see in father's GLEANINGS a sketch of a home-made circular saw. I thought I would give you a drawing of one I have made. I use a 12 and 18 inch saw, 1-inch mandrel. The cog-wheel I got from an old fanning-machine, and the speed-wheel I got from an old hand corn-sheller. This machine saws all our firewood, besides hive-making. I find it a useful machine.

A W. BEARDMORE.

Annapolis, Maryland, Nov. 18, 1882.

The above machine will answer an excellent purpose, I know, for we used one of Barnes' hand-rippers in our establishment for several years. Even though two men, with a couple of good sharp carpenter saws, might do nearly as much work in cutting and ripping, they could not possibly do as accurate work. With the above machine, rigged with the gauges described above, a couple of boys would do the amount of work that men would, and it would be more accurate than an expensive carpenter with try-square and smooth-plane could possibly make it. I have no doubt but that the boys would cut up double the firewood they could with the ordinary hand saws, as our young

friend describes. Such a machine would be so very handy, we may decide during the coming year to get up something of the kind, for about \$25.00. How many of you want one?

I almost forgot to add, that all kinds of buzz-saws are dangerous. Since we have been in the business, four different boys and men have lost a large part of one hand, by letting them slip against a saw while in motion. If you work with buzz-saws, *be careful!*

"Remindery."

Or Department for duties to be attended to this month.

UNLESS in localities where the bees can fly, I would not now undertake to feed liquid food any more. Feed either candy made of granulated sugar, in the way that has so often been described, or use the "Good candy," that has been so much talked about of late. There can be no possible objection to it, unless it is that the granulated sugar may rattle down to the bottom of the hive after the bees have licked the honey all out. If the sugar is well stirred into the honey, and the whole allowed to stand several days before it is fed, I think it will become so well incorporated that the bees will lick it all up. I have just directed that some that has been several weeks mixed up may be put over the hives this morning, and before night I will report to you how it works. If all is well, as I am sure it will be, feeding in cold weather will hereafter be summed up in about the following:—

"Go to the store and get some granulated sugar; wet it up with honey, until you make a stiff dough. Lay it right on the frames, over the cluster, in quantities of from $\frac{1}{4}$ to $\frac{1}{2}$ lb. at a time; and as often as you find it gone, put on some more, until your bees have enough. After putting it on, lay right over it a Hill's Device, then a sheet of bur-lap or coarse bagging, then chaff. For convenience you may have a chaff cushion, made of this same coarse bagging; but even if you do have enough loose chaff also to make all so tight that no bee can ever work his way up in any of the corners, and die on top of the cushions."

This last point I think very important. I can not bear to find dead bees around, when I open a hive. A dead bee on top of a cushion always makes me feel dismal, even after I have closed up the hive and gone away. I wouldn't have it. If bees die in the cluster, and are carried out at the entrance, it is probably no fault of yours; but if your hive is so made that they get up over the cushions, and they die because they don't know how to get back, it is your fault. Every single bee is valuable. Not only that, but God made this little speck of animated life, and intrusted it to your care. Have you any right to let them die by your carelessness?

Don't let mice get into your hives. They are ravenously fond of honey; and if the entrances to the hives are large enough they will be pretty sure to get in. The chaff cushion over the bees is a grand place for

mice to winter in; and if you should neglect to have wire cloth over the ventilators, you are almost certain to find them there. They will tear your cushions all to pieces, and make every thing smell. Why, if I wanted to find something emblematic of shiftlessness, ruin, and devastation, it would be the litter left by a lot of mice, and the attendant smell. Don't have it anywhere, no matter what it costs to get them out. A few days ago the apiarist said he *could not* keep the mice out of his chaff cushions. I told him to clean out the whole room, and get down to the bottom of the matter. What do you suppose was the "bottom of the matter"? Why, it was a bag of rye and oat meal that we used for feeding the bees last April, that had been put into a hogs-head, and then corn-cobs for the smoker had been piled over it. You can imagine the jubilee the mice had among those cobs, and about how that bag looked when it was unearthed. Now, is there nothing of that sort around your premises? Are you short of money? I wouldn't wonder if it were lucky for you if you are, for you are then in a frame of mind to learn prudence and economy.

Can you see any thing about, or think of any thing that has cost you money? If so, is it properly cared for, and not going to waste? That tin pan out there, that the chickens have been eating out of, cost a dime or more, and it will soon be transformed into nothing but an ash-pan. Bring it in, clean it up, rub it with a greased cloth to arrest rust, and it will do good service a long time. Use stone dishes for any thing that must be put out into the weather, and bring them in speedily before they get broken. I have known a few bee-keepers who would borrow their wife's pans and dishes, and forget or neglect to bring them back. Well, it is customary among business men, good business men, to insist on having settlements with everybody before the beginning of a new year. Every thing borrowed is to be returned, or accounted for. All unsettled transactions are to be closed up some way, even if such settlement entails loss. Well, now, wouldn't it be a good idea to bring back all those tin pans and other utensils, nicely cleaned up before the first of January? If you are busy all the time, just go over your stock of implements for bee culture some evening, and get every thing in nice trim for the next year. Try it and see if you don't feel "good" after it. Not only clean up and save the wax, but clean up and save the honey. Be ready to say you haven't a pound anywhere, when the bees begin to bring in honey again next summer. I am not going to say good-by yet, for you see I have one more visit to make you this year, any way. That is one good feature of the JUVENILE.

It is now two o'clock; just five hours since the Good candy was placed over the cluster of three colonies. They had about one-fourth lb. each, and it is all gone on two of them, and no grains of sugar are found on the bottom-board. Can any cheaper way of feeding, either for warm or cold weather, be devised?

QUEENS FROM ITALY, BY MAIL.

SOME HINTS ON PROVISIONING THE CAGES.

AS the subject of provisioning queen-cages has been extensively discussed through the papers of late, and as many reports indicate that quite a number of queens are lost in the mails on account of improper food, perhaps, I take the liberty to send you a queen-cage, without bees, provisioned ready for a long journey. This I do, because, if it gives others the satisfaction that it has me, I shall be well paid for the little trouble. You will see that the food-receptacle is simply a tin tube with a $\frac{1}{4}$ -inch hole in the center, like the bung-hole of a barrel. The ends of the tube are closed with corks. The food is simply extracted honey (if candied, the better), and white sugar, mixed to the consistency of a thick paste. You remove one of the corks, place your thumb over the bung-hole, and fill the barrel full of the mixture, using a round stick to tamp it full. The cork is then replaced, and the tin barrel so adjusted in the cage that the bung-hole will be accessible to the bees.

To remove the barrel from its place in the cage, insert a stiff awl, or point of a knife, in the bung-hole, and slide it out. Please notice the condition of the mixture in the food-receptacle, as it has been prepared two weeks.

It is really amusing to see the queen's suit passing in and out of the miniature bung-hole of the miniature barrel after the contents is partly exhausted. I have given this method of provisioning a fair trial, and I am convinced that it is superior to any other method now in use. The tin barrel excludes the air and prevents evaporation, and does not absorb the moisture in the food, as in the case where the candy is put into holes in the cage-block, as employed by Mr. Good and others, though his method is an improvement on the hard candy and empty bottles. I say *empty* bottles, because the concussion the bottles receive in the mail-bags jars all the water out of them directly. I am confident, that, with a tin barrel one inch in diameter and two inches long, filled with a soft mixture, as above described, I can send a queen and her suit by mail to Italy safe and sound. If God spares me till next summer I intend to send by mail a queen to a U. S. official at Milan, Italy, with whom I have had private correspondence. The gentleman alluded to has cordially offered to assist me in any enterprise relating to bee culture. If I succeed I will have Italian queens sent to me by mail from Italy, the cages provisioned by means of the tin barrels. With this method of provisioning, the only question is, how long will the queen and her suit endure close confinement?

The honey season here has been a failure as to surplus; too much rain and cool weather, which was unfavorable to the secretion of nectar. The bloom was abundant all the season, but it did not yield a surplus. I am happy, however, to say that hydroplifer came to our relief, and our bees are nicely provisioned for winter. It is still giving some honey mornings. The goldenrods are abundant, — but are badly damaged by a black beetle, and therefore are of little force.

G. W. DEMAREE.

Christiansburg, Ky., Oct. 3, 1882.

P. S.—It has occurred to me, since writing this letter, that if the hole in the blocks in which the tin tube is inserted were waxed with hot wax, to prevent absorption, then filled with the soft mixture, it

would be cheaper than the tin tubes, and would answer for any ordinary journey, eh? G. W. D.

Many thanks, friend D., for calling our attention again to the matter of getting queens from Italy by mail. We have tried it once or twice, and failed; but for all that, I believe it will yet be done, and I think it quite possible your plan may succeed. Even if we lose half of them, it will be an immense saving over the present expensive and complicated system of getting them by express. I think I should prefer a wax receptacle to one of tin, as wax is the natural receptacle for food for the bees, and is soft and warm for them during cool weather. I would get the purest granulated sugar, or chemically pure sugar, which we find in crystals of rock candy. Let us have this thing accomplished during the year 1883, sure.

HONEY FROM WHEAT STUBBLE.

ANOTHER STEP IN THE GREAT PROBLEM.

IN August GLEANINGS I see the subject of honey from wheat spoken of again, also a desire from you for more information. I will give you my experience.

Some twenty-three years ago (I do not recollect the exact date) the frost killed the wheat when it was in blossom; the straw seemed to mature, but no wheat in the ear. We cut the straw for feed, bound and shocked it in the usual way; and in about ten days after, or as soon as it was cured, we hauled it into the barn, and now for the honey. The stubbles were full of honey, very sweet, as clear as water, and the bees were working on it from morning till night, and in driving and walking through it the stubbles would fly back as the feet would strike them, and throw their contents in every direction—so much so that the horses, wagon, our clothing and faces and hair, became stiff and sticky from the honey, or sweet contained in the stubble.

Now, friend Root, I hesitated to write this, for some friend, I fear, will say that it is a "fish" story; but I can substantiate every word I have written, if necessary. I have no doubt that like circumstances would produce the same effect. If we could prevent the berry from forming when the wheat is in blossom, then cut the straw when it is ripe, we should have honey in the stubble in like quantities. We cut the straw of which I spoke, before it was what is commonly called dead ripe.

If this will be of any advantage to you, or any one else, I shall feel that I have at least done something for the friends of the honey-bee.

S. C. LYBARGER.

Ganges, Richland Co., O., Sept. 27, 1882.

Many thanks, friend L., for your valuable communication. I am sure no one will think of disputing it. It seems the frost must have played an important part in this queer change in Nature's laboratory; but even if it did not, we should hardly want to spoil a crop of wheat for the sake of getting the stubble full of honey. All these wonderful facts seem to me to indicate that we are fast gathering facts that will enable us, by the aid of the bees, to very soon — *sweeten the world* — The great frost to which friend L. refers was probably that of June, 1859.

HIVING-BASKET.

I HAVE been requested to describe the hiving-basket I use. Well, I will, as I use it with good results, and the best of success. You will remember, that last May I purchased from your 25-cent counter two of those two-bushel diamond-splint clothes-baskets. I got them here all safe and sound (they ask 75 cents for them in our stores), and lined them with good strong white factory cloth. I then made a burlap flap cover, that would cover the whole basket, with 8 or 10 inches to spare. I tacked this piece of burlap to one *side* of the basket, and just a little way around the rounding corners. I tacked two little wooden blocks (say $2 \times 3 \times \frac{3}{8}$) to each of the loose corners, to make the flap stand solid over the basket. This is all. The whole arrangement is very light, so much so that the left arm of a 90-pound tailor will hold it with ease. Our swarms alight on trees mostly; and whether up where we have to use a step-ladder or not, we hold this broad, *long* (just the thing for those *long* clusters), light receptacle under the cluster, and shake the limb *briskly*, and quickly lower the basket, and flip over the flap with the right hand, and set the roaring mass down under the tree, when, if we continue to shake or smoke the limb a moment, the few outside bees cluster on the thin and gauzy receptacle, from which so freely emanates the hum and odor of the swarm. Now do with the bees just what you would were they in a heavy, hot, and horrid box. This basket is easily attached to a pole, if you have any limbs too awful high for a ladder. I have not.

This seems like a small subject, yet only a few such advantages, one or two in each department of the business, changes failure into success; disagreeable and troublesome work into a joyful business.

"BAGGAGE SMASHERS," AND FRIEND HEDDON'S ADVICE IN REGARD TO THEM.

At the close of Mr. Dadant's able article in last GLEANINGS, you tell us of the wanton smashing of your trunk, and ask, "What ought to be done in such cases, friends?" As I am, to say the least, not your enemy, I will for one reply by saying that my rule is, "Return good for good, and *justice* for evil." I won't stop to argue the case, or start any new theory in the matter, as I have the practical evidence of the laws of all the nations of this world. If that case were mine, I should sue the company for the damage, and get that baggage-man out of the situation, into his more appropriate sphere of dock-walloping, just as soon as I could. This last I would do for charity, for the sake of some poor and diffident woman he might successfully abuse in the near future. I know full well that sometimes, in a small way, with some people, nothing is better than the return of good for evil; but he who goes it blind, adopting this as a *rule* for a life's action, makes a sad mistake that legislators never fall into.

I have just sold my entire crop of comb honey at 18c here, cash in advance of delivery, at our depot. A few years ago, I could hardly believe this could be done; but I now rejoice in the acknowledgment of my mistaken judgment. I hope it will continue. Let us work to that end. JAMES HEDDON.

Dowagiac, Mich., Nov. 13, 1882.

I am very much pleased, friend H., to hear that our 25-cent basket does as well, or better, than any expensive swarming-box. I presume it would be worth about 50 cents, cloth lined, with a burlap flap to it. It will

probably be well tried next summer.—You may be right in regard to your plan of treating the railroad employees in such cases; but I think you will agree with me, that it should not be done with anger, malice, or revenge. These heartless men are often intemperate; and the saving of this man is of more moment than the saving of property. I do not know just what to do in such cases, and I confess I have more than once wondered just what our friend Professor Cook would do, or rather, perhaps, what ought he to do. I wish he would advise us a little. I rather imagine he would be too kind-hearted to do any thing; but is *that* the right way to do?

WHAT FRIEND HASTY THINKS.

DOING WITHOUT SEPARATORS.

I HAD not confidence enough in the plan of doing without separators to make experiments voluntarily; but you see I got out of tin, and something "had to be did." The results of my willy-nilly expedients I will proceed to give. "Firstly," I had some pieces of very heavy enameled cloth, that had been oiled on the reverse side with linseed oil. These I had been using as tarpaulins about the yard. I thought I could spare them, and so cut them up into separators. I can hardly recommend this plan for general use. The bees nibbled up the material (as I feared they would); and then, "just to pester me," they worked the black and dirty nibblings into their wax, utterly ruining a fine lot of section honey, except for extracting.

To skip to the other end of the series, my last experiment was to use separators of common lath. Bungling as the device seems, it answered very well to secure what surplus a late swarm would make.

On some colonies, separators of plain cotton factory were used, hoping that the shape of the combs would be determined before the material would be all gnawed out. They seemed, however, to do neither good nor harm, except the waste of bee labor involved. Other colonies had separators of cotton factory treated with linseed oil, and dried. These were harmless, but they resisted the gnawing of the bees scarcely any better than the untreated fabric. Still other colonies had separators of the same sort of cloth dipped in melted wax and wrung out. These answer tolerably well for once using; but, being somewhat cut away at the edges, would be too narrow to use a second time.

This brings us to the colonies on which no separators at all were used. I did not mean to lose honey by failing to give the bees sections to put it in, and so kept on giving to the late swarms until some of the comrades would have been inclined to hoot at me. We must make the most of our strong points, and late honey is the strong point of my locality. My latest sets of sections were put on Sept. 6th, I believe. None of these were worked in; but a set put on Aug. 29th had about three pounds of honey. Well, I consider myself almost fortunate that so many of the supers left without separators had no work done in them. The bulged and broken mess of unsalable honey I should have had on my hands would have made me feel like saying naughty things about the comrades who advise throwing separators away. Take now for example my record of colony 16-1. On the 22d of July, 48 sections, pound size,

were put on, which in due time were all filled. Only 29 out of the 48 were built regularly enough so that they could be put in a crate, and part of these were somewhat bulged. Of the 19 worst ones, 11 were so bad that the honey had to be cut out of the sections altogether. I find record of only three other colonies that worked in supers where no separators were used. From two of them the sections were taken off, and sections with separators put on, before the close of the season. And this is the way the record foots up: Sections finished at time of removal, 70; number that would barely do, 36; badly bulged, 34. Almost half the honey spoiled for want of a few strips of tin! All these had regular $4\frac{1}{4}$ by $4\frac{1}{4}$ sections. Larger ones would be worse, of course. There is a marked difference in colonics (and perhaps in whole apiaries also); one of the three included above, spoiled 21 sections while making but 11 tolerable ones.

Now, I do not deny that some succeed without the separators; let them hold fast whatever plan proves good with them; but assuredly,—

"Arts which thrive at number five,
Don't take at number one."

I would like to see them a little more modest about advising "everybody and the rest of mankind" to throw away their separators. I think the difference in experiences is mainly owing to the amount of honey that comes in in one day. If five pounds and upward per day comes in, many sections side by side are being finished out at once; and if the workers on one should undertake to bulge it out far, the workers on the next section would say with emphasis, "Shiny on your own side." But if only one or two pounds per day is coming in, the chances are that the section adjoining the one that is being finished out is not even begun yet. In this case, the bees lengthen the cells on the unrestricted side until they are two inches deep or more, because they are loath to disband and reorganize for a new comb. If this is correct, two sorts of men can get along without separators; the man whose honey nearly all comes in heavy runs, and the man who is such a dullard that he never gets any surplus unless there does come a heavy run. I never yet had a five-pound run of honey, and only a few that have reached three pounds. To advise dispensing with separators in such a locality is utter and mischievous nonsense. This year the runs of honey have been unusually moderate, even for this locality; and yet I have secured over a ton and a half of surplus, nearly all comb; and the percentage of sections left incomplete is very small. In one respect it is a sad disadvantage to a bee-keeper to have a "roaring good" locality; he can make moderate blunders, and go on without finding it out.

REPORT.

Colonies in spring, 68; highest number of colonies, 149; colonies now, 130. Section honey, 2800 lbs.; extracted honey, 320 lbs.; total, 3120, or 46 lbs. per colony, spring count. Wax not all rendered yet, but somewhere about 24 lbs.

In reply to last month's question, I would say that the half-bushel basket is preferable for taking down swarms. Get a good solid lot of the clustered bees into the basket in any convenient way; then as quickly as possible, either by shaking or brushing, make all the rest fly. Keep them from returning to the old spot, and directly they are all in the basket.

Richards, O., Nov. 20, 1882.

E. E. HASTY.

Friend II., I have followed you all through

almost breathlessly, to see if you wouldn't report on sections filled full of fdn. used without separators. Is it possible you overlooked this plan of getting rid of separators, after all that has been said about it? I am sorry, too, you didn't report on those made of very thin wood, but I presume you didn't have any handy, and couldn't take the time to have any made. We are much obliged for the important points you have brought out, especially the one in regard to the bees bulging one section into an adjoining one that is empty, and has no bees at work in it. It was this that decided me to say I never wanted any more sections built *without* separators.

SOME IDEAS ABOUT FEEDERS.

PROBABLY SUGGESTED BY D. A. JONES'S PLAN OF
FEEDING ON THE BOTTOM OF THE HIVE.

IF I wanted to feed all of my bees their winter stores in a short time, I would make a dripping-pan feeder just the size of the inside of the hive, about three inches deep. Set it in the hive; and the frames going down into it will be just what the bees want to get on, to keep from drowning. It would hold 20 lbs. or more, so a swarm could be fed in one night, provided they would take it all. If so large a one were not wanted, I would make it bread-pan style, just as long as the frames, then it would take two or three frames, which would be perfect as regards preventing their drowning. If I wanted a small one, like the Simplicity, I would make it the length of frames, about two inches deep; slip the bottom of the frame into it; tack it fast to each end of the end-piece of the frame, and keep it on there all the time. When you want to feed, pour the feed on the side of the comb, and it will run down into the feeder. This one can be made to come up to the top-bar of the frame, if you wish.

I would make the bread-pan feeder another way: Make it three inches wide, the length of the hive inside, and $\frac{1}{2}$ inch deep, and tack it in the middle of the hive, even with the bottom of the hive, it being so shallow it would scarcely be noticed in handling the frames. In feeding I would spread the frames at the top, and pour the feed between them. That size would hold enough for stimulating. The feeder for one frame can, of course, be made any depth, and can be tacked on the side of hive, if preferred. In feeding, push top of frame away from hive, and pour feed in between the hive and comb.

Now we will go back to our dripping-pan, which is the same width as the hive, and we want to make a feeder for the Simplicity hive with a loose bottom-board that will work the same as D. A. Jones's tight-bottom hive. We cut off the end of our dripping-pans 6 or 8 inches from the end, and tack the piece cut off into the back end of the hive, the bottom even with the bottom of the hive; the feeder so made would not interfere with the working of the frames, or be in the way of the bees. When wanting to feed, you tip back your hives and pour in the feed.

FEED FOR QUEEN-BEE CAGE.

I suggest that you put a sponge with honey into a bottle about twice the size you used to put into the cages for water.

I suggest to Mr. Heddon to use a piece of floor oil-

cloth for a honey-board. I have used them now for years.

L. L. BUTLER, M. D.

Los Gatos, Cal., Oct. 24, 1882.

Friend Butler, in our back volumes I have described tin boxes to put in the bottom of the hives, letting the combs go down into them. A lot of them are now in the loft of our old honey-house. I believe I discarded them because they got sticky and untidy. Feeding on the bottom-board, although it has many advantages, I have always found rather sticking business. Dead bees were plastered fast, and the whole interior seemed rather untidy and disagreeable. D. A. Jones, however, who has had more experience than most of us, prefers it to any other plan.

HOW FAR WILL BEES WORK TO ADVANTAGE?

FRIEND MARCH TELLS US SOME MORE ABOUT IT.

FRIEND BOOMHOWER, in October GLEANINGS, page 482, says, "I honestly believe, that if a colony of bees had to depend upon going seven miles to obtain food, they would be exterminated in less than one week." Now, if Mr. Boomhower is so much of a "doubting Thomas," I can furnish him the affidavit of half a dozen good men who have noted the flight of my bees, and the direction they have taken this fall. A person standing in my apiary in the evening, when the slanting rays of the setting sun strike across from the west, can see the line of bees above the horizon as plainly as pencil lines on white paper; and as the lines from the apiary run due east, and as Pidella Bay, a sheet of water $5\frac{1}{2}$ miles across, lies due east from our island, and as the bees come in loaded with pollen and honey from the same direction, it is but fair to presume they get their loads somewhere on the east side of Pidella Bay. Now, if I can prove the $5\frac{1}{2}$ miles, I think he may take my word for the rest. How could they find honey that distance, and across water too? Well, I suppose some adventurous spirit "lit out" prospecting; and as the speed of their flight is said to be 90 miles an hour, 5 minutes puts him in an Eden of flowers. Now when he returns loaded with golden pollen and honey, do you think, when he makes his next start, there are not plenty of friends to accompany him? And soon the whole apiary takes up the joyous hum and joins in line.

As to the profitableness of these long flights, that is quite another thing. It is certainly more profitable than to have them lying idle, and eating their stores. As to exterminating them, that is all nonsense, as I will prove further on.

About the 20th of July I found the bees were commencing on goldenrod pretty lively, and most of the flight was east. I took the hint from your footnotes, page 182, April number, where you say, "If you have goldenrod like that every year, I think it would be a pretty good place for a bee-keeper to go to." I took an average colony of Italians, stripped them of every thing but 2 frames of brood, filled up with frames of wired fdn., and put on a crate of 16 sections, 5x5x2, filled half full of thin fdn. On the 29th of July I took them in my boat about 8 miles up the slough, and set them in an acquaintance' yard, in a perfect sea of goldenrod. Aug. 18, I had business at LaConner, and had to pass by where the bees were, so I took the smoker along to see

what they were doing. The first thing that greeted my sight on arriving, was 2 gallons of bees hanging on the front of the hive. Friend Rodene says, "I think they are going to swarm, for they have been hanging out for a week." I opened the hive and found the four outside frames were solid full from wood to wood; the four middle frames had each a patch of brood and eggs about the size of my hand; the rest of the comb was full of capped honey. The sections were filled, and the three-eighths space between the crate and frames was full. Here was honey "with a vengeance," and the bees lying idle, for a week for the want of room. These bees could find all the goldenrod bloom they could work on within half a mile of the hive. The next day I examined the home apiary, and found them all working in the boxes, but it seemed like up-hill business. The long distance that they were working made it slow filling up. There was no perceptible loss of bees; they were as strong as they were in July when working in alsike at home, and far stronger in brood than those working on the flats, for they had nearly run their queens out with honey.

About the 15th of Sept. the cool nights and fog had shut the honey off; I then stripped all the hives for winter. The hive that I took to the flats gave me 78 lbs. surplus, besides from 30 to 40 lbs. in the hive; and had I attended to them the week they were lying idle, I should probably have got 100 lbs. surplus, as the weather was fine and warm. The best swarm in the home apiary gave me 18 lbs. surplus in the same time (about 6 weeks). The whole apiary worked on the same goldenrod from $5\frac{1}{2}$ to 8 miles, and every hive gave some surplus, besides filling up for winter.

I think I have established one *fact*; that is, bees will work seven or more miles. But to make it *profitable*, the whole apiary should be in the midst of the goldenrod.

H. A. MARCH.

Fidalgo, Whatcom Co., Wash. Territory.

There, friend March, you have just "gone and done it" again. You have given us facts that we might have waited in vain for, because no one else is so situated as to be able to do it. I am glad friend Boomhower stirred you up to the speaking-out point, but I feared you might feel hurt at his rough way of putting it. Most of us presumed it was a disadvantage for bees to go long distances for their stores, but we could only guess how much difference it made. You have shown us that there is a very great gain in having the bees stand right near their supplies. My basswood orchard is a mile and a half from our apiary. This distance would, of course, be nothing like seven miles, but still I presume they would get, say one-fourth more, if located right under the trees. By the way, it has been a fond project of mine for some years past to put a heavy colony of Italians right under a large basswood-tree in full bloom, and see how much honey they would get from the tree in one day. Who knows but we might get them to work by moonlight, when so arranged? Another point you have brought out is, although the bees flew over seven miles of water, they did not decrease in numbers greatly. Then the loss is not because of the loss of bees in flying so great a distance, but because of the extra muscular strength required, so that they can not stand it to make nearly as many journeys as they

would if near by, even if it does take only five minutes to fly seven miles. Can a bee really fly ninety miles an hour? I am inclined to think they will not fly faster than an average passenger train runs, when heavily laden with pollen or honey. Who is able to give us figures on the matter?

AN ITEM ON WINTERING BEES.

A SECOND ENTRANCE, A LITTLE ABOVE THE ORDINARY ONE.

WHEN there were plenty of bees and honey, I believe I never heard of bees dying in winter in a hollow tree; neither did I ever know or hear of a colony, with plenty of stores and bees, dying in a box or other hive when the bees went in and out at or near the top of the hive, or a few inches above the bottom-board. On the other hand, according to my observation, in box hives, especially if they are well made, the strong heavy colonies are the ones that are most sure to perish in a very cold winter, or in a very cold spell, though it may not last long. Now, why is this, or how shall we account for it? The answer is, they smother, smother, or die of apnea. Well, you ask, "How are you going to prevent this smothering?" or you may say, "Give plenty of upward ventilation." I believe it is an axiom among bee-keepers, that the more upward ventilation you give, the more food bees consume. This being the case, it would seem that the least ventilation given, short of suffocation, is the best.

About three or four years ago I wrote a card to A. J. King, which he published in his journal, using about the following language: "I suppose about two-thirds of the bees in this section died the past winter. Those in well-made box hives suffered most, especially the strong heavy colonies, because the strong colonies produced the greatest amount of steam or vapor; and this vapor, as soon as it touched the side of the hive, was condensed and converted into water, which would run down the sides of the hive until it reached the bottom-board, when, on coming in contact with the cold air, it is converted into ice. This process continues until a sufficiency of ice is formed about the entrance and on bottom-board to hermetically seal up every thing, and bees are bound to die of suffocation. I have often raked out, after a very cold spell, a pound or more of ice which was formed by the process of condensation above described." I remedy or prevent all this by simply making what I call a safety-valve; that is, a $\frac{3}{8}$ -in. auger-hole $\frac{3}{4}$ inches above the entrance, and 3 inches from south side of hive, which is supposed to be pointing to the east. This $\frac{3}{8}$ -in. hole should be kept open during all severely cold weather, and also during warm weather; but it is better to be closed in early spring. This little hole will give plenty of air in very cold weather, and at the close of each cold snap, rake out ice and dead bees, and leave some of the entrance open, always open. It is true, I lay two sticks, about 9 in. long and $\frac{3}{4}$ in. square, across the frames to make winter-passages, and then spread a quilt over the top of the hive, and then cover the quilt about 3 inches deep with dry leaves, or with very fine, short, dry grass; then let the hood come over these, and nine inches down over the hive, where the hood rests on cleats,

making $\frac{3}{4}$ of the hive double-walled, with $\frac{1}{4}$ in. of dead-air space. I winter outdoors, and never lose enough to think of, unless by starvation. Indeed, I lose none, unless by starvation.

In bee-trees there is always a chance for the moisture to run down below the entrance; and in hives with entrance at top, the same occurs; but if you have your entrance in the top of the hive, the dead bees will fall down to the bottom, and the bees can not convey them out until spring, and they produce a stench. If you make your little hole near the top, the bees will probably conclude that it gives them too much air, and close it up; but by having it just above the entrance, and above where ice collects, and letting them use it as an entrance in summer, they will rarely close it up.

I am half inclined to think that, with my safety-valve, or little hole above the entrance, bees would do better with no upward ventilation at all, if you would make winter-passages through the combs; yet I am a little afraid to risk it as long as I am so successful in wintering outdoors on summer stands, on the plan above described. I think bees need some moisture in the hive in winter, but may have too much. I have never used a chaff hive, but have been inclined to think they probably often kept bees too warm, and that they could not stand the cold air in the spring so well when they fly out. You know, if you keep a man or a horse warmly housed in winter, he can not stand cold so well when he goes out in the cold. G. M. YOUNG, M. D.

Lexington, Mo.

Your idea, friend Y., is not a new one. Mr. Langstroth described a winter entrance in his book, and Quinby advised an auger-hole, just such as you describe, and I am not sure that they are not used now in the Quinby hives, and he gave the same reasons for its use that you have mentioned. Friend J. S. Hill, who wintered without loss for 14 years, also used such an entrance, as you will find by reference to his description, several years ago. The reports of hives wintered with the section boxes on all winter have pretty well settled the matter, that many bees do die for want of a free circulation of air through the hive. Since these reports have come out we have used the chaff hives with entrances open full width, in the coldest weather, and nothing over the bees but the very coarse porous burlap sheet, and this held up by the Hill device, and then a burlap chaff cushion over all, with loose chaff sprinkled in the corners, until no bee can ever by any possibility ever get up under the cover.

DOES IT PAY TO FEED?

HOW FRIEND DENHAM MANAGED.

LAST spring I had five stands, all of which were very weak, and one nucleus. As one of them became queenless I united it with the nucleus which had a black queen. I purchased three black stocks of a neighbor, and transferred them to Langstroth hives, and I thus had 8 to commence the season with. By feeding the weak stocks a little every day when the bees could fly, I succeeded in building them up to good stocks by the time white clover came into bloom. We had no locust bloom

here in Belmont County, which usually affords a great deal of honey just at a time when the bees most need it, and we have not had a failure in locust bloom for some years before this. As the frost killed the fruit-bloom, the bees got no honey from that source. But I kept up the feeding. If I had not I should not have had any bees, especially among the weak colonies; so I think I have proved to a demonstration, that it pays to feed bees, especially in the spring. Finally, white clover began to bloom much later than usual, but yielded honey from the very start, so the bees began to pick up by their own efforts; but the blossoms and honey both came very slowly, on account of the continuous cold weather; and as I thought this state of things likely to continue, I concluded to take my surplus with the extractor. I am glad now that I did; for had I depended on getting box honey, I think I should have failed. So I ordered a "Novice" extractor, with which I was well pleased. I brought it from the express office in the evening, and I guess I extracted all night (in dream land). But the next morning I went to work in real earnest, and extracted from all my hives, from the brood-chamber. My first extracting amounted to 300 lbs., and I think I was never more delighted with any thing than I was with my bees, honey, and extractor. That was the most honey I had ever seen at one time, and the first extracted. In something less than two weeks after, I again extracted about 250 lbs. more, and again about 150 lbs., making in all about 700 lbs. from 8 stands and their increase.

I think now that I extracted too closely, as the flow of honey did not continue as long as I expected; but I did not let them starve. Each hive contained some honey or syrup all the time, and I kept feeding them a little nearly every night. I increased to 18 stands; but when I fixed them up for winter I united them to twelve.

I almost think I can hear some of the A B C class ask, "How much did you get for your honey, and how did you sell?" Well, I sold it without any trouble, but I sold too low. I sold most of it for 12½ cts. per lb., or \$1.50 per gallon. I could have got 15 cts. per lb. just as readily, had I asked it; but as extracted honey is a new thing in our town, I thought I would put it at a moderate figure; it was very nice, the most of it being capped. I think now, that if I could always sell extracted honey as readily as I did this year, I would not bother much with comb honey. So you see my bees have paid me pretty well this bad year, when my box-hive neighbors got but very little.

R. M. DENHAM, 12.

St. Clairsville, O., Nov. 11, 1882.

TROUBLES WITH THE RAILROADS, ETC.

ARE WE IN DANGER OF MAKING A MISTAKE?

I HAVE noted Dadant's articles on the railroads, and I think he is very nearly right. A single individual can do nothing with them. If you expostulate with them they turn their heads sideways to you, and your words roll in one ear and out of the other. Then they will smile on you very benignly, and will "see about it as soon as we can, my dear sir," and walk away. I have been nearly two months getting a package from Indianapolis, and it has not got here yet. It was stopped at Freeport till the freight should be paid. They did not let me

know where it was till I got a tracer after it. If I am not mistaken, some time ago you argued that it is good for some persons to be punished for their wrong doings; now, is it not just as right and proper that a railroad man be made to suffer for the damage he carelessly inflicts? They ought to pay for it just as much as you or I in our private deal; and I don't believe one farmer or bee-keeper wants any thing more.

Bees this year have done pretty well for the short time they had to gather honey. Not much dark honey this year here; 1700 lbs. comb honey, and about 1650 lbs. extracted; 35 fair colonies in the spring, and 5 or 6 queens in 3 and 4 frame hives; 54 swarms now, I believe.

V. W. KEENEY.

Shirland, Ill., Nov. 10, 1882.

Friend K., if you have any confidence in my wisdom or experience, I pray you to beware of letting these feelings of hostility toward railroad companies get a hold in your heart. I know whereof I speak. The officers of the roads are often our near neighbors, and are as much disposed to do right as we are; and they look at us much as we look at them. The reason why they detain packages until the charges are advanced, is because they are subjected to shameful losses by farmers, and bee-keepers too, I fear, who order goods thoughtlessly, and then refuse to take them from the office, when charged more than they expected. Because of this, several railroads have declared they will not receive any more small freight until they are made safe, and none can really blame them very much for it. Our railroad men here are personal friends of mine, and I have found them gentlemanly and liberal, when they found I was so disposed myself. "It is not by might nor by power, but by my Spirit, saith the Lord;" and may God help us as Christians to bear it in mind. I know these railroad officials are careless, and sometimes thoughtless too; and so are our other neighbors as well.

FRIEND MALONE'S "SHOWER" OF HONEY.

FROM 19 TO 56, AND OVER 5000 LBS. OF HONEY.

I BEGAN the season with 19 swarms, and increased to 56. I have taken 2000 lbs. of honey; have 30 swarms, with 20 L. frames filled with sealed honey that will average 6 lbs. to the comb. I have six 1-story hives, with a 7-inch cap, with honey-board, and six 6-lb. boxes. The boxes were filled and sold, and I had no more to put on. The bees took possession of the caps and filled them with honey. This I estimate at 40 lbs. to the cap, making 240 lbs. Honey taken, - - - - - 2000 lbs. Surplus in hives, - - - - - 3048 lbs. Honey in cap, - - - - - 240 lbs. Honey in 6-lb. boxes, - - - - - 468 lbs. Total surplus, - - - - - 5756 lbs. Honey for winter, - - - - - 1960 lbs. In all, - - - - - 7716 lbs.

This is what I reckon as surplus. Now, the remaining 20 and the 6 just counted have 3 combs each of surplus, and each one of the 56 has 7 combs that will average 5 lbs. to the comb. I know what I am saying. I have weighed and re-weighed, so I know how to calculate. Besides this, my bees filled 500 L.

frames with comb; 125 of these were furnished with fdn., and they made the 375. Now, if one comb weighs 1 lb., and if it takes 15 lbs. of honey to make 1 lb. of comb, then this makes 5625 lbs. more. This added to the 7716 lbs. would make 13,341. At least two-thirds of this was made from 10 swarms that I fed last spring, for three swarms lost their queens in May, and the other six only filled up both stories. If I had tended to them, they would have made me a fourth more honey. The reason I did not tend to them better was, that I have a farm of 80 acres to work, but have boys enough to run it till harvest. Then I had to help harvest, and the honey-dew struck me the 1st of August. Such a shower of honey I never saw before. I have taken no account of the cappings, nor of the honey stored in porticoes and on the outside of hives.

I set apart one colony last spring, to see what I could do. It increased to 5, counting the old one, and all, and made 1056 lbs. of honey. I shall winter 43 colonies. I have sold 13. Don't you think I have done well for a novice? and can't I afford to take two or three journals next year? Tell friend Doolittle that I am going to try to beat him wintering this winter. I think I have discovered how to make bees build worker comb instead of drone. I will tell how after a while, but have no room now. All of said honey in my report was gathered in 60 days—from July 13 to Sept. 10.

WM. MALONE.

Oakley, Lucas Co., Ia., Oct. 21, 1882.

The above is surely a most astounding report. Ten colonies and their increase have given over 500 lbs. of honey each, and comb honey at that. Furthermore, I think friend Malone's figures are not far out of the way when he estimates that the whole amount of honey gathered was probably more than a thousand pounds of honey each, spring count. Of course, this honey did not all come from the progeny of a single queen, as did friend Carroll's great crop; but for all that, it shows how quickly a large apiary may be built up in only one single season. It ought to discourage our beginners from thinking they must *buy* bees to begin with. Start with only a few, and *build up*.

REPORT FROM DAN WHITE.

AND WHAT HE THINKS OF CHAFF HIVES.

I WORKED 90 colonies this season, 80 in chaff and 10 in simplicity hives. From these I took nothing but extracted honey, and the result was, on an average, they gave me a little over 100 lbs. to the colony, entirely white-clover and basswood honey. During spring and summer I shipped 40 four-frame nuclei; 52 three-frame nuclei; mailed 57 queens, and increased so I go into winter quarters with 118 colonies in as good condition as I ever saw bees at this season of the year. I have 108 nicely tucked up in chaff hives, and regardless of how cold a winter we may have. I would not give 10 cents a colony to have them insured. Never losing a colony in chaff hives gives me confidence; yet I may some time, like other bee-keepers, have this confidence taken out of me. I took ten colonies four miles away in what are called Shipley hives, and they made 800 lbs. of comb honey in 2-lb. section boxes, all black bees. One colony made 151 lbs. I consider the 800 lbs. a good yield, considering I made only six trips over

there. Two swarms came out, although I did not intend to have any. I got but little honey from the two that cast swarms.

DAN WHITE.

New London, O., Nov., 1882.

Why, friend Dan, can't you give us a few figures along with the rest? You got nearly (or quite) 10,000 lbs. of honey, which is all sold, I believe, and I am sure at least of some of it. Now we are curious to know how much money you got for it, and also how much you got for those two and three frame nuclei. After you tell us that, perhaps some of us would like to know where you find a place to put so much money. Where do you keep it nights, and is your dog cross? Tell "Daisy" to send us another little hymn for the JUVENILE.

VALUE OF SALT FOR BEES, ETC.

HAS A LACK OF IT ANY THING TO DO WITH FOUL BROOD?

I HAVE been reading GLEANINGS for several years—four at least, and I have noticed foul brood mentioned in nearly all or every number. I have been noticing and working with and studying bees for forty years, and I never saw a case of it; but I think I have solved the problem of foul-brood preventive, and why they ever have it. As I suppose it always begins in spring, or in brood-rearing season, I am inclined to believe it is found only in large apiaries; if so, eureka! When bees are raising brood we hunt them with what we country people call "stink bait," as the bees in this county and Newton Co., Mo., have been followed three miles from this bait, and found in trees. The stink bait is made (not composed, for I do not know what it contains) by having a can, a gourd, or a water-tight box with some corn-cobs in it, and then filling it with urine, and in two days it will be covered with bees. Now, the scarcity of that kind of food (if you will allow the expression) for the brood at a certain stage is what causes foul brood, I think. Bees will not work on honey, if placed side by side with stink bait, when they are raising brood; a young swarm will not work at it until they begin to raise brood. If you will notice, they may be found working at water-closets and sinks all summer.

H. J. HANCOCK.

Siloam Springs, Ark., Oct. 30, 1882.

Friend H., we thank you for your kind letter calling to mind the fact the importance of giving the bees, in common with other farm stock, access to salt; but as it has been pretty well proven that foul brood is a vegetable growth, it can no more start of itself than can corn grow where none has been planted. There is a possibility, however, that a free use of salt might kill these spores, or seeds; and in this way, free access to salt might ward off the dread malady. The grooved-board feeder, with a little salt dissolved in the water in the jar, will give them all they want, and allow the bees of a hundred colonies to supply themselves, if their owner keep an eye on the jar, and does not let it get empty. Recipes for making the kind of bait you describe have been sold for several dollars, in olden times, when it was the fashion to sell recipes for making things. We often see bees around wa-

ter-closets, but I presume that a salt-water feeder, kept constantly in order, would leave no necessity for such "low-lived work" on the part of our little friends.

FOUL BROOD.

SOME VALUABLE ITEMS FROM FRIEND MUTH.

INCLOSED please find a letter of H. W. Anderson, who some time ago informed me that about 50 or more of his colonies were infected with foul brood. I gave him my advice. His letter shows the difference in opinion among bee-keepers in regard to "foul brood."

FRIEND ANDERSON'S LETTER.

Yours was received, for which please accept my thanks. I have been reading and talking to others since, and I am in doubt as to whether this is the genuine foul brood, and whether I need to be so much alarmed. I find the bees will clean a comb of the foulest brood, and fill it with honey, if I feed them, and the bad smell has all disappeared. Combs that have been cleaned with water, and the second batch of brood put in, I find have about the same proportion of rotten cells as the first. I also subjected some hives and frames to brimstone fumes, and they seem to be about the best of any. However, I should like to ask your indulgence a little further, and then I will know what it is and what to do. I have had your recipe filled, and am going through my affected colonies, but should be pleased to hear from you again. If there are any charges in connection with your advice, I am perfectly willing, and shall be pleased to meet them, for I don't want your time or advice for nothing.

H. W. ANDERSON.

Gibson's, Ind., Oct. 24, 1882.

Copy of friend Muth's letter to friend Anderson.

I examined yesterday your comb sent me for inspection, and I should call it "foul brood" most assuredly. Your bees had a good honey-flow, and filled their cells, containing remnants of diseased larvae, retaining thereby (and increasing) all bad odors. By next spring, however, the honey will be consumed, and every one of those stands will show signs of the disease. If left alone, every one of these stands will die, one after another, and be robbed by the neighboring bees transplanting the disease to their own hives in every instance. I should, in spring, follow the advice I gave you in my former letter; i. e., keep a close watch over every colony, and commence the treatment described with those discovered first, and keep it up to the last. In order to shorten matters I should unite 3 or 4 colonies in every instance when meeting with indifferent queens. A principal factor of success is, that you be sure to keep out of the reach of bees—all combs taken from diseased colonies, and that you disinfect at once every hive before you leave it. Our best authority on foul brood is Dr. Schoenfeld, who has proved, by microscopic discoveries, that it is spread by spores which bees, alighting on any thing having been connected with the disease, may take home with them. So, be careful. Hoping you will be successful in eradicating the troublesome disease, I am yours, C. F. MUTH.

Cincinnati, O., Nov. 2, 1882.

A few days ago somebody sent us a piece of comb, to know if it contained foul brood. The clerk who opens the mail untied it to see where it should go, and placed it over my type-writer as usual, to await my orders. The type-writer stands before a window that is often open in pleasant weather. Well, suppose this had come on a pleasant day, and some of our bees had been peering around, as they often are when we have so

many queen-cages about. Do you not see how easily foul brood might get into our hundreds of colonies? It almost makes me shudder when I think of it. Now I will see that no comb is ever placed in that way again; and I would also ask of the friends, that they never more send me any specimens of foul brood. I have had no experience with it, and know nothing about it. It will save you trouble by sending your specimens direct to friend Muth, for I always forward them to him. Would it not be better to send no foul brood to any one, unless the party first consent to having it done? Here is what friend Muth wrote about that piece of brood I have been telling you of:—

Friend Root:—The piece of comb you sent me contains foul brood. The brood in that piece of comb was affected, and died just about the time when the eggs had developed into larvae. A few larvae were, perhaps, 3 or 4 days old when they were affected and died. You could see the soft larvæ matter settled down, mummy like, and of a dark-brown color, into the lower corner of the cells. Where the larvae were a few days old, the head part was discernible yet. Under those capped cells the larvae were affected, and died on the same day they were about to develop into nymphs, and when they were capped over, before the bees were aware of their affliction. The brownish mass in those cells had not yet dried up to the same extent as those younger larvae. They were yet of that rosy substance spoken of before this. The hive this piece of comb is taken from is affected with the real malignant foul brood, to which I had reference in my articles, which Mr. Bingham never saw in his life, I fear, and which brother Jones would never cure by the starving process, in my opinion. I was careful that neither a piece of the comb, nor paper the comb was wrapped up in, nor the box in which it came, dropped on my floor, in order to prevent a distribution of the spores to visiting bees. The warm weather, and the scent of honey from my store, has always an attraction for bees, and an infusion of the disease would be more than likely without these precautions. To examine a hive of bees with your hands unwashed after you have examined a piece of foul-brood comb, would be fatal in almost every instance. CHAS. F. MUTH.

Cincinnati, O., Nov. 9, 1882.

Now won't you all be careful, friends?

TWO QUEENS IN A HIVE.

IS IT SO VERY UNCOMMON?

JUDGING from my experience in superseding queens this fall, two queens may be found in a hive much oftener than I had supposed. In order to get a supply of queen-cells I removed a queen from each of 19 hives; and in looking over the combs to "graft" the cells, five days later, I found cells started in only 14 hives. Of the remaining five, two had young queens, but no eggs, and the other three had plenty of eggs. I do not know whether these two young queens had hatched during the five days or not, as I looked for queens and not cells at first. The other three, however, must have had two queens each before I killed any. In one of these I found (at first) an old queen that was but little larger than a worker, and I mistrusted then that she was not the "reigning monarch." In another I found and killed a young queen, and after I got a supply of cells I looked the swarm over again and found the old queen—hard at work. Here, then, we have three and possibly five swarms, out of a total of 19, with two queens each. These old queens were all two and three years of age.

Scipioville, N. Y., Oct. 7, 1882.

F. B. CHAPMAN.

FIVE SUMMERS AMONG THE HIVES.

AN IOWA MINISTER'S EXPERIENCE.

ONE of my earliest recollections is of standing with my mother by a bench on which were half a dozen box and straw hives, and watching a swarm come out of one of them. My father was a bee-keeper on a small scale, for he kept them merely to supply his own table with honey. His bees were cared for, and his honey taken after the old plan. Every fall there was a *brimstone night*.

After my settlement over a congregation, a parishioner presented me a colony of bees in a box hive. I placed them in my yard and attended them as I had seen my father do. The swarms were hived in boxes; but, refusing to dig a brimstone pit, I depended for surplus on boring holes in the top, and placing boxes on them. In a few years a severe winter came, and during it all my bees died. Some years afterward I made the acquaintance of a physician who had a number of colonies for sale. They were in L. hives, and hybrids. He informed me that for some years he had received a hundred dollars a year from his bees, and that he had bestowed but little labor upon them. As my salary was small, and expenses fully equal to it, I, feeling that \$100 a year would greatly help me, bought the bees. In the spring of 1878 I hauled them home — nineteen colonies. Determining to attend to these bees better than I had to the others, I added to my library several volumes on bee culture, and subscribed for two bee periodicals, one of which was GLEANINGS.

At that time I was ignorant of the business, and had it to learn, both in theory and practice. I was pastor of this congregation, which is a country charge, living in a parsonage adjoining the church grounds, and having control of an acre and a half of ground. My regular work as a pastor did not give much time to study or practice bee culture. In this community I find it very difficult to procure help in my apiary. All the laborers I found willing to hire were so afraid of bees that they preferred farm work at less wages. I therefore do not claim that my bees have ever received the care and attention they ought to have had. The location is a prairie, four miles from timber; white clover abounds, but very little buckwheat is ever sown here.

Many persons are saying, "I should like to keep bees, but I have not time to give them all the attention and care the books direct," and ask, "Would it pay to keep them, giving them what attention and care I can?"

My object in this article is to answer such by giving a correct report of my five years' work with my bees, merely attending to them when I could, and often unable to do for them the work I well knew ought to be done.

I began the spring of 1878 with the 19 colonies I had purchased; but, one of them died before the honey season came. I resolved to let my bees swarm naturally, and that has always been my plan. The first year I increased to 33, and took 630 lbs. of comb honey. My cellar being small, and used for storing roots, etc., for winter use, I thought it would not answer for my bees, so I prepared them for winter in this way: I laid some sticks on the ground, and on these I set the hives close together, two deep. I then built around them prairie hay, making a wall four feet thick, and topped out with hay so it looked like a stack. I felt that there they would keep nice-

ly; but I lost 16 by dysentery. I now think it was too cold, as our prairie winds penetrated the hay.

I began the summer of 1879 with 23 colonies, which, owing to dysentery, were in a weak, sickly condition. I increased to 33, and took 420 lbs. of comb honey and 200 lbs. of extracted. In the fall I buried 12 colonies in the ground, making what some call a clamp. Six I left on their stands, well packed around with hay, and 15 I put in my cellar. I lost one of those left on the summer stands.

I began the summer 1880 with 32 colonies in good condition; increased to 73, and took 400 lbs. of comb honey and 800 lbs. of extracted. In preparing for winter I buried 40 colonies in a clamp, and lost 23 of them. The others, 33, I put into my cellar and lost two of them.

In the spring of 1881 I had 48 colonies. Increased to 63, and took 550 lbs. of comb honey and 500 lbs. of extracted. In this vicinity there was an entire failure of fall honey, owing to the weather, and, as a consequence, all my colonies were short of stores when put away in my cellar for winter. When I took them out in the spring I found 2 or 3 dead from starvation; and although I watched, exchanged combs, fed, etc., what time I had, the spring was so cold, and yielded so little honey, that I lost in all, by starvation, robbing, and swarming out, 18 colonies; therefore I began the summer of 1882 with 45 colonies. Increased to 69, and took 2150 lbs. of comb honey and 500 lbs. of extracted. My bees are now in good condition, and I shall winter in my cellar, which, in my experience, has proved the best for this latitude.

I now have 69 colonies, and 63 empty hives, all 10-frame Langstroth, with full surplus arrangements for all. I get my comb honey in section boxes, of which I have 1000 on hand, many of them partly filled with comb. I also have an extractor, smoker, a quantity of foundation, and a goodly number of such traps and fixtures as bee-keepers are likely to gather around them. My entire outlay, including the cost of the 19 colonies, books, periodicals, hives, hired help; in short, every cent expended, directly or indirectly, for my apiary, is \$355.50.

Since I took the first honey from my bees, honey has never been absent from our table for a single meal, unless by oversight, and we have used it to some extent in cooking. Then my gifts of honey to friends have averaged over 100 lbs. annually. Lack of time has led me in selling honey to choose the quickest, instead of the most profitable method, and therefore I have never received a high price for what I sold. I have not sold all of my last summer's crop; but, guessing at the value of what I have on hand, I give my cash receipts at \$623. That leaves me \$267.50 cash in hand, besides having my apiary and fixtures clear. I take no account of the honey used in my family, or given to my friends. I never sold any wax, but have had it all made into foundation. I have enjoyed the study of bee culture very much; but on some warm days the practical part was rather trying to the flesh. W. D. RALSTON.

Scotch Grove, Iowa, Nov. 20, 1882.

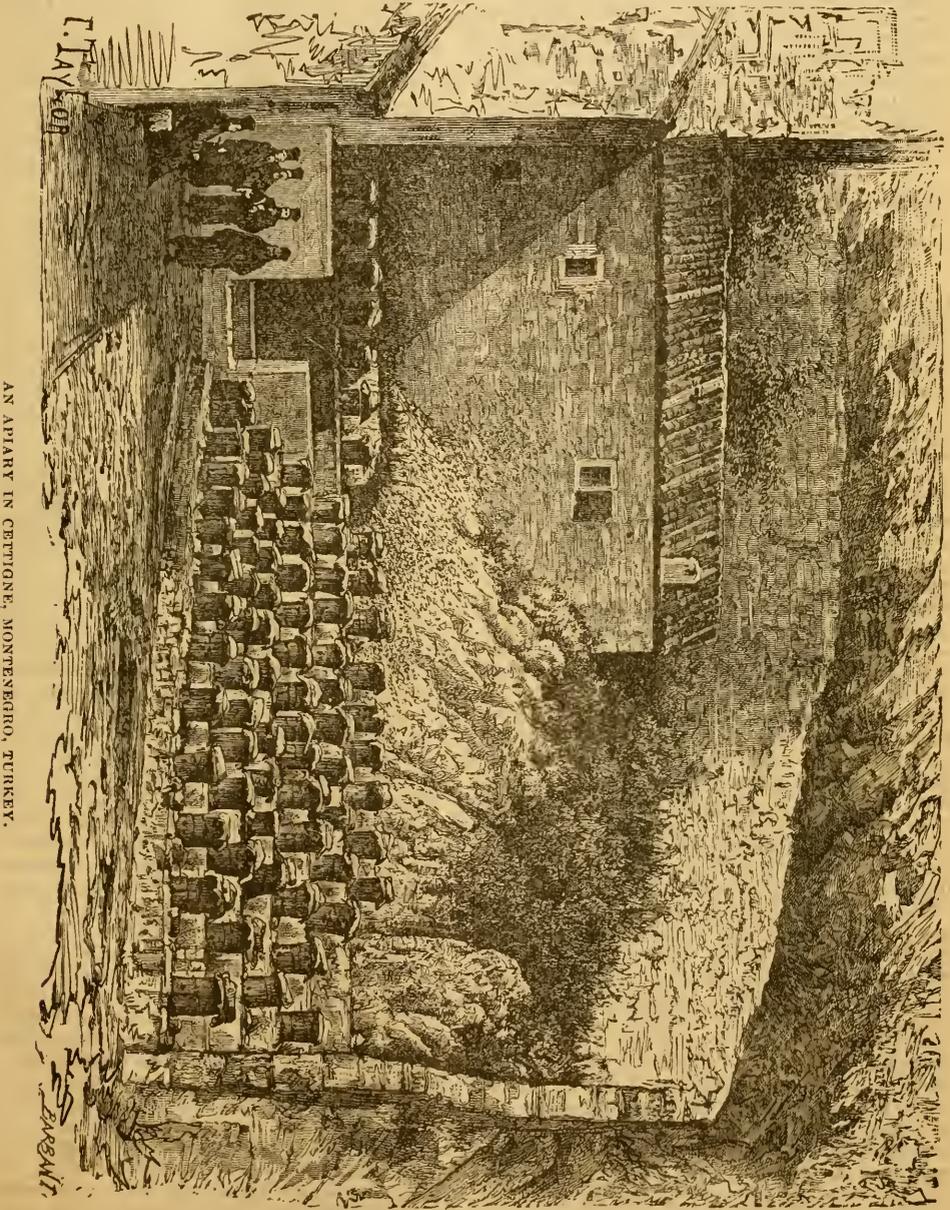
Yours has been by no means a great success, friend R.; but you have made a fair, steady gain of it, and I predict that, with your present stock and experience, you will, before the next five years' experience, find honey pouring in at such a rate that you may be thankfully reminded of Malachi 3:10. Haven't you some boys and girls around you who have learned by this time to lend a hand when it comes?

A TURKISH APIARY.

WE should like to give a detailed description of this apiary, but *L'Apiculteur*, the journal from which we make this extract, confines itself to this brief mention:—

series of steps, reaching from the ground and extending to the rocky walls, with the tree-trunks two feet high placed like statues on a pedestal, offer a singular spectacle to those not accustomed to this mode of apiculture.

It should be known that Montenegro, like the adjacent parts of Turkey in Europe, Dalmatia and



AN APIARY IN CETINJE, MONTENEGRO, TURKEY.

“One can pass from the convent and church to a sort of terraced garden where are arranged the hives. The same system is practiced here as in Greece and on Hymettus; i. e., the bees make their honey in hollowed-out sections of trees, which are covered on top with a piece of flattened bark. This

Albania, maintain an important number of hives. Dalmatia, above all, exports honey and wax to Trieste and Venice, and wax even to Marseilles.” We are under obligations to M. H. Hamet, the able and gentlemanly editor of *L'Apiculteur*, Paris, for information which

enabled us to secure this elegant electrotype, which we finally obtained of parties in London.

It seems our friends have chosen a hillside for their apiary, which offers an advantage to the bees in going out, where they are arranged so closely together. If I am correct, there are about 84 hives in the picture, and I should judge they are not more than four or five feet apart. We should be very glad indeed to know how they get their surplus honey, and what the average yield per annum is from such an apiary. Have we a friend among our readers who can tell us more about it?

FACTS AND FALLACIES IN APICULTURE.

WORK DONE BY TWO QUARTS OF BEES, BEFORE 16 DAYS OLD.

MR. DADANT does not believe in miracles, and Mr. Root does not believe in such as Mr. Dadant suggests. He does not see that a miracle would be required to change the sex of a worker egg, and make it produce a drone. One declares that a queen-bee does not know the sex of the egg she lays; the other thinks she does know. I opine that it would not be difficult to show that the Ubiquitous Life Power (that vivifying principle that animates all nature), the essential principle, the intellectual part of the honey-bee, is sufficiently conscious of its condition and its necessities to be able to perform the required duties to perpetuate its race; but to show that the worker-bee has any means by which it can reduce the worker egg back to a drone egg, would be to show that animated beings can change fate at discretion, and, at certain stages of development, dissect and remove both body and soul by sections, as desired.

Throughout the month of August, the flow of honey had been such that no attempt at robbing had been made when honey was left exposed; and the thermometer had indicated from 60° in the morning to 90° or more at noon in the shade. These were very favorable conditions for testing the business capacity of the honey-bee, the time required to develop its various characteristics, and its growth through its various stages of development. At 4 o'clock P. M., the 26th of August, we extracted the honey from 8 frames that contained capped brood ready to hatch, and placed them in a hive that had been dried and warmed, and these we put in a frame containing capped honey and uncapped brood. Care was used that no bee get into the hive, which we now closed tight. On the 27th, at 4 o'clock, we opened the hive. We found several hundred bees scattered in little clusters around on the combs, where they had hatched. The honey in the extracted combs had daubed them, and they already had a dark shining appearance. When an insect was put near them they hastened away in a frightened manner, and would not attempt to sting. To eat and to avoid danger were all the traits of character yet developed. At the end of the second day, a pint of bees or so was hatched. They had gathered into clusters, and had cleaned part of the honey off from themselves. At the end of the third day they had cleaned themselves, and collected the honey on the extracted combs, and put it into cells. They had also started a few queen-cells. We opened the en-

trance, and some dragged fragments of comb and dead bees out, and a few flew a few feet from the hive; and returning, some stood on the entrance-board and fanned themselves. They were still frightened at insects, and when the finger was placed near them. On the forenoon of the fourth day, a light mist fell. At noon it cleared off, and some of the bees gathered moisture on the grass. On the fifth day the older bees were strong enough to fly with dead bees, and at 2 o'clock they had a play-spell, flying briskly for some time. At 4 P. M. we put a frame of uncapped brood and eggs into the hive, to compel them to work on the next day if possible. At 2 o'clock on the sixth day we saw loaded bees entering the hive; and saw some feeding others at the entrance. The oldest bees in the hive were now several hours less than six days old. On the seventh day several hundred bees gathered honey, and partly filled several cells. One now tried to sting.

Sept. 3d, about 2 quarts of bees were hatched, sufficient to continue our experiments with, and no pollen had yet been gathered. To force them to gather it, we removed all the frames at 8 A. M., and put two whole frames of comb, and eight frames with but little comb in them, into the hive. These frames had not been in use for two seasons. They had nothing in them that the bees could use. Into one of these we inserted several square inches of worker comb containing uncapped brood and eggs, and five cells partly filled with honey. There was no pollen now in the hive, and no drone-cell in the comb containing brood and eggs. The bees filled several cells of old comb with honey during the day, but no pollen was gathered and no queen-cells started. They commenced to repair the old combs, and a few specks of new comb were stuck here and there on the combs. The oldest bees were now less than 8 days old.

Sept. 4th, honey was gathered and new comb made; but no pollen was gathered, and no queen-cells were started. On the 5th, at 4 o'clock P. M., the usual hour at which we made our examinations, there was no bee-bread in the hive, and no bees had been seen to enter the hive with any, though we had given it considerable attention during the day. About two pounds of honey had now been gathered. A hundred or more of the eggs that were in the piece of brood-comb when given them were now missing, and seven queen-cells, half built, were on the piece of brood-comb. On a frame with fragments of old comb in it, two patches of new worker comb, about four inches apart, were built. Each contained four or five square inches of comb. All the skill common to the race (they were Italians) when older, appeared to be developed in these infant bees, all of which were less than 10 days old. A knowledge, however, of the uses to which pollen is put by older bees had not yet been acquired; probably at a time when honey was scarce it would have been gathered by them, but the honey-gathering now absorbed their entire attention. The young brood in the queen-cells was well supplied with royal jelly, and the brood hatched from the eggs was supplied with the requisite food, into neither of which pollen manifestly entered as an ingredient.

On the 6th, in the forenoon, a worker entered the hive with pollen or propolis. At 4 o'clock, four of the queen-cells were capped, two remained open, and one was destroyed. The two pieces of new comb had doubled in size—one was all worker, the other was drone comb at the lower extremity. On

the 7th, several cells partly filled with pollen were seen. The honey-flow was not now so good, and they had paid more attention to pollen, undoubtedly, for that cause. The bees were not much inclined to sting. The two strips of new comb had been considerably enlarged. The bees had continued to build worker comb in one place and drone comb in the other. Considerable repairing of old comb had been done. There was no apparent change in the queen-cells. On the 8th, another queen-cell was started. Four were now capped, and three uncapped. On the 9th, some of the honey was capped. The two strips of new comb had been continued nearly to the bottom of the frame, and united half way down—one side was drone comb, the other worker. On the next adjoining frame, two strips of worker comb were started about four inches apart. Part of the brood was capped over. Sept. 10th all but one of the queen-cells were capped over, and half a frame of honey. Sept. 11th, at 4 o'clock P. M., we carefully observed the condition of the hive, to determine what had been done by these infant bees, the oldest hundred or more of which would, during the next 24 hours, reach the age of 16 days, when they are said by some of our best authorities to commence to work in the fields, if the flow of honey is sufficient to induce them.

WORK THEY HAD DONE BEFORE 16 DAYS OLD.

Two old frames of combs had been cleaned, and nearly filled with honey, a part of which was capped. One whole frame a foot square, and another half-frame had been built with new comb, and nearly filled with honey. The second crop of queen-cells had been built and capped. All the young brood, except one cell at the bottom, had been capped over; and pollen had been gathered. Royal jelly had been prepared; and while it was preparing, many eggs had disappeared, as usually happens at such times. Everything had been done as well as in hives where old bees are plenty, except one single cell which remained uncapped, and it was 8 days and 8 hours after the comb containing the egg had been put in the hive. The cell was one of the bottom course of cells in the piece of brood inserted—a worker cell. It now appeared to be prolonged beyond the adjoining cells, which contained capped worker brood. The base was not formed of the bases of these worker-cells, as is usually the case with queen-cells thus formed; but it contained an unusual amount of food. The upper part of the cell was enlarged, and the general appearance of it was such as to force me to think of Mr. Root's views on the change of sex in the worker egg. The appearance was that of a young drone in a worker-cell two days before capping, except that it was too much enlarged. On the 12th, this cell was a half-completed queen-cell, differing from others in having the single base of a worker-cell. The larva now lay with its head toward the septum of the comb. Three of the queen-cells were partially opened by the workers. On the 13th, these cells were again closed at 10 o'clock; at 12, a queen hatched. The last-formed cell we removed to another hive with some of the bees, hoping to have an 18-day queen hatch from it to compare with the 10-day queen we already had. We closed the hive to keep the bees with the cell which was not yet capped. In the morning the larva was not in the cell. Eleven days later, the 10-day queen laid worker eggs. The removal of the worker-bees to another hive rendering them queenless, had not attracted their attention, and they had entered the cell and devoured

the embryo queen, which had remained in her cell uncapped ten days and eight hours and upward, from the time the brood comb had been first placed in the hive. Possibly a worker egg had been procured elsewhere, and placed in the cell at a later date. One case I have known, I am positive the workers carried an egg from combs exposed, when extracting, to a queen-cell in a comb of another hive when queenless; but now there were no eggs out of the hives. That it was a case of delayed capping, is a fair supposition. In these experiments, the accepted views of apiarists do not accord with the facts in many cases. These are the results reached:—

Bees work in the hive on the second day after hatching.

On the third day they will collect honey into the comb-cells, and will commence queen-cells when queenless, and will remove dead bees, and fly from the hive, and fan themselves at the entrance.

On the fourth day they will leave the hive to collect moisture.

On the fifth day they are strong enough to fly away with dead bees.

On the sixth day they will gather honey in the fields.

On the seventh day, exceptional bees will try to sting under ordinary treatment.

On the eighth day they will first make new comb.

On the eleventh day they will first collect bee-bread, or propolis.

The following facts are also shown:—

The food prepared for the young worker larvæ is not partly composed of pollen, neither is that prepared for the queen larvæ; though queenless, queen-cells are not started until an interval of a day or more has passed, during which time the proper food is probably undergoing partial digestion, preparatory to feeding the prospective queens. Queenless bees do not always build drone comb; but in this instance they invariably commenced to build worker, and in one place only of four, changed to drone. Three-fourths of the comb built was worker comb.

PREDESTINATION, MIRACLE, OR UBIQUITOUS LIFE POWER.

These experiments were made when robber bees would not take honey when offered them, consequently these young bees did not have the experience of old bees to guide them at their work in the hive. Of a certainty they knew of themselves what was necessary for them to do to perpetuate the existence of their race, and just when to do it; for as no bee would visit their hive, under the circumstances, no knowledge could be acquired from any source. If the worker-bee knows of itself what it does, and the suitable time to do it, is it reasonable to suppose that a queen-bee does not know what she does, and why she does it? Was it predestined that they should do as they do, and that events should be so shaped that the conditions should be favorable at the required time? Then matter is not the source of intelligence that forces the work to a successful completion. It is the Ubiquitous Life Power, the God of nature, who applies himself to the work, and forces each to contribute to the welfare of all; and if God applies himself to all things to the end that all shall be done well, are souls saved by prayer, friend Root? are there any miracles, friend Dadant? JEROME WILTSE.

Falls City, Neb., Oct., 1882.

We are much obliged to you, friend W., for your careful report of a valuable experi-

ment; but it gives me pain to hear you use such expressions as you do at the close of your first sentence. If *you* know all about this "Ubiquitous Life Power," and the rest of us don't, we should be glad to be told what *is* and what *isn't*; but as we are, it seems to me that a "*seems to me*" now and then would be a little more courteous to the rest of your co-workers. Your experiment may have shown this: That worker-bees, brought up without ever having been in a hive full of bees, and seen things done, would know how to do these things when of proper age; but I confess that I can not see the connection between that and what you say in regard to souls being saved by prayer. If you will pardon me, I fear that it will look to our people as though you had an anxiety to let it be known that you do not believe in prayer. You may reply to this, that one has as good a right to let this be known as to let it be known that he *does* believe in prayer. May I suggest this difference? All true prayer, as you yourself have suggested, is for the salvation of souls, or for the saving of the world, if you choose; and all praying men pray to this end. Now, at least a great part of these who are opposed to prayer (mind, I do not say *all*), are bent on the ruin of souls; or, if you choose, the ruin of the world. A dying mother's last breath is often spent in prayer for a wayward child. Would you wish to speak lightly of such a thing, friend W.? or even intimate that such prayers do not avail?

Blessed are they who hunger and thirst after righteousness, for they shall be filled.—MATT. 5:6.

AN A B C SCHOLAR'S EXPERIENCE.

ALSO SOMETHING ABOUT FOOT-POWER BUZZ-SAWS.

OFTEN, when reading the experience of others in GLEANINGS, I have thought I would write a little about my own progress in bee-keeping; but having never written anything to be put into print, I hardly knew how to commence, and so have delayed till now.

In the spring of 1879 I commenced with bees (not knowing any thing about them), by buying a swarm of blacks in a Langstroth hive. In two weeks they had dwindled down to nothing. But I was not satisfied; bought another strong black swarm in a Quinby hive, with the combs built in every direction, and lots of drone comb. I paid an enormous price for them. About these days I had a sample copy of GLEANINGS handed to me. After reading it I became very much interested in bees. I immediately subscribed for it, and have not been without it since, and would feel lost without it now.

Now about that swarm of bees. That summer they did not swarm, but made 81 lbs. comb honey; they wintered well on summer stand the following winter. In the summer of 1880 I divided them three times, sending to Mr. Nellis for queens. I thought I had done wonders when I introduced my first queen safely; I felt prouder over that than all I have introduced since. Of the three divisions, two were pure Italians, one hybrid. I put them in "closed-end bar Quinby" hives; found it very difficult to handle them without killing bees. From the old swarm, I took 30 lbs. box honey. In making my

first division I moved the parent stock about 8 rods away, when many bees were in the fields; then I put the new hive in its place, containing one frame of brood and two of honey. Well, before night the bees from the old hive were stealing the honey from the new one at a great rate, and the next day they almost cleared out all the honey. I was so ignorant then I could not tell what was up at first, but found out, very soon, more about that kind of robbing than most A B C's have a chance to in the same length of time. I finally carried the new swarm over a mile away to a friend's, and left them there till the young Italians commenced to hatch. This lesson I learned pretty thoroughly: That it is not safe for beginners, especially if they have blacks, to make divisions when honey is not coming in quite freely.

Now, the winter of 1880 and spring or 1881 finished up my old colony and two of the new ones, leaving me only one very, very weak; but they were pure Italians. During the above winter I made eleven hives of my own design, something like the chaff hive, packed with chaff on all sides; sent to A. I. Root for sample L. frame, and made the hives to fit; so, in the spring of '81 I had 11 new hives, but only one poor swarm of bees; but by giving that one as good care as I knew how, I succeeded in increasing it to 3, and transferred it to the L. frame, then made kindling-wood of all the Quinby frames. I was bound to have those new hives filled, so I sent to a man in Massachusetts for 8 one-frame nucleus swarms with "dollar" queens. He agreed to send rather more than a pound of bees on a Langstroth frame, about the 15th or 20th of June. I think it was the 8th of July when they came all in one box with partitions in it; the frames were a good deal smaller than the L., and not one of the eight had over ½ pound of bees. I complained a little, and about a month later he sent me 3 lbs. of bees, to make matters right. Well, I transferred each one of those 8 combs to a Langstroth frame, and into the space they did not fill, I put a strip of fdn. All of the queens proved to be pure; by careful attention I built them all up to 6 and 8 frame colonies by fall, and from one I got two boxes of surplus. All gathered enough to winter on, so by fall I had my 11 hives full, and all in L. frames, in fair condition for winter—all Italians but one.

In the winter of 1881 and '82 I thought to myself, now I will prepare for next season just as though it were spring, and my bees were all alive. I sent to A. I. Root for a sample chaff hive (I forgot to say, that long before this I purchased the A B C and read and re-read it, also read Langstroth's work). I knew that, to make chaff hives, I must have a buzz-saw. The Barnes cost more than I could afford. I had never seen one, so knew nothing about how to commence, but put my wits at work, and made one after my own liking; viz., a combined buzz-saw, turning-lathe, and jig-saw all run by the same treadle, the buzz-saw and lathe by the same belt, which I made out of bed-ticking. The mandrel is the \$7.00 one advertised in Root's price list. On opposite sides of the nut that holds the saw tight on the mandrel, I had two slots filed in, and two steel brads made to fit, then brazed in; now, by taking off the saw I have the spur center and head-block of the lathe; the saw-table turns back out of the way. I will not try to explain all here, but will only add that the jig-saw will cut through two-inch plank quite fast; on the lathe I can turn out a whiffle-tree; and one aff-

ernoon, with the buzz-saw, I cut out, line measure, 1300 ft. of bevel siding for chaff hives. I have the treadle come up in front of me; but I like friend Hutchinson's way so much better, I shall fix mine so before I commence work this winter.

Now, to go back to the hives; I made 39 chaff ones, sold 19 of them, keeping the rest for my own use; made 300 brood frames and wired them, putting on metal corners, and filling $\frac{3}{4}$ of them with fdn., G. W. Stanley's and A. I. Root's make, both very nice. I made 100 wide frames, bought Novice's extractor of Otto Kleinow; in fact, got every thing ready in the winter that I could. When the spring of '82 came round I found my 11 swarms, which were on summer stands, alive, and all but one in fine condition. Quite early, before work commenced on the farm, I set out my new hives on half-bricks, leveled them with a level, and banked sand up to the partition, according to Mr. Root's instructions. Just before apple-trees bloomed I set one swarm to rearing queen-cells, by taking away their queen and giving her to a division of another colony; from the 9 un-tinkered ones I took 70 lbs. of apple-blossom honey (extracted). I succeeded in introducing and fertilizing 6 young queens of my own raising, and bought 30 one-dollar queens, part of Mr. Root and part of Otto Kleinow. All of Root's are pure, and most of Kleinow's; some of the 30 were for my neighbors, I introducing them. Of the 36 queens, I lost 3 in introducing; two I was to blame for, and one was injured in the mail. I have increased the 11 swarms to 35, and all are in good condition for winter. I have taken in all, 400 lbs. of honey; 70 apple, 130 basswood, and 200 buckwheat.

BUCKWHEAT.

Right here I want to speak of buckwheat as a honey-plant. The past season, and the one before it, it has yielded honey splendidly; last winter my bees wintered almost wholly on it, and did well. This year, before it came, there was in some colonies scarcely a cell of honey, and a few I had to feed; now, all have an abundance to winter on, besides the nice surplus; if they do well on it this winter, I shall think it is a good honey to winter on. I have had the bees all fixed for winter since the first of October by crowding them on as many full frames as they could cover well, and putting in a division-board, filling the rest of the lower story and the upper one with loose oat chaff. I made two winter-passages through every comb, and under the wooden mat, which is covered with a piece of carpet; put two $\frac{1}{2}$ -inch strips crosswise of the frames, to take the place of "Hill's device."

In raising queens, just before the cells were ready to hatch, I cut them out and put them in wire-cloth cages, $\frac{3}{4}$ in. in diameter, and 4 in. long; fastened a row of them in a brood frame, and hung it in the center of the colony. But I had trouble with the little wee red ants; they would eat through the cell, and destroy the young queens; had it not been for that, I like the way. The bees would feed them through the wire-cloth. After the young queens had hatched, and gotten quite strong, I gave them to queenless divisions which had been previously prepared. I had good success in their being accepted. In introducing a fertile queen I could always get the bees to accept her much quicker by not trying to introduce the accompanying bees with her; put her in a cage by herself, and lay the cage wire-cloth side down across the frames under the mat. Usually in 12 hours I could safely release the queen. In two

instances they accepted her immediately. I notice that A B C's often speak of the queens persisting in flying when let out of the cage, and occasionally not coming back. I had one that did not come back, but I found her in front of another hive after a few minutes. I found that, when released in the morning or evening, they were not nearly so apt to fly as in the middle of the day. In making my divisions this season I usually left the old queen at the old stand, disturbing her as little as possible, taking frames of brood with adhering bees to new stand. I think they did better so, for all bees that went back to the old stand found their own mother there.

Last winter I sent two 5-year subscriptions for GLEANINGS, getting two Waterbury watches for premiums, one for a friend and one for myself; both are running very accurately now, without any balking. I want to tell how I wind mine. I took a piece of $\frac{3}{8}$ pine, 18 in. long, and on one side cut a rabbit $\frac{3}{4}$ in. wide. I have the stick on my bureau, and every night when I wind my watch I take one end of the stick in my left hand, and put the other end on the bureau, with the rabbit to the right; take the watch in my right hand, place the stem in the rabbit at the lower end of the stick, and draw toward me. I can wind it so as quickly as any watch.

My! how this is spinning out! Just one question, friend Root: What kind of a feeder would you use, and how, in feeding back extracted honey for box?

C. S. ADAMS.

Williamson, Wayne Co., N. Y., Nov., 1882.

Well done, friend A. You have not made very rapid progress, it is true; but you have been progressing all the time, nevertheless, and you are surely succeeding in about all you undertake in bee culture, and this is perhaps a safer way than to make a big report one season, and then have blasted hopes. I think I should use the tin pan, with a cloth over the top, described in the A B C, to feed back extracted honey for filling sections. When the weather is cool, and for feeding only small quantities for stimulating, we prefer the Simplicity feeders to any other.—Your plan for winding the Waterbury, we published some time ago.—Go on and prosper, my young friend, and let us hear from you more.

HONEY FROM CORN,

AND NO MISTAKE ABOUT IT.

AT your request I send you to-day by mail a sample of corn honey; I also send some heart's-ease, so you can see how much milder in taste and lighter in color the corn honey is. You asked me to tell you about it, and I should have done so before, but have been so busy. Some time in August, I forget the date, when white clover was about played out, the bees took a "spurt," and for several days we failed to find what they were working on. Heart's-ease and goldenrod were not in bloom. My wife called my attention to it first. She had followed the line of bees, and found the corn-fields swarming with the bees. At first you would suppose a swarm was going over, and wonder where they were. Stand still a moment, however, and you will see a bee come from under the base of a corn leaf, then one from between the stem of an ear and the stalk, then some from away down by the roots, and by that time you will begin to see where they

are getting the honey; not from the silk, not from the blossom, but from the stalk at the base of every leaf at each joint, and on every stalk and every hill. We obtained 500 lbs. extracted, same of box of this same corn honey, and you will see by the sample it is *nice*. Bees worked on the corn about two weeks. Field corn begins to yield honey about as the kernels begin to form, and continues until the kernel is well formed — at least, it did here this year. There are from 500 to 1000 acres of corn planted within a radius of 3 miles of my apiary. I think it always yields honey, some every year, but you "*can't most always sometimes tell*" what is going to yield honey. For instance, they worked very busily on Lombardy poplars for four or five days this season, which, by the way, I never saw before, while white clover was almost a failure, and my much-puffed catalpa never received a notice. But corn and heart's-ease, oh my!

MY REPORT.

I packed in Nov., 1881, 58 colonies; 7 queens kicked the bucket during winter. One colony, queen and all, died just for the fun of it, I guess, as I could find no other reason, and "I'll do it to-morrow" starved 3 colonies. Colonies made into nuclei for queen-raising reduced the number to 43 for surplus for the season just past, of which I obtained 4500, "'alf and 'alf," box and extracted. Increased to 79 colonies.

Best yield of extract ed, one colony, 260 lbs.

" " " " " " " " 180 "

But you see my average was over 100 lbs. per colony, which is good.

H. M. MORRIS.

Rantoul, Ill., Oct. 28, 1882.

Many thanks, friend M., for your valuable contribution to our stock of facts, and also for the samples of honey. The corn honey will rank with the best we have, both in color and flavor. I should have called it white clover, in fact, were I not informed otherwise. The heart's-ease honey, though a little dark, I call of excellent flavor. I would strongly indorse the point you make, friend M., about honey coming from unexpected sources. We little know now, where the honey we may get next season will come from. While honey comes from so many hitherto unknown sources, and there is such a broad field of knowledge yet unexplored, should we be discouraged, even if we do not reap a bountiful harvest every year? Thanks, also, for your good report, friend M.

HOW TO MAKE A HORSE-POWER, FOR SAWS FOR BEE-HIVE MAKING.

W. Z. HUTCHINSON'S DESCRIPTION OF FRIEND HUNT'S HOME-MADE HORSE-POWER.

IT will be remembered that friend Hutchinson promised in the May number to give, some time, a description of the above. Well, he has sent it to us in the *Country Gentleman*, from which we copy the following. Our readers will find a picture of the horse-power in our Oct. number, 1881. If they place this before them while they read, they will find it much easier to understand:—

HEAP POWER FOR MAKING HIVES.

While at the bee-keepers' convention, this spring, at Detroit, I was entertained by a bee-keeping friend living a few miles out of the city. This friend is the owner of a cheap, home-made horse-power, with

which he runs a circular saw, in cutting up lumber for bee-hives. While staying at his place I improved the opportunity to examine this horse-power closely, and, thinking that some of your readers might like to make one like it, I venture to give a description. As both myself and my friend think that his power could be improved, I will not give an exact description, but will rather describe a power as I think it ought to be built.

The power is simply a large wheel, fifteen feet in diameter, fastened, in a horizontal position, upon an upright shaft. The rim of the wheel is three inches thick, and is composed of felloes, eight inches wide, sawed from inch hard-wood lumber. One or two horses can be hitched *inside* the rim, and, walking around, they pull the wheel around with them. When two horses are used, they are placed at opposite sides of the wheel. To connect this large wheel with the machinery to be driven, my friend has found nothing equal to a light chain. The chain runs in a groove cut in the outside of the wheel; and, to prevent the chain from slipping, six or eight pieces of iron, one-fourth inch thick, and perhaps three inches square, are fitted, perpendicularly, into the circumference of the wheel, at equal distances apart. If the wheel had spokes, these pieces of iron would stand parallel with the spokes. A notch nearly as deep as the groove in the outside of the wheel, and corresponding with it, is cut in the outside edge of each piece of iron; and at the bottom of each notch thus cut, is cut another notch or slot. This last-mentioned notch is just large enough to admit a link of the chain edgewise, thus making it an impossibility for the chain to slip.

About eight feet from the circumference of the wheel is a horizontal shaft, and upon this shaft are two pulleys. The smaller pulley is about one foot in diameter, is grooved, and also furnished with grooved or notched pieces of iron, similar to those in the circumference of the large wheel. The chain passes from the large wheel around this smaller grooved pulley. The large wheel and this smaller pulley are so placed that the part of the chain that does the *pulling* draws perfectly *straight*, while the slack part of the chain runs over a smoothly grooved pulley, which is about a foot in diameter, and is placed about midway between the large wheel and the smaller pulley. Upon the horizontal shaft, by the side of the grooved pulley upon which runs the chain, is another larger pulley about two feet in diameter; and from this pulley a belt is run to the counter-shaft of the saw. The large drive-wheel, inside of which the horses walk, is made in two parts, each part being a half-circle, the ends of each half-circle being fastened together with a cross-piece. These cross pieces are hinged together; thus either half of the wheel can be lowered until its outside edge strikes the ground; it is necessary to do this, in order that the horse can step inside the wheel. Each half of the wheel is as thoroughly braced as possible, with iron rods, and yet leave room for the horse. The upright shaft, in the center of the large wheel, is made from a 4 by 4 inch scantling, and is eight or ten feet in height. The rim of the wheel is supported by iron rods that are fastened to the upright shaft, near its upper end.

There is, also, a cross-piece fifteen feet in length, fastened to the upright shaft, about four feet above the large wheel. The ends of this cross-piece extend out, over and beyond the horses; and these ends are furnished with chains that hang down and are hooked to the rim of the wheel, thus giving it support where it is impossible to brace or support it with iron rods, the horse being in the way. The lower end of the upright shaft is surrounded with an iron band, and an iron gudgeon driven into its lower end turns in a large, heavy block of wood that is deeply and firmly imbedded in the earth. Upon opposite sides of the large wheel, deeply and firmly set in the earth, and thoroughly braced, are two posts that extend eight or ten feet above the ground. The upper ends of these posts are connected by a cross-piece; and an iron gudgeon, driven into the upper end of the upright shaft, turns in a hole bored in this cross-piece.

It will be seen that my friend's horse-power was out of doors, and stationary, but it would be an easy matter to build such a power for use upon a barn floor. The gudgeon in the lower end of the upright shaft could run in a bearing fitted into the floor, while the gudgeon in the upper end of the shaft could run in a bearing fastened to an "overlay" in the scaffold over the barn floor. When not in use, the large wheel could be taken apart and set one

side, together with the upright shaft and "jack." There are two objections to this power; one is, that the horse has to walk in a circle that is inconveniently small; and the other is, that many horses will not work without a driver. My friend had only one horse that would work without a driver. Of course, this power can be used for other purposes than hive-making, such as cutting or grinding feed, shelling corn, etc.

Friend H., why can the wheel not be made a little larger? and if made so, may it not overcome both the objections you have made, especially the last one?

Ladies' Department.

MRS. HARRISON ON PROTECTION FROM BEE-STINGS;
LINEN GLOVES SUGGESTED.

WHEN I work with bees, I have the name of making them cross, and I am not blamed, either, without cause. When I go out to work in the morning, I know that dinner-time is coming, and many times I have insufficient help in the house; so, in order to accomplish what I have laid out to do, I must work fast to accomplish it, before it is time to get dinner. When I'm clad in my armor, I do not care if there is a whole swarm of infuriated bees around my head, if they only attack me, and let others alone.

Sometimes, when bees are very cross, they sting through my clothing if I have on a calico, gingham, or thin worsted dress. When Mr. Harrison works in the apiary, he wears a linen hat and coat, and says that "bees can not sting through linen when it is starched and ironed." My own experience corroborates his statement, and the past season I've worn a linen sacque while working in the apiary; and if I forgot to put it on, I was sure to be reminded of it, in receiving stings in my body and arms.

I can handle bees without any protection, when everything is propitious — honey coming in freely, etc. But work must be done at other times — nuclei given eggs, and young swarms strengthened with frames of brood and honey. I have not tried linen gloves, but intend doing so; they are sold at our glove stores, for driving. Any one could make his own, by ripping up a kid glove that fits, for a pattern.

I can not agree with my fellow-workers, that "bee-keeping is too hard for women." We have had a delightful fall, and I have worked all day, day after day, in the apiary and was wont to remark at night, that I was astonished that I was not more tired after the day's labor; for if I had been at work in the house, baking, ironing, etc., for only part of the day, I should have been more tired.

How this arouses my indignation! "Total number of ladies at 00 each, \$0.00." Showing to the world at large that "ladies" are regarded as dead-heads by the convention.

Bees carry water every day. Sweet clover is in bloom, and beans and tomatoes yet green.

Peoria, Ill., Nov. 9, 1882. Mrs. L. HARRISON.

Why, Mrs. H., I knew, too, that bees can't sting through linen, but I never thought to mention it before. The truth is, that I always want linen clothing whenever it comes summer, and I think your husband is just right about it; but don't you believe they say at our house, it makes a great deal of hard

work for the women folks? Of course, I tell them I don't mind if I don't always look so spruce and starched up, but my wife says I am just sure to get down in the dirt or grease the very day she fixes me up nice in clean linen clothes. I am sure she must be mistaken. I know linen gloves would be even better than rubber if we could keep them starched. You see, they want to be so hard and glossy that, when a bee tries tasting, his "stinger" slips off, just as a darning-needle would if you tried to stick it into a dinner-plate. The bees always look very much disgusted when their "stingers" glance off in that way, and don't take hold; but I can't remember that I ever felt very sorry for them on account of their disappointment. Who will give us some starched linen gloves?

IS BEE-KEEPING TOO HARD FOR WOMEN?

My bees are fixed up for winter, so I've time to ask a question. Some ladies who have tried bee-keeping say it is "too hard work for women." Now, can't you get Mrs. Harrison, Mrs. Axtell, and others who have followed the business long and extensively, to tell us what a woman can do in the business? Many will be discouraged if we don't have the "other side."

MRS. MARY A. SHEPHERD.

Barry, Pike Co., Ill., Nov. 8, 1882.

Will the ladies mentioned please answer? Mrs. Harrison has partially answered in the above article.

I have been on a visit to Lewis Co., N. Y., and talked bees and honey to these people, who were much interested. I asked you last year to send copies to two or three parties, and in one case I saw GLEANINGS on the table as a monthly visitor, as the result.

Now that I have my bees all in good shape for winter, I feel like sitting down and resting. I have been to Lewis Co., N. Y., this fall, visiting my father and other friends. One day of the first week in Sept. was spent at the house and apiary of N. F. Case, Glendale. Friend Case has been a contributor to the pages of GLEANINGS, and we "A B C'ers" have learned some good ideas from him, and might learn more, did he choose to open his mouth and teach us. Friend C. suffers from asthma, and bee-keeping does not seem to cure him; so he is excusable, if he does not talk much. But I was surprised to find he had lost his enthusiasm; the poetry of bee-keeping had all vanished; nothing but stern realities, hard work, and warm work it was, too, that day, remained for him. I could not, however, but notice the order, precision, and regularity with which he seemed to conduct his work. Sections taken off were immediately put in their proper place; frames were stored where they belonged; no cards of comb tumbling around, leaning up against any thing handy, but hung on suitable racks. Verily, I thought, here is "a place for every thing, and every thing in its place." I saw the beauty of the mosquito-net tent in working order, and resolved to have one. His bees were gathering honey then, the second day of September, as freely as in the best clover or basswood season, and he hardly knew from what; the honey was peculiarly white, and not much flavor, as I could detect — simply sweet. He had 140 hives; had to feed until the 10th of July, as did others in Lewis county; but it paid in the end, and I think R. Lovejoy, of Greig, missed it in letting those colonies of

his starve in spring. Friend Case must have his usual quantity in spite of the poor season.

Mr. Stimson, of Leyden, who has 112 colonies, could tell us a story about setting out too early. The 1st of May was too early in that locality. He winters, by burying in the ground; 10 cushions to keep out the cold when set out in the spring, and a heavy storm coming on, found the poor bees unable to keep their brood warm, and, as a consequence, many hives were lost.

It seems to me there have been of late, many accounts of fertile workers. Is it because I have had a job of that kind on hand, and so noticed it more? I found and removed a fertile worker; gave them a frame of eggs and larvæ, and they started queen-cells, but never finished them. I tried three times to get them to raise a queen, and also kept them well supplied with young hatching brood, but all of no use; they persisted in having their own way. I have not looked at them since my return home. Being the doctor's bees, and not mine, I presume they are nearly run out. I have been at work under that tent, and I think it is capital—no fuss, no robbing. I really don't see how any one can "keep house without one." I have 27 colonies now; counted 19 in the spring; have always been afraid of increasing too much—more than the locality would support; but I shall keep on till I reach 50 now, and hope I may start next season with that number, notwithstanding the old croakers say, "*Too many bees kept here now.*" They may just step out of the way with their non-progressive ideas, and give me full swing.

Poor season, this; no white clover; too wet and cold in May and June; no surplus honey, but lots of brood-rearing, till the last week in July; then a rush for just one week, and I extracted in three days, from 10 hives, upper stories, 450 lbs. It don't pay to put on boxes in poor seasons; just be ready for extracting, and attend to *that*, is what this season has taught me.

MRS. T. M. SQUIRE.

Redding, Conn., Oct. 9, 1882.

EXTRACTED HONEY—HOW TO PUT IT UP.

WHY HONEY CANDIES, AND HOW TO PREVENT CANDYING.

IF the people want candied honey, and will buy it, by all means give it to them; but if they want pure liquid honey, who will say they shall not have it? In this free, enlightened age, the people have a right to their preferences, and it is the interest of apiarians to cater to their tastes. We want the people to consume honey, and more and more of it. Honey for food and honey for medicine, is our doctrine. I am glad that Mr. Dadant, after he failed to get a market for his honey, because "our honey had candied in glass jars, and then looked like lard of inferior quality—all the customers wanted liquid honey," succeeded in covering his candied honey with tin, and getting a good market for it. All right; let him and others go on and prosper on that line. There is no doubt that there are multitudes of people who still want liquid honey, and there is a wide field open here for the small-fry bee-keepers. Our home market is yet only in the incipency of development. Liquid honey in glass jars, warranted pure with the producer's name on it, is the very thing to do it with. I am able to sell all the honey I can raise from my fifty colonies of bees, without going more

than nine miles from home. But once, as an experiment, when going away from home I took with me some sample jars of honey. I showed them to the grocerymen in some of the towns. They had "never seen any thing like it;" it was "beautiful;" it was "so convenient to handle—no sticking nor daubing." They smiled, and would be very glad to have me send them a "few dozen jars as samples." They thought they could "handle it." Before I took that trip I was really afraid that, if I raised much more honey, I should not be able to sell it.

Now, I know that the world is open before us, and, if properly managed, consumption of honey will keep up with the production. But each producer should look well to his home market, and to the villages around him. The first year that I had much extracted honey to sell, I took a sample to the stores at the iron-works and factories, a few miles from here. A few days after that, I made my first delivery. It was in Mason jars. While I was in the store, by the time my money was counted down to me, five different persons had each taken one jar of honey.

Mr. Heddon thinks that it is the cold and not the air that makes honey candy. But my experience for years proves that all honey, thin or thick, candies in cold weather, if exposed to the air, or if the air is not expelled from it before sealing it up; and also that honey *does not candy* in cold weather when it is properly sealed up, either in the comb or in jars. I have now in my honey-house (a small board building in which I never had fire), honey candied into a solid mass, and I have some of the same lot sealed up in glass jars in August, which is as clear as it was the day it came from the combs, and I have no doubt it would keep for years just as it is now. Light and cold do not affect it, if the air is excluded.

The most of my honey crop I put up this year at from 140 to 150° of heat. It is all keeping nice y. As an experiment, I put up some at 100, 110, 120, and 130° artificial heat. That put up at 100° shows considerable signs of candying; that put up at 110° has not changed so much, but it is not perfectly clear, while all that was put up at 120° and above that is perfectly clear to-day (Nov. 13). I also tried putting up some by putting the jars into a box with a glass cover, and letting them stand in the sun to warm up before sealing them. The season here was not favorable for that kind of work, as in July, when I did it, the weather was not hot, and it was so cloudy that I could get only a few hours of sunshine in one day. I am glad now that I did not have more favorable weather, because, if my experiment proves a success this season, then we can succeed in that way every year, and in all ordinary summer weather. The greatest heat I got in my box was 110°. To-day, one lot put in at that degree shows here and there in the jar something like a small air-bubble, or grain of granulated honey. Another lot, put up at the same degree, is perfectly clear, and shows no signs of candying. Why this difference? I can account for it only in this way: That the first lot was filled, set in the box, and sealed up the same day, and the air-bubbles through the honey had not time to rise to the top. The other lot was allowed to stand a couple of days in the box after they were filled, and the honey had thus time to settle, and the air to rise, before they were sealed. That put up at 110° artificial heat was poured into the jars after the honey was heated, and it was not warm enough to expel the air that was mixed with it, right away. The bees can

seal up honey at 100° or less, and keep it; but they do not pour it in a large stream into the cells, getting the air all mixed up with it. I hope that man may yet succeed in doing as well as the bees. Honey is never as good as when it comes fresh from the comb. Standing one week exposed to the air makes a perceptible difference in it. Granulated honey is good, but it is not like honey from the comb. Liquid honey, allowed to stand for weeks, is good; but it is not just what it was when it came ripe from the comb. Those people are not all dupes who insist that comb honey is better than old extracted honey, whether candied or liquid. What is desirable is, to get some way of sealing up our honey as soon as it is extracted, and thus preserve its freshness and delicacy of flavor. If one day, or at most two, of exposure to the heat of the sun will suffice to expel the air that we get mixed with it in handling (and my experiments so far favor that belief), then we shall be able to put into the market extracted honey as pure and fresh in its delicacy of flavor as the best comb honey.

Mr. Dadant says it will take work to put up several tons in that way. He is right about that. But it is work in a good cause. I rather think I should enjoy it. But if we can do it by the heat of the sun, it will not take so much work after all.

Milroy, Pa., Nov. 13, 1882.

J. W. WHITE.

HOW I GET QUEEN-CELLS.

Doolittle's Plan for Getting Good Ones.

AS one of the requisites for good queens is good queen-cells, I thought a few words about how I get such cells might not be out of place. As I believe that queens reared under the impulse of natural swarming are superior to those reared by any other method, I will first tell how I manage to get a supply of good cells, letting the bees carry out their own wishes in the matter. When a very large force of bees are present, it is self-evident that a larger number of good queens can be reared than could be done with less bees, and under less favorable conditions. Hence a powerful colony preparing to swarm can perfect from 15 to 20 cells, of the highest grade, just as easily as a three-frame nucleus could 3. That these powerful colonies will often swarm, and not give more than from three to five queen-cells, was the reason I have experimented with a view of increasing the number of cells, if possible. Years ago I noticed that colonies having all straight perfect combs give a less number of cells than one whose combs are full of holes, and of uneven surface. I also noticed that, when, in preparing my bees for winter, I made holes through the combs for winter-passages, the next season queen-cells would be built in these passage-ways. So it proved that all that is needed to get double the number of cells generally built, is to cut plenty of holes in the combs at the time the bees were preparing to swarm, or, what answers equally well, to place one or two frames partly full of comb in the hive at this time. But of late years we prize perfect combs more than we previously did; and as the Hill device, or something similar, does away with the winter-passages, it became necessary to get the cells built without being obliged to cut the combs, either for places for building cells, or by cutting the cells out in transferring. To accomplish this, I take a frame and tack three or four bars inside of it, at equal

distances apart, the bars being of the same dimensions as the top-bars to the frame, only they are not so long. On the under side of these strips, or bars, I fasten, by means of melted wax, strips of old refuse comb; and when the proper times arrives, place such prepared frames in the center of the colony from which I wish to raise queens. In this way I generally get from 15 to 25 splendid cells, and have them in such shape that I can cut them out without molesting the other combs in the hive. Another plan, which is still more sure, and gives a required number of cells almost to a certainty, is this: From the time fruit-trees bloom till swarming commences, the bees will be starting queen-cups, or embryo queen-cells. Now as I am at work at the bees, I have a little dish along with me; and as I come across these rudimentary queen-cells, I take them off so as to not injure the combs, and place them in the dish. These are stuck to the under side of the comb in our prepared frame, by dipping the base of the cups in melted wax, and pressing them on the comb while hot. Upon setting such a frame in the hive, the bees will soon fix all up in proper shape for the queen to lay in, and we have the required number of cells in just such shape as we wish them.

If I wish more queens than I can get in this way, the next best plan, as I consider it, is to proceed as above in preparing the frame, after which I go to my best colony and get a piece of comb containing little larvæ just hatched. Shave off the cells down to within one-eighth of an inch of the base of the comb, when, with a goose-quill toothpick, curved at the end, these little larvæ are easily lifted from where they are, and placed in the queen-cups, in our prepared frame. Twenty-four hours previously to this I have taken the queen away from a powerful colony, and now all the brood is taken from them, and this frame of cells, supplied with little larvæ, is set in the hive, together with two or three frames containing plenty of pollen and honey. Within six hours, if we examine we shall find our little larvæ floating in an abundance of royal jelly, the same as they would have done if they had been intended for queens from the start. The above is the plan I adopt to get nearly all my queens.

THE ALLEY PLAN.

I see by reading an article from friend J. E. Pond, in Sept. *Kansas Bee-Keeper*, that Mr. Alley, of Wenham, Mass., has a plan of getting queen-cells, different from any of the plans before the public, by which he secures all his cells built in straight rows, at equal distances apart, and in full colonies, which are never queenless. Upon writing Mr. Pond, he further states that all cells are perfect, and each one is sure to give a perfect queen. Mr. Alley has been in the queen business a long time, and his experience would be of great value to the public; therefore I was glad to have friend Pond write that Mr. A. was about to give his plans of getting queen-cells, in the shape of a book, telling all how he raises queens, introduces virgin queens to nuclei, and many other things never before given to the public. Of one thing I am convinced; which is, that a queen-cell perfected in a hive having a laying mother brings forth a better queen than one brought forth by a queenless colony, as is proven by queens reared by natural swarming; and in such cases as superseding of queens, two queens in a hive, etc. If Mr. Alley has a plan by which he can do all Mr. Pond says he can, and still have a laying queen in the

hive, I shall be glad to buy a book, even if I have to pay a good price for the same.

G. M. DOOLITTLE.

Borodino, N. Y., Nov., 1882.

I can indorse about all you recommend in regard to getting good queen-cells, friend D., and also what you say about getting them as you want them; but I wish to consider a little the matter of friend Alley's invention. The paper you allude to was sent me before it appeared in the *Kansas Bee-Keeper*, but I at once wrote friend Pond why I could not consistently publish it. In the first place, it described in glowing terms an invention friend Alley has made, without telling what the invention is. The spirit of modern bee culture, and the greater part of our journals, has been, I believe, to impart knowledge. To write up a thing and describe its good points, and then coolly inform your readers that it is a secret, savors too much of the papers that commence some startling romance, and then, just when the great plot fairly opens, coolly inform the readers they must *buy a book*, to know the rest of it! I know that friend Pond in his description did not intend this, for I, of all others, have had reason to know him as one who wishes to be fair and honorable to all. If friend Alley gives us a book such as you mention, detailing his large experience, it will form a valuable addition to our stock of bee literature; but if it is to be but a small pamphlet devoted principally to giving the matter in question, and sold for a dollar, or such a matter, and enjoining *secrecy* on each purchaser, I fear it will meet with small patronage from our bee-keepers. At the convention in Cincinnati, some one suggested that there was a man who would cure any case of foul brood for a certain sum, but refused to make known the process. The decision was at once almost unanimous, that no good thing ever comes in that way. Prof. Cook and Dr. Miller both declared it had been the universal experience in horticulture, as well as bee culture, that the man who has something valuable to communicate, but who demands a dollar or some other sum before making it known, always turns out to be either ignorant or bad; and my experience has been that he is generally both. All that is valuable in any science is to be found in our books and papers very soon after its discovery, and I would caution our readers against sending Mr. Alley, or anybody else, money for any book until it has been reviewed and recommended by our leading journals.

DRONES FROM WORKER EGGS.

THE VEXED QUESTION AGAIN.

SINCE I wrote last, I have been experimenting somewhat relative to that narrated on page 554, Nov. No., and I find that things do not work the same way under all circumstances. In the first place I have, I am certain, seen black drones hatch out around grafted queen-cells, when the eggs were originally pure Italian. But in my last experiments above mentioned, instead of having black drones to hatch, I had no drones at all, though there were not less than a dozen drone-cells sealed around the grafted queen-cell, and every one of these cells

hatched perfect workers. This, however, is something that never passed my observation before, and I do believe that a great many of us would have witnessed this before had we been a little closer in our observation of these unnatural drone-cells. Now, in my article above referred to I suggested that these drones were the result of fertile workers. But friend True (see p. 491) seems to have "busted" this theory completely; yet it is possible that friend True is not true — that is (begging his pardon), he might be mistaken. He says, "These eggs will produce pure drones." Well, I doubt not that he has seen pure drones in black colonies, and thought they got there in that way; but to illustrate how he might possibly be mistaken, I will relate this: I once bought a Cyprian queen of friend Flanagan; and one day in her colony of bees I noticed more black drones than Cyprians. It "stumped" me a little at first, but I soon understood matters; the Cyprian queen being the only one of her race on the grounds, I soon found drones of her progeny in several other hives; proving that the drones of the apiary mix up among the different hives more than I thought of. Now, I want to say here, that I mean to try again and again, until I do get drones to hatch around a grafted cell. I intend to watch them hatch too, and see just what kind of drones they *will* be.

Now allow me to make a suggestion: When there are drones hatched around grafted cells, it is the work of a fertile worker, and friend True's drones were either from an Italian fertile worker, or else they were from some other hive. When the bees attempt to raise drones from the original eggs around the grafted cells, they hatch out workers, just as they would have hatched. Now let me appeal to the memory of a few of you, and yours especially, Mr. Root: Have you not grafted cells, and, on looking at them a day or two afterward, found all the eggs and larvae gone except that in the queen-cells started? have you not also seen drones hatched around these queens? I have followed the plan of grafting cells altogether in raising queens, and I have noticed this very fact repeatedly.

CHAS. KINGSLEY.

Greenville, Tenn., Nov., 1882.

I can certify to your last point, friend K. I have a great many times wondered to find the eggs and larvae near the queen-cells missing; but yet I can hardly see how it is we did not notice fresh eggs, and that they were so much behind the rest of the brood. By the way, do you not mean *inserted* queen-cells where you use the term "grafted"? so much? The matter is not ended yet, however, as you will see by the following letters:—

THE CHAIN OF EVIDENCE, AND THAT WEAK SPOT REPAIRED.

In the center of a large barren waste, a tiny acorn dropped, perhaps by Providence; it was lifted up from mother Earth, the germ of a mighty oak, and the sun in his burning glory for a time was hid from view by a dark foreboding cloud, and the earth around the oakling was deluged with water. But by and by the cloud disappeared, and the sun's cheering rays shone forth once more. As time swept on, the little oakling grew to a small tree, and the mighty winds from the four corners of the heavens congregated together here, and blew a blast that made the earth fairly shiver in her warm winter robe; but the oak stood firm, and the tempest only caused it to strike its roots deeper into the earth, and spread its branches wider in the heavens. As it grew to be larger, it bore fruit of its kind,

which in turn sprang up and produced a grove. The moving objects of creation came here for sustenance, and here the birds found support for their nests. By coming, they brought many different kinds of forest seeds, and ere long a wide forest reigned supreme instead of the barren waste.

At the approach of man, the trees were hewn down and shaped into beautiful and useful dwelling-houses, great cities, and many other things. Don't you see how important it was that the oakling should overcome the storms? It didn't amount to much itself; but what followed did. The oak-tree may be typical of the drone question.

As friend Hughes has raised a little "breeze" (glad he didn't give us the whole storm at once) which ruffled things up slightly, some of us had better see to it and straighten the matter up.

He seems to object to the link in our chain of evidence called circumstantial. Well, we have the other kind of evidence, if that will do. In the case referred to by me in Nov. GLEANINGS, 1882, I saw some of the drones crawl out of the cells, and examination proved the others to contain drones also. I could not possibly have been mistaken, as the difference between drones and workers is so wide that almost any one could tell them apart; and further still, the drones were the specified time of 3 or 4 days longer in hatching. At the time of writing before, I did not think of adding the above.

If I am not mistaken, all of the reports we have had so far were of accidental cases. If we ever expect to establish this as an undisputed fact, to be recorded in our bee-books, we must, by experimenting, find a plan that will produce drones every time. As winter is here, we shall have to talk about what we already know until spring, when every one interested will have his eyes open, and the fun will begin in earnest. I would suggest experimenting early in the spring, before bees generally raise drones—with queenless colonies. Be sure they have plenty of pollen. A. L. Lindley, of Jordan, Ind., informs me that he has had a case of "droneism" this fall. The drones were reared in worker-cells from larvæ, and not eggs. Now we are ready to hear the "more yet."

Jordan, Ind., Nov. 16, 1882.

FRANK R. ROE.

I don't understand your last observation, friend R. Can any one tell, by looking at the larvæ, whether they will produce drones or workers? If not, how could drones be reared from larvæ other than the ordinary drone larvæ?

DRONES FROM WORKER EGGS, AGAIN.

Since reading friend Tadlock's letter in November GLEANINGS, I have again concluded to give my experience in the drone theory. About two years ago I boldly asserted, that the eggs from a fertile queen would produce either drone, queen, or worker, at the will and pleasure of the workers. This assertion seemed to contradict so many able bee-masters' theories that I was sorry I made the assertion, for fear I should never be able to prove one word of it true; and I do not know it to be true yet; but from what I see, and what others are seeing of late, it seems there is some chance for the truth of the theory. I was so busy during June and July that I often hived full swarms on fdn., and did not even look to see if they had a queen. In extracting I found several hives queenless, and I went to a hive I wanted to raise from, and took out a nice frame of

brood in all stages, built out on worker fdn. I cut this in three strips from top to bottom, and placed in three hives. Two of these hives had plenty of drones; the other, none. Nice queen-cells were built in each hive; and in the hive that had no drones, a large lot of worker-cells near the queen-cells were changed and built out over drone brood, and these cells hatched drones; in the other two hives, not a drone-cell. Again, on the 12th of Oct. last, I received a choice imported Cypran queen from D. A. Jones. As soon as she began laying nicely (Oct. 18), I took out a frame of eggs, and put it into a queenless hive, and cut a small strip from the center, $\frac{1}{2}$ inch wide and three inches long; along this cut place, five queen-cells were built out; all on one side of the comb, and not less than 25 cells were enlarged and changed to drones on the same side as the queen-cells, and nothing but worker brood on the other side. So it does appear to me, that if the workers can make a queen by simply changing the feed, they can make a drone by the same process. I never saw these changes, except in hives where there were no drones. As has often been stated by others, it may be possible that the workers remove the eggs and lay eggs themselves. Is this one of the mysteries of the hive yet to be fathomed? There is one thing certain: The eggs from a laying worker or virgin queen, produce nothing but drones, feed or no feed, and this seems to put an end to my feed theory. Help me out of this drone dilemma. Bro Root, and set me aright.

B. F. CARROLL.

Dresden, Tex., Nov. 13, 1882.

If I am not mistaken, friend Carroll, Mr. Quinby once published the statement, years ago, that it had been decided that the eggs that produce drones, queens, and workers, are one and the same thing; but as he never alluded to the matter afterward, I decided his faith in it had afterward weakened.

"Forgettery,"

Or Department for those who don't Sign Their Names.

I PRESUME most of our friends know, that when any goods we send out fail to reach our customers, we replace them at our expense. Well, this is not a very heavy tax, for goods we mail seldom go astray; but sometimes we have to suffer when the goods *did* go to the proper address. Here is a case that illustrates how such things may come about:—

I have waited some time to know how to dispose of the \$1.25 A B C sent, but not ordered. The one I ordered, and sent at the time \$1.00 for in stamps, was received about a fortnight after the first. Some of my kind (?) neighbors had got it at the P. O., and had forgotten to deliver it sooner. If I can sell either of the volumes, I will remit the \$1.25 at once. Please say if this will do.

JAMES W. WEIR.

Valley Spring, Tex., Oct. 21, 1882.

It seems to me, friend W., if one of my neighbors did a trick like that, I should feel like paying for both books, and making a very humble apology besides. The moral to this little incident, however, is for us all to be very careful in declaring a thing has never reached our office. How do you know some neighbor did not take it out of the office for you, and forgot to deliver it? I wonder if more of our troubles might not be explained in some similar way.

Heads of Brain. From Different Fields.

EXCESSIVE SWARMING, AND CURING BY MAKING THEM QUEENLESS.

YOU hit the nail on the head when you say to friend E. E. Hasty, "Why not make swarms queenless?" I have had some little experience in this swarming mania. In 1881 I had one swarm in particular that I hived 6 different times, and I tried every plan that I ever saw recommended in bee culture, but they all failed to keep the bees in the hives. This one hive annoyed me so much that I really got aggravated at them, for I think they were fully one-fourth of their time in the air for three days; so the fifth time they came out I got a clean new hive and put them in and set them in a nice shade. Says I, "Now come out again, and I will surely kill your queen." I had not more than turned around when they were out again in the air. Soon they settled on a maple-tree about 40 feet from the ground. I got them down in a box, and caught the queen and pinched off her head. Then I carried the bees back to the parent hive, and threw them down at the entrance. They soon went in and remained quiet the rest of the year. Now, don't understand me that I like to kill queens; but what is one to do when they will not be quiet in any place? I don't think I should like to sell them, and I know I shouldn't like to buy one of that kind, if I knew it.

PUNK FOR SMOKER FUEL.

Friend Root, will you allow me to correct you in saying that the so-called toadstool is punk? I think there is quite a difference. What we call punk is never formed on the outside of logs or trees, but is found inside of trees or logs. This punk is never formed in dry timber, but in its green state; this punk is found in knots on soft maple and hickory, but not very often in the latter. I take the liberty of sending you a sample to-day by mail. This is the kind our forefathers used in place of matches. Try a sample in your smoker, and see how you like it.

FROM 5 TO 9, AND 375 LBS. OF HONEY.

I would just say, that I have been badly excited over bee culture for three years, and have not got any better yet. I must tell you what I have done this year with my bees. From 5 stands I got 375 lbs. of nice honey, and increased to 9, which I feel thankful for.

GEORGE THORN.

Willmottis, W. Va., Nov. 11, 1882.

I fear you killed the queen, friend T., because you were a little vexed, did you not? Well, now, I would just as soon have that queen as any other, for I think it was just as much the fault of the bees as her own; but of course they could not swarm out any more, without a queen of some kind. Why not cage her a few days, or let her lay eggs in some weak nucleus?—Very likely you are right about the punk. The sample you sent reminds me of what I used to see in childhood. It does not, however, differ very much from the kind that grows on the outside of trees, only that it seems to be softer and of a finer texture. It lights with the least spark, and never goes out, even without any draft, so I suppose it would have one excellent qualification for smoker fuel. I presume the difficulty of getting an

adequate supply will be the greatest objection to its general use.—I am glad to know your excitement over the bee business promises to bear such good fruit.

BUCKWHEAT; WHAT IT MAY DO WHEN ALL ELSE FAILS.

My bees came through the winter in fair condition; but the cold, wet spring was very hard on the bees. Mine dwindled until the middle of May. There was only a part of three days in April when bees could fly. May 9th was nice and warm, and the bees worked well and made quite a gain in honey. Cold rainy weather followed, and bees did very little in fruit-blossoms. I had to feed continually until July 6th. By this time I had fed up all the honey I had saved over, and 59 lbs. of sugar; the 6th I bought a barrel of sugar, and on the 7th the bees brought in a small amount of dark honey, and continued until the 16th, when they stopped work. By equalizing, they all had enough to last them until buckwheat, though I continued stimulative feeding until Aug. 13th, when buckwheat commenced to yield honey, and in a few days some swarms were in the boxes. From the 20th to the 26th I was confined to the house by sickness. Sept. 8th we had a heavy rain, and the bees stopped work for the season on buckwheat, though the fields were white with the blossoms for 2 or 3 weeks; 17th, commenced storing on aster; with the 20th came another rain, and the honey season of 1882 was over.

I started with 23 poor to good swarms, and obtained box honey, buckwheat, 1050 lbs.; box honey, aster, 160 lbs.; extracted honey, 50 lbs. Total, 1260 lbs. An average of 54¼ lbs. From 11 nuclei, 121 lbs. Italian average, 84 lbs.; blacks, average, 19 lbs. 15 oz. Hybrids, 34 lbs. 14 oz. Nuclei average, 11. I also had 11 very weak nuclei that I raised queens with. I have built them up into good stocks; had one natural swarm; have 35 stocks in good condition for winter. This has been a very hard year for bees; it was only by the best of care that I was able to make as good a report as this.

JOHN B. CASE.

Baptisttown, N. J., Nov., 1882.

BEES ABSCONDING BY MOONLIGHT.

I am informed by Mrs. Dr. Kirk, of Grand River, Ind. Ter., that she and her husband had a swarm of black bees decamp by moonlight in July last. It was a very large swarm, but there was nothing unusual in its deportment while on the wing or in the cluster. About dark, Mrs. K. removed the hive to the location at which she wished the new colony to establish itself, and between 9 and 10 o'clock that night it absconded. My informant is matron of the Wyandotte (Indian) Boarding School, at Grand River. She is an educated, Christian lady, and the United States can't impeach her testimony. Who else has had a whole swarm of bees fly away at night?

W. MCKAY DOUGAN.

Seneca, Newton Co., Mo., Nov., 1882.

Many thanks for the item, friend D. It has been reported that bees have been known to work on basswood by bright moonlight, but never before, that I know of, of their swarming. I have often thought, that, during extremely warm light nights, that bees might be taught to rob. In fact, I have seen them when they acted strongly inclined to rob; for you know my favorite way of doing necessary work in the apiary, during a severe drought, is to do it by moonlight, and laugh at the trick played on mis-

chievous colonies, to get rid of their company. Now, who will work out the problem of getting bees to work by moonlight? The spider flower would afford a promising field for experiment.

QUEENS FROM DRONE EGGS, AGAIN. [SEE P. 561, NOV. NUMBER.]

Nov. GLEANINGS is at hand, fresh and full of interest as ever. I want to ask you if you think the queen laid just 6 eggs for worker bees only, and all the rest hatched drones, and if the bees *knew they were worker eggs*, and so made 6 queens? If you say she did, then I'll *laugh*. I watched that frame closely, and am sure there was not a worker hatched from that drone frame till the new queen filled it with eggs, then they all hatched workers. They had plenty of drones, and didn't make any more. As for drone-laying queens, I know nothing — never had one. Of course, workers' eggs are a sort of mongrel; they could make nothing but drones, and they good for nothing. I will not bother you any more now, but if I live, I will try the experiment again.

Foristad, Mo., Nov. 6, 1882. A. BIXBY.

We want to be "bothered," friend B., right along, at least until we find out a little more what we *don't know*, as well as what we do know. I, too, have several times seen nice queens come from cells that I *thought* contained only drone larvae. Now let us look carefully into the matter.

QUEENLESSNESS IN THE FALL, ETC.

Do the bees continue to gather pollen after brood-rearing has ceased in the fall, or is it a sign that they are still rearing brood when they gather pollen in November? From what signs would you judge a colony to be queenless at this season, supposing that the queen had been but recently lost, and that you had no positive proof of the fact? Do you make it a practice to supersede your queens on account of age, or do you let them remain as long as the colony prospers? Please give your practice on this point.

H. D. STEWART.

Landisburg, Perry Co., Pa., Nov. 6, 1882.

Bees are more disposed to gather pollen when they are rearing brood, than when they are queenless; and we seldom find a queenless stock very active in carrying in pollen.—The actions of the bees when the hive is opened will generally indicate whether they are queenless; but it is seldom as plainly to be seen in the fall, after brood-rearing has ceased. When the bees are in a dense, compact cluster, you may be pretty sure they have a queen. We never kill queens so long as they do *good work*, but we always sell old queens cheaper than young ones.

HONEY UNDER THE EAVES OF THE HOUSE.

As I have seen no report from my section of country, I thought a few lines would perhaps be of interest. The early part of the season was cold, wet, and discouraging for the bees; but the last half of June, and all of July, August, and September, was the best in all my experience. There was no inclination in swarms to abscond where they were looked after (there never is, in my opinion, where there is a good flow of honey). There are but few successful bee-keepers in this section of country, and very few persons who are posted in bee culture. I have done something at it for 12 years; but for the past five years, my time has been too fully occupied in other

business to give the bees half the attention they should have. My Italians have run out to hybrids and blacks, and are as cross as hornets. Bees have worked anywhere this year, even under the stands in the porticos of the hives. I know of ten or twelve that are working in houses, between the siding and plastering. A gentleman in the country asked me to take a ride to his house, and get some honey for him. He said he had a patent hive, and could not handle the bees in it. I found them under the eaves of his house — about 30 combs that averaged about 10 inches square. I cut out 60 lbs. choice honey, and nailed boards over the remainder, with bees plenty, and about 60 lbs. of honey, and gave them a chance to live over winter.

EXTRA COMBS OF POLLEN.

I have lost two hives from becoming queenless (or, as inexperienced bee-keepers say, they were robbed); now the combs are in good shape, but about half of them are very full of pollen. I have always made such combs into wax. But now the question arises in my mind, if these combs would not be valuable for an early swarm, or whether so much bee-bread would not be in the way. Will you or some of your correspondents answer as to their value, to give the bees in the spring or to a first swarm? The smoker you sent me is certainly the boss, both for cheapness and satisfactory work.

TOBACCO.

I am glad that you are encouraging those using tobacco to quit the useless, evil habit. I used it for many years; have not used it for over six years, and I think it very damaging in more ways than one. It injures a person physically, mentally, and morally, as well as deprives a person from the full enjoyment of religion. I am not asking for a smoker. I have been paid a thousand from the good results of quitting.

J. B. RIDENOUR.

Woodhull, Ill., Nov. 14, 1882.

I should think it *was* time for a report, friend R., if the bees are so badly neglected they hang the honey under the eaves of the house, waiting for some one to take it away.—Of course, the pollen-filled combs are valuable for next season. In our locality, the bees often suffer in the spring because of a lack of pollen.—Thanks for the "*ijl*" you give us on the tobacco matter.

WILL IT PAY TO USE LAND ENTIRELY FOR HONEY-PLANTS?

Will it pay the interest and taxes on land at \$15.00 per acre to sow sweet clover, and to plant basswood for the honey (on the same piece of land), and the land is in brush? Would it be best to plant basswood among the trees, or cut all out and sow sweet clover, and plant basswood?

M. ISBELL.

Norwich, N. Y., Nov. 11, 1882.

These questions are hard to answer, because we have so few positive facts in regard to the amount of honey that a single acre of basswood, or clover either, may yield. Your basswood would sell for timber, in the course of years, but your sweet clover would furnish nothing of any account, aside from the seed that might be sold to other bee-men. I think I should plant the basswoods in the brush, for my experience has been that young trees thus situated outstrip even those under cultivation. The ground seems to need covering from the direct rays of the sun. Even if this were not the case, I

would, on account of the difficulty of plowing among trees, put the sweet clover on a piece by itself. If you keep bees enough to gather the honey, and go to work prudently, I think you can *safely* make the land pay you the interest and taxes at \$15.00 per acre.

HOPES NOT BLASTED.

I went into winter quarters last fall with 12 swarms of bees. All wintered well, but 3 were robbed to death in the spring. After uniting queenless colonies this fall, I now have 13, all well supplied for winter. Increased this season, 4 stands, and about 100 lbs. of comb honey. I do not know but I am a fit subject for Blasted Hopes; but, friend R., do not put me there; my hopes are still good, especially in the Holy-Land where I got of you this fall. I know of no bee-keepers in this region who have done much better than I have this season. GLEANINGS comes very regularly, and is welcome. I should not like to do without it. WARREN FOOTE.

Glendale, Utah, Nov. 10, 1882.

STATISTICAL INFORMATION.

When I read in regard to statistical information on page 722, *American Bee Journal*, I concluded I would be satisfied to have the statistics of live bee-men, that is, of those who read bee journals, and those could easily be reached by simply giving a call through the bee journals. As far as my experience goes, I have never seen any box-hive or log-gum beemen produce honey enough to affect the market, even if they sometimes run up to 100 colonies. They generally produce honey in such a shape as to make it unsalable. What we want is the statistics of scientific, go-ahead, live bee-men, and I will do all I can to help in my neighborhood. We have but three live men in this locality. H. S. HACKMAN.

Peru, Ill., Nov. 17, 1882.

I think you are pretty nearly right, friend H., but I fear it will be a task to make all the bee-men "talk" who do take and read the journals.

GETTING SURPLUS HONEY UNDER THE BROOD-NEST.

Well, now to bees. They have not done very well out here this season, as it was so cold the fore part of it. Mine averaged 80 lbs. to the colony. I read in GLEANINGS once that you would like to hear from some one who would try getting surplus honey *under* the brood-nest. I tried it, and got 180 lbs. of comb honey and 24 lbs. of extracted from the same colony. I tried another colony, equally good, and had the surplus on top. I got 157 lbs. from that one, all comb honey. They were brown bees. I had some that I did not get much from. I am going into winter quarters with 40 colonies in good shape. I came very near forgetting to tell you how I liked my \$25 mill. I tell you, it works well. DAVID SHANGLE.

Judd's Cor., Shia. Co., Mich., Nov., 1882.

Many thanks, friend S. I should hardly feel like calling it a poor season, when you give such reports as the above, especially from the hives you tried with the surplus arrangement below. With the Simplicity hives it is very easily done, for we have only to move the brood into the upper story, and, come to think of it, the bees often move the greater part of their brood-nest into the upper story themselves, late in the season; but I have thought at such times they always seemed rather backward about storing surplus in the lower story. Will you please tell

us how you arranged the hive to have the surplus below? and will others tell us about this matter who have tried it?

BUCKWHEAT HULLS INSTEAD OF CHAFF.

Last winter I experimented by packing some of my bees with buckwheat hulls (we have a mill here that removes the hulls from the kernels previous to grinding), and some were also packed with buckwheat chaff. Those packed with buckwheat hulls came through very nice and dry — better than the chaff-packed. I am going to try both again and fix more with hulls. I think hulls would be best of any thing for packing chaff hives. G. J. FLANSBURGH.

Bethlehem Center, N. Y., Nov. 13, 1882.

No doubt you are right, friend F.

PALMETTO HONEY, AND JARS OR TIN BUCKETS.

I have sent you of late, a case of our 1-lb. palmetto honey, and would ask your candid opinion in regard to the package. I do not believe I should ever have been able to create a demand for extracted honey in small packages as I have got it, had I adopted the tin bucket of friend Jones, instead of my square glass jar. I admire the beautiful labels of our friend, and I purchased a lot which I offer for sale. In spite of the fine labels, however, these tin buckets would not draw in our market as those square glass jars do. Please examine my package, and if I differ with you, I hope you will give us your candid opinion in your next issue. C. F. MUTH.

Cincinnati, O., Nov. 7, 1882.

Friend Muth, we tender our thanks for the box of honey-jars, which came to hand without a particle of leakage, or a trace of a daub of honey anywhere. I pronounce the palmetto honey equal to clover, both in flavor and looks. In regard to which would sell the better, our customers here rather take the Jones pails; but as tastes differ so much, I would display for sale both jars and buckets. The Jones label has given quite a start to our honey sales; perhaps because it is a new thing, however.

A PROFIT OF \$52.30 FROM ONE HIVE IN ONE SEASON.

On the first day of May, 1881, my house burned (no insurance), and burned all my bees except one Italian hive, and that was considerably damaged. It made enough honey to winter on, and a small amount of surplus. This year I made from it 127 lbs. 15 oz. of honey, \$19.05; sold 5 brood combs, \$1.25 each, \$6.25, and 5 queen-cells at \$1.00 each, \$5.00. Total, \$30.30. Then it gave me one swarm, sold for \$12.00; sold the old swarm for \$10.00, which is \$22.00 more, making \$52.30 from one hive. Now, "how is that for high"? I have bought 2 hives of black bees, and increased to 4 for my start for 1883.

T. R. TURNHAM.

Rockport, Spencer Co., Ind., Nov. 13, 1882.

ASTER HONEY, ETC.

As I have never seen a report from this part of the State, I thought I would send one. I began bee-keeping in 1879, with one swarm; have gone "slow." In the spring of 1882 I had 4; have increased this season to 11, and obtained 325 lbs. extracted honey, 172 lbs. of which was obtained from a weed which blooms the latter part of Sept., and yields honey until frost. The honey is delightful, of a rich golden hue, and of excellent flavor; equal, I think, to any I have obtained this season, and we have white clover, linden, sumac, and a variety of

other sources. I wish I could send you a sample of the honey. I am going to inclose a sample of the plant, and ask you to name it. I can find no name for it. It has been growing here only about four years, thriving everywhere. The old fields are covered with it, to the great annoyance of the farmer and the joy of the bee-keeper. We had too much rain in spring and summer to obtain much surplus. Now, friend Root, while this report, as compared to some others, is insignificant, to me it is quite satisfactory, and I feel that my name should be added to the list of those who are under obligations to you and other writers for spreading a knowledge of scientific bee-keeping. E. C. FISHER.

Sissonville, W. Va., Nov. 8, 1882.

The plant you sent, friend F., is one of the many species of asters. I am very glad to know you are so well pleased with the progress you have made. We have the same kind of honey in stock that you mention, I think. The flavor is good, but its dark color is rather against its sale.

HONEY FROM COTTON, ETC.

I made some nuclei about the first of September, and they have built up to nice colonies. We have had considerable rain lately; but when the weather was favorable, our bees gathered honey. The first and second days of this month were fine honey days. The bees gathered honey from cotton bloom (as I supposed). It was very light-colored, fine flavor, and very thin, so I could shake it out of the comb. I have never before suspected that the bees got much honey from cotton bloom. We seldom get honey from it in this locality. Horsemint (not "meat") is starting finely for a crop next year. It lives over winter, like wheat, and we may anticipate a flow of honey from the start it gets in the fall from rains. No frost yet. I have just been out hoeing potatoes. They are cracking the ground nicely. I will dig them when frosts come. M. S. KLUM.

Whitesboro, Tex., Nov. 6, 1882.

HONEY FROM COTTON, IN NOVEMBER.

Saturday, Nov. 11.—What a joyful sight! bees tumbling over each other as if another grand flow of honey from horsemint were here; bees filling every cell as fast as the young ones come out; the cotton-fields alive with bees; the weather as warm and pleasant as June; 74° Fah., 10 P.M., Friday night; Saturday noon, 90° F.; bees roaring at night as they did last summer. Sunday brings a change. Oh how sad to my little pets, but joyful to our afflicted people! The thermometer ran down to 30° F.; today, the 13th, all is drooped, and some hives have lost nearly a pint of bees. I have some in chaff, to try the difference this winter. B. F. CARROLL.

Dresden, Tex., Nov. 14, 1882.

CYPRIONS AS GENTLE AS ITALIANS.

The way I manage them I see no difference. I open the hive carefully, using a little smoke; remove one comb, and set it down beside the hive. I then, with a wing feather of a turkey, brush the bees from the next frame while in the hive, blowing in a whiff of smoke; this starts the bees to running; and by this means, while extracting from my best Cyprian stocks last summer, I seldom got a sting. Dr. C. H. Hart says this is the best way to get bees from combs he ever saw, and then there is no danger of injuring your queen by falling in the hive. Dresden, Texas. B. F. CARROLL.

BROOD THAT DOES NOT HATCH.

In the early fall I had 5 strong and 2 good swarms, with lots of stores; in fact, I had serious intentions of dividing 3 of them. Soon I noticed the brood did not hatch out; it appeared chilled; but there was no bad smell from it. I had one thickness of burlap over the frames, and at once I put 2 and 3 thicknesses more on; still the brood did not hatch, and some of the young bees could only get their heads out, and then would die. The bees commenced dwindling, although they had plenty of stores on an average, to winter. I commenced feeding granulated sugar in syrup, 8 lbs. to 6 of water, hoping to stimulate them, taking care, while boiling, not to scorch or burn it. I fed from 12 to 20 lbs. to the hive, as I thought they needed it. To cap all, while in Toronto on Sunday, Oct. 22d, my bees commenced robbing, and on Monday I had the remnants of three colonies which I put together, and now have a moderately strong swarm, with plenty of stores. Can you give me any idea of the cause of all this trouble, particularly the cause of the brood not hatching? I use frames 18x10. My hives are double boarded, with 2-inch space all around, some of them being packed with dry leaves. S. G. HOLLEY.

New Hamburg, Ont., Can., Oct. 27, 1882.

I presume, friend H., that several of your five colonies were thus affected, but you don't quite say so. I do not think the trouble was foul brood; for if I understand you, the brood matured, and died only when it was ready to bite out. I think we have had the same thing reported before, but never any satisfactory explanation. If it were only one colony, I would suspect it was from some lack of vitality in the queen. Brood would not chill with a fair colony, even if they had no hive about them at all, even during frosty weather.

WHY DO FRAMES RUN THE LONGEST WAY OF THE HIVE?

In hives of the Langstroth form, most apiarists use frames running the longest way of the hives. What are the supposed advantages which give this practice the preference? W. BRADFORD.

Louisville, N. Y., Nov. 13, 1882.

First, because it takes a less number of frames, and we thus have fewer to handle. Secondly, we have longer sheets of comb, and so less ends and sticks to fill the hive, and hinder the bees and queen. Thirdly, as the bees go in, they can quickly get between any two combs, right from the entrance, without traveling over the combs. Fourth, the operator can stand on either side of the hive when handling the combs, without getting before the entrance and hindering the bees. If the above are not reasons enough for the prevailing custom, I presume some of the friends can furnish more. I believe the first is the most important reason.

BLUE HONEY.

Blue honey has been found about here. A man named Kersey, who is a noted bee-hunter, and generally kept a few swarms in the old way, told me that he once found some swarms on the Mississippi bottoms in autumn that had honey of a bright blue color. He could not tell from what plants the honey was gathered. The honey season here has been excellent, but the past spring was very bad. Lancaster, Wis., Aug. 3, 1882. JOEL A. BARBER.

SOME REPORTS ON FOUNDATION, ETC.

Bees did better than I expected. They averaged about 15 lbs. surplus to the colony, three-fifths comb and the rest extracted, and the brood combs bulging with honey for winter stores. Previous to August it looked as if I should have to buy sugar to winter on. Aug. 11th I visited friend Dougherty, an extensive apiarian of Indianapolis, and saw the Given foundation press; bought a few pounds of the round-cell, American-size Given fdn.; hived next day, Aug. 12, a swarm on it; examined two days after, and found one outside frame broken down, and the other outside frame partly done; but the other eight frames were beautifully finished. I examined the same again last week, and found every comb true and straight — not a cell stretched; rich in honey and a little brood. Two years ago I bought 10 lbs. of Dunham fdn., and it stretched and tore down fearfully. Last year I had only a few swarms, and I put them on old comb; this year I used some Dunham fdn. again from the old lot. In May, some stretched and some broke down again. In July and August I filled some hives again from the old lot of fdn., and it was built out straight and beautiful. Formerly all my hives inclined a little forward; but at present they all stand true, leveled with the spirit-level. That probably accounts for all. If true, I believe there is no use for wire. We often blame foundation, when *we* are the cause. GEO. L. HOLLENBACH.

Noblesville, Ind., Nov. 6, 1882.

But I think, friend H., we have great use for wires, even if we can get fdn. that won't stretch without it, for we want combs that are secure from injury, no matter what we do with them.

QUEEN-CELLS GIVEN TO NUCLEI WHEN AT WORK.

In each of the last three years we made from 15 to 30 nuclei by taking two frames of brood in all stages, giving them bees from several hives, and not one queen-cell was torn down. We had given them capped queen-cells immediately, which, as you know, is not as G. M. Doolittle does.

ITALIANS.

We have now tried them, and the blacks must give place. We will speak of two of their good traits: *First*, they do not rob, nor will they be robbed. During the last flow of honey, while several black colonies were being robbed, not a yellow bee could be seen at this low work. And as for blacks robbing Italians, it is simply out of the question; it is ludicrous seeing them being cleaned out by the Italians. *Second*, they store more honey. Our Italians, on an average, made twice as much as the black bees.

OUR HONEY REPORT.

Commenced in the spring with 44 colonies; many of them weak; increased to 56. Comb honey in sections, 2650 lbs.; clover honey but little, as the drought of 1881 had killed it nearly all. About 200 lbs. was apple-blossom honey; a small amount locust and poplar, and the rest buckwheat and goldenrod.

Middaghs, Pa., Oct., 1882. J. H. JOHNSON.

WHY DO HEALTHY YOUNG QUEENS SOMETIMES DIE SUDDENLY?

On page 489, Oct. GLEANINGS, Mr. J. E. Pond, Jr., after relating the circumstances connected with the loss of four of his queens, puts the following inquiry: "Has any one else had the same trouble in his apiary?" I have. Although I lost but one queen, the circumstances in connection correspond very

closely with those narrated by Mr. Pond. She was introduced to a made-up colony about six weeks ago. She was received without any trouble, and performed her functions to my satisfaction. I had watched her very closely from the time she was received by the bees, until the 12th of this month, when I found her, on the morning of that day, on the alighting-board, nearly lifeless. On opening the hive, I found the brood combs well stocked with eggs, and brood in all stages of growth. My loss was quite a disappointment, as I had begun to feel encouraged in my efforts to get something out of that indolent colony. As to the cause of her sudden demise, I "guess" she was stung by robbers, or by the bees of her own colony. JAMES F. LATHAM.

West Cumberland, Me., Oct. 17, 1882.

They *may* die from over-exertion, as friend Pond suggests, but I am inclined to think it is only the usual mortality that comes to all life, human as well as animal.

BEES SPOTTING THE HIVES IN OCTOBER, ETC.

My October GLEANINGS has not come yet, and I should like to know what is the matter. Have you burned out, or gone a fishing? Some of my bees have got to spotting their hives, and will you be so kind as to tell me the cause of it at this time of year, and what to do for them to stop it? J. S. SHASTID.

Oneana, Macon Co., Ill., Oct. 19, 1882.

No, sir, we aren't burned out; and if we were, I think you would get your GLEANINGS just the same, for we are fully insured. I haven't gone a fishing, for I can not find any body for assistant Editor, so that I can go. I do not think the spotting need cause any great apprehension, for I have often noticed it, and still the bees came out all right in the spring. A diet of sugar syrup will cure it.

When two swarms are united, do they usually ball the queen? I united some about two weeks since, and one of them balled the queen, and I had to cage her, and she is in the cage at this writing. Every time that I let her out the bees ball her, and they are building queen-cells up very near the cage. What would you do in such a case? When you unite do you cage the queen before you unite, or do you let her remain loose with the bees?

Ravenna, Ohio, Oct. 17, 1882. J. C. CONVERSE.

If the bees put in have been some time queenless, there is usually but little trouble. Smoke them vigorously, and I think they will soon behave. It is proper to cage any queen when they ball her. We do not cage queens in uniting, as a rule.

HURRAH FOR HYBRIDS! FROM 9 TO 32, AND 2786 LBS. OF HONEY.

Our "blessed bees," 9 in number, increased this summer to 32, and made 2786 lbs. of honey, all in 1-pound sections, except 140 lbs., which is extracted, making an average of a little over 300 lbs. per hive, spring count. We had old empty combs to give each swarm. Late in the season a number of swarms were returned, and when they persisted in swarming, three stories were given, the top-bars of frames for middle story being same width as bottom-bars, so the bees could get through. Our bees are mostly hybrids; but some are pure blacks and Italians. All swarms were first swarms. J. SYKES WILSON.

Penrose, Ill., Nov. 6, 1882.

DOOLITTLE'S SUCCESS, AND HOW IT COMES.

The secret is out at last; the great mystery is solved. No longer shall we have to lie awake nights, and wonder why our friend Doolittle always makes his honey harvest a success each year. That last report of his makes it all plain. I once lived in the same county he does; but since I have been keeping bees it has never occurred to me how I used to help chop down and saw into logs for the pail-factory those big basswood-trees, from 3 to 4 feet through. Ah, those basswoods do it. It is not so much friend D.'s superior skill in management as it is in his being located in the midst of basswoods. You have always pressed the idea, when any of us wrote of poor seasons, that it was perhaps not so much the season as it was the management, and then referred to friend D. as always managing to get a good yield every year. Now review him a little. Nothing from fruit-bloom; white clover a failure; half of the season gone, and starvation staring him in the face. Then comes a little wild mustard, just enough to get his bees in a thriving condition; then opens the never-failing basswood. Although it lasts but 5 or 7 days, it is inexhaustible in its flow, and helps him out. Had every basswood-tree within 5 miles of him been chopped down last spring, we should have had friend D. in Blasted Hopes, sure. But this furnishes us a fact that bee-keepers should keep in their heads, that a profuse and unlimited flow of honey, even if it lasts but 5 or 7 days in the whole year, will make bee-keeping profitable. A. A. FRADENBURG.

Port Washington, O., Nov. 13, 1882.

I don't quite agree that it isn't the man, friend F.; for why do not his neighbors make a success of it too?

PERSISTENT FERTILE WORKERS.

I had a small colony of these pests last summer. I gave them a queen-cell; they tore it down, and went on with business. I then took away their brood, and gave them another; they destroyed this also; I then divided a swarm setting next to this; took away the brood again from the fertile workers; put in a good lot of bees with frames of brood from the other hive, also gave them a queen. After about ten days I found the fertile workers had monopolized three of the combs on one side, and the queen had also filled three combs with nice brood on the other side. After I made this discovery I closed up the hive, and the partnership business is still existing there for aught I know.

Since my article was published in regard to using the hives, some have asked of me a description of it—how made, etc. Friend Root, will you describe it again in GLEANINGS, or give the back number where such description is given already?

N. N. SHEPARD.

Cochran, Pa., Nov. 13, 1882.

I think I should have mixed the combs all up, friend S., until I had stopped that fertile-worker business.—Shepard's swarming-box is illustrated and described fully in the A B C book.

INTRODUCING BY GIVING QUEEN-CELLS.

On page 568, friend D. H. Perry gives his method of introducing virgin queens, which is a very good one, no doubt. I will just give you my way. I have some large cells when cutting out cells to throw away, and when I have occasion to introduce a virgin queen I take one of these cells and split it open from the back end, open it, run the queen in, and

close it up, wax over strong, and go and put it into the comb, as I would any cell. I have used this plan two years, and never lost a queen by this method.

BALLING A QUEEN, AFTER A SWARM HAS ISSUED.

One more thing that has come under my notice quite often for the past two years, which I see nothing said about in the journals, is this: Full stocks, after a swarm has issued, will, about once out of three times, ball their queen and kill her when she comes back from meeting the drone. I think it is caused by meeting drones from some other swarm, and getting scented with them. I have watched this thing very closely, and have caught them at it, both this season and last. You may say the hives were too nearly alike, or too close. My hives were marked the best they could be this year; and of the queens I left to mate in full stocks, I lost a half—20 nuclei. I lost none that hatched this season.

No. of stocks in spring, 35; fall, 64; took 800 lbs. of honey in 1 and 2 lb. boxes.

B. CHASE.

Earlville, N. Y., Nov. 10, 1882.

Introducing by means of a queen-cell is an old idea, friend Chase; but I believe it was mostly decided that it made but very little difference.—Your point in regard to queens being balled would be rather against natural swarming; but I believe that, as a rule, it is considered to be a rather safe way of increase, and I must still think there was some other reason for the balling.

WILL A QUEEN HATCH IN LESS THAN 16 DAYS?

I have just read in GLEANINGS where you ask, "Will a queen hatch in less than 16 days from the egg?" Now, I do not know; but from my first batch of queens that I raised the past season, one hatched the 10th day after the colony was made queenless; some on the 14th, 15th, and 16th day after, and one in particular hatched on the 18th day. The ten-day queen commenced laying the same day the last one hatched, and I sold her to a neighbor; but my 18-day queen was as large and good looking every way as any of them, and proved herself as good a layer. I am going to keep a strict account with her, and see how she behaves another season, if I succeed in wintering her over. Some large cells of the same batch would not hatch at all; they were extraordinarily large, but on opening them I found they contained a large amount of food, with a dead undeveloped queen in each. Now, why this difference in hatching of cells all built in one colony at the same time?

MY REPORT.

My report for the past season is as follows: Went into winter quarters with 11 colonies, packed on their summer stands; lost one in winter, one in May, and one in June, by spring dwindling. Increased to 18 by the nucleus plan; all good colonies. I got between 200 and 300 lbs. of honey, mostly in 1-lb. sections, which sells readily at 20 cts. per lb. I sold all my extracted at 16 cts. per lb. at home.

WHY DO THEY KEEP QUEEN-CELLS, WHEN THEY HAVE A LAYING QUEEN?

Last season I experimented with one colony by not disturbing the brood-nest from the last of Aug. all through the winter, up to May 29, when I found six dead queens in front of them. I immediately examined them, and found a virgin queen and perhaps 50 drones (none of my other colonies had drones). I then gave them a comb of eggs and larvæ from an Italian colony, and destroyed the virgin queen. This

was done June 6. The next day I gave them a laying queen by caging her on the comb. I looked again the next day, and by some means the queen had got out and was nowhere to be found; but I found queen-cells, four in number, on the comb of brood. Well, I thought I would save three of the cells, and in due time made three nuclei. I then went to cut out the queen-cells, but found two torn down, and plenty of eggs and unsealed larvae in the hive; and upon looking further I found the clipped queen I had given them more than a week before. Now, why did they go on, with the cell-building when they had a laying queen in the hive? and how did they get drones? I think it another case of workers changing the sex of eggs; but I lack the proof, from the fact of my not being acquainted with the condition of the colony previously, and did not see any drones until after they had hatched.

J. H. EBY, 10, 18.

North Robinson, O., Nov. 20, 1882.

Your experiment, friend E., does not quite cover the point in question. You see, they had access to larvae of all ages, and so took one 6 days old from the day the eggs were laid, and then produced your ten-day queen. To get any new facts in the matter, you must put an empty comb into a hive, and look at it several times a day until you find eggs in the comb. Now put it into a queenless colony; and if you get a queen in less than 16 days, you have proved your point. I believe you show, pretty conclusively, that a queen may be *more* than 16 days in hatching. —Queen-cells are not torn down immediately after a laying queen is introduced. It has been suggested, that this is because all hands do not at once agree to accept her in place of the one they were going to raise. The cells are usually all destroyed about as soon as the new queen gets to laying well.

SUMAC AS A HONEY PLANT.

You say you never saw bees work on sumac. Just come out to our place next July, and I will show you plenty of bees on sumac. My bees are the only Italians within ten miles of me. I saw them four miles from home working on sumac. Mr. Root, I should like to show you how they go for it. I have counted 14 bees on one cluster of bloom. I have one colony of hybrids that gathered about 75 lbs. from the sumac bloom. They gathered, July 16th, 10 lbs., as nearly as I can tell, and July 20th they sent out a swarm the largest I ever saw. I bived them on two frames of brood and frames filled with fdn., and at this date they are very heavy and strong in bees. That is what sumac does with us.

A RASPBERRY THAT RIVAL'S THE SPIDER PLANT.

I got some raspberries last spring from an old lady back in the mountains. She told me that the bees visited them in great numbers; so I set a few in my garden. They bloomed last spring. They had a large white cup-shaped flower, and I dipped the honey from them with the point of a teaspoon several times in the presence of different persons. I think they yield more honey than any flower I ever saw; and that is not all. The berries are not "bad to take" with honey and cream on them. I am going to set out a large patch of them. The honey is very clear, and of fine flavor.

HYBRIDS.

I think the hybrids gather more honey than either

race pure, and I know they are better for stings. My bees that are the crossiest seem to gather the most honey.

FOUNDATION.

I think fdn. is one of the greatest inventions that has ever been discovered for the bee-keeper.

Geo. R. KISNER.

Clinton Furnace, W. Va., Nov. 20, 1882.

By all means, send us some roots of that raspberry, friend K.; and if it will bear honey in other locations as well as in your own, it will be a boon to bee-keepers, such as we have seldom had so far. Although our bees were very busy on our red raspberries, and as the period of their bloom now extends over perhaps two weeks or more, I have never yet been able to see honey in the blossoms. Take great care of that plant, and as many more as you can get of them, and rest assured we bee-keepers will take them off your hands at good prices.—I am very glad indeed to hear so good a report from sumac.

THE HOLY-LANDS — "HANDSOME IS, THAT HANDSOME DOES."

Friend Root, I should like to correct a mistake in the article from me, in the October GLEANINGS. I made a mistake and put the number of swarms I then had, after my name, instead of the number I had the first of May. It should have been 24. I wish to say to the friends who have bought Holy-Land queens of friend Good, who reported in November GLEANINGS, that, if they are like the one I received from him on the 4th of July, they are better than they look. As soon as I introduced her I wrote Mr. Good, saying I was not satisfied with her, because she was so small. I thought she was from a small and imperfect cell. He replied to me that, after testing her, if she were not all right he would satisfy me. So I waited developments, and, "oh my!" after about two weeks how she did lay. She built up so that, on the 23d day of Aug. the bees in the hive were mostly hers, and had queen-cells capped ready to swarm; so I put on the upper story with seven wide frames filled with fdn., and in 12 days they had their combs all complete, and sealed half way down. I extracted them and got 56 lbs. of honey; so I think I owe Mr. Good an apology; and it has taught me a lesson, not to be too hasty. She is small yet, but I have raised some queens from her that are just splendid. Millington, Mich., Nov., 1882. M. D. YORK, 24.

HONEY-BARRELS; WHY THEY LEAK.

I think you failed to give the true explanation of the leaking of the barrels of Mr. Fayette Perry, mentioned on page 70, JUVENILE GLEANINGS. I suspect the staves were soaked with alcohol, or, more likely, water, used to wash out the alcohol, when the honey was put in. The rare or thin fluid saturating the barrels, having a greater affinity for the honey than the wood, was drawn by the former from the latter, thereby causing shrinking. A similar accident with molasses directed my attention to the matter. My barrel was still, and lying on the side, so the hoops could not have been shaken off, but yet *every one* was loose when I discovered the leaking, and the molasses was running from every crack.

FROM TWO TO ELEVEN, AND SIX RAN AWAY.

I began the season with two colonies; have taken about 175 lbs. of comb honey, and now have eleven good colonies, with an abundance of food for winter.

I united two which were rather weak, and lost six runaways, besides returning several at a time when they would have had ample time to lay up their winter stores. This I did because of disappointment in getting hives. By good management I ought to have had twenty from two, and I think if I had had an extractor I might have doubled my quantity of honey, as for a considerable time the queens were crowded out of laying room. I see your picture most apiaries without shade. Is shade *necessary* or merely for looks? I. L. VANZANDT, M. D.

Henreco, Tex., Nov., 1882.

No doubt you are correct about the honey-barrels, friend V. I noticed that the staves looked dry and shrunken, notwithstanding the honey inside, and we even threw water on some of the barrels to see if we couldn't make them swell a little until we could take care of them all, and it seemed to have the desired effect. It seems a little queer that honey should make the barrels dry up, but I am inclined to think it is so.—When I read your report I turned in a little wonder to see where you were from; but when I saw it was Texas, I wasn't surprised any more at all. You see, we are now prepared to believe almost any thing that comes from Texas. It must have been "horsemint," was it not?

FRIEND PEASE'S REPORT.

I went into winter quarters with two weak colonies last winter, both of which came through in good condition, with the exception of one being queenless. I united, and so commenced the season with one colony. I have increased to four by natural swarming, and have taken off 40 sections of comb honey; not a very large report, but I am satisfied with it, considering the season and the little care my bees have had. I bought a three-frame nucleus of E. A. Thomas, which arrived the 16th of June. It is now the strongest colony I have, and it has given me a few sections of surplus. The bee-keepers in this section think this has been the poorest season in many years. The largest yield I have heard of is Mr. Oliver Bugbee's, 112 lbs. of comb honey from a swarm of blacks, and no increase. I have my 5 colonies all snugly packed in chaff on their summer stands, with plenty of stores for winter; in fact, I think they will average 50 lbs. per hive.

SMOKING A SWARM TO MAKE THEM GO BACK TO THE OLD HIVE.

I see Mr. Jos. M. Brooks wants to know who can tell us more about smoking swarms to make them separate where two are clustered together, or make them return to the hive. My aunt had a swarm which came off and clustered on a grapevine; it was quite a bad place to get them off, so she tried to smoke them up into a hive-cover, and, not succeeding, she sent for me to come and hive them for her. When I got there I noticed there were more bees about the old hive than there should be. However, I brushed the swarm (what there was left of it) into a hive-cover, and shook them out in front of the new hive. They went in, but didn't stay half a minute. They came out and went back to the old hive. This was in the morning; in the afternoon they came out again and clustered six or seven times before they could be hived. They were finally hived, but did nothing for the next two days. I told my aunt they were queenless. They were given a queen-cell, and went to work all right. Now, did they lose the queen the first time they came out and

went back to the hive, or would you think she was lost the second time they came out? I don't know that the smoke had any thing to do with it; but reading Mr. Brooks' article reminded me of the circumstance; and as I think of it now, I am quite certain if the smoking had been kept up, every bee in the cluster would have returned to the hive.

We have started a society here, known as the Lake Shore Bee-keepers' Association, with sixteen members. We have quite a number of box-hive men with us, who contemplate turning over a new leaf, and starting again next spring.

A SUBSTITUTE FOR CHAFF CUSHIONS.

I have discovered a new (to me) way to make chaff cushions. I use the story and a half hive. I take the half-story, turn it open side up, fill it with chaff, and tack burlap over the mouth just below the mitre, and set it on the hive as usual. When I want to look at my bees I can take cover and cushion all off at once, and am down to the burlap covering the frames.

H. H. PEASE.

Kingsville, O., Nov. 6, 1882.

Very likely, smoking would send a colony back home, friend P.; but I think it is pretty certain the bees had a queen when they swarmed out and clustered.—Your plan of fastening the chaff into the cap of the hive will do nicely, but you will have to take it out every spring to make room for the boxes, and then put it back again each fall. This, I believe, is the principal objection.

LETTING THE BEES INTO THE SECOND STORY.

When you add a second story to a Simplicity, do you leave the mat on over the frames in first story, and fold it back to let the bees pass, or do you take it off entirely? If taken off entirely, we admit the bees to all the frames in second story at once. I know of no way of confining them to a few frames there. If the mat is folded back it has to be cut off at the ends, in order that the second story will sit closely on the lower story.

THE FOUNTAIN PUMP.

I procured a fountain pump (Whitman's) last spring, and find that it is not a success in bringing down absconding swarms. They left in spite of all the shower I gave them.

F. A. BASCOM.

Greenville, Mercer Co., Pa., Oct. 24, 1882.

If you use a wooden mat you can fold it lengthwise, and cover just half of the lower combs. Now put on a second story, and then a division-board in it, and you have the bees admitted to just half of the upper story. Cover it with a wooden mat folded similarly, and then put on your cover. In practice we seldom have use for this arrangement, however. Let the bees remain below until they are pretty well crowded, and it will not harm them to be allowed access to the whole upper story at once, especially if you move a comb or two from the lower story. If it is sections you wish them to work in, raise a frame that has been *previously* started on one side of the brood-chamber below.—There seems to be a difference in experience with the fountain pump. Several have said the bees will go off in spite of the drenching, while others think the pump invaluable. I believe all, however, consider it worth the money for other purposes, even if they don't succeed in bringing swarms down with it.

MY REPORT.

In the fall of 1881 I packed away on their summer stands 6 colonies. All came through the winter in splendid condition; but the spring was so wet and cold that for many days bees that went out could not get back, being benumbed. Being certain that they had sufficient food to last them those days that were too cold to get back, I tacked a piece of dark cloth over the entrance, admitting air. The bees did not crowd against the cloth. I don't want any better prevention for spring dwindling. From those 6 I have this season sold 212 lbs. of honey, 40 lbs. being comb, and enough for our own use. I increased to 18 ten-frame Simplicities, packed away on their summer stands. I have expended \$127.02 in the bee business, and have received from them, \$52.35, and have now on hand \$35.00 worth of bee fixtures and 20 colonies, which stand me \$74.67. Two kind neighbors gave me 5 hives for taking out the honey for them. I put the 5 into two hives, and gave fdn. where combs were lacking; fed granulated-sugar syrup; that is how I got from 18 to 20. From the package of Simpson seeds I raised 100 beautiful plants, and this fall they were humming every day. I don't rate the spider plants much beside the Simpson. I exhibited at our Lincoln County fair, but did not take a prize, but gained experience. I also made a display, and sold what I could at the same time. There were no beer-barrels there, friend R. The booths were let by tender. The Woman's Christian Temperance Union tendered and received them, although their tender was not the lowest. They supplied tea and coffee, and meals were 25 cts. I was there the two days, and did not see a man drunk, nor did I hear an oath. So much for the W. C. T. U. of St. Catharines. They informed me that the enterprise was successful. WILL ELLIS.

St. David's, Ont., Can., Nov. 18, 1882.

Many thanks for your report, friend E., especially the latter part of it. May God grant that the W. C. T. U. may yet be the means of redeeming our fair land, not only from rum and tobacco, but from oaths and blasphemy as well. I am sure I am *very* glad to hear that you were there *two days*, and did not hear an oath. Can anybody else tell of a similar experience? I am forming a pretty good opinion of you Canadians as a people, friend B.

SELLING HONEY.

I wish friend Hutchinson would give us another chapter on selling extracted honey. The subject of developing our local markets is an important one, and one which all who raise extracted honey should feel an interest in. Why, I believe if all would make an effort to sell at home, it would have a direct influence on the city markets, and I say a live energetic man *can* sell at home. I have sold nearly 500 lbs. already, and have not sold much at the groceries either, as they all had a stock of honey from other parties before I thought mine ripe enough for market. How did I sell it then? Why, wherever I go to buy any thing, after getting the lowest cash price I produce a sample tumbler, and explain that I wish to buy, if I can sell my honey. If there are clerks or hands, the proprietor will say, "Boys, here's a man with some nice honey to sell, and he will take some of our goods." I can usually make a trade in some way. In this way I have got dry-goods, groceries, lumber, horses shod, shoes for all

the little Fowls (three of 'em), and last, but not least, I find lots of cash customers. As to prices, I have sold none for less than 11c. for ten-pound pails, and pay for pails, and smaller packages higher.

Oberlin, O., Nov. 22, 1882.

CHALON FOWLS.

I agree with you exactly, friend F. A live, energetic man will sell tons of honey where a sleepy one would have it stand in barrels year after year.

CAUTION TO THOSE SHIPPING COMB HONEY.

Please let us suggest a word of caution to the brethren who ship honey for the first time. Do not, under any circumstances, ship comb honey in tight boxes without at least one whole broadside of glass, so the railroad and express men can readily see what the packages contain, and the glass will necessitate careful handling. Two full sides of glass are preferable, but never less than one whole glass side should be used. Labels of caution, and other modes of directing careful handling, are well enough in addition, but they do not insure attention, as but few of the men would stop to read them in their hurry. Last week we received 10 cases of the most beautiful white honey in tight boxes, with nice iron handles, labeled "Honey, handle with care, etc." But, lo! in the whole 10 cases there was not one section but that was broken, and every case leaking at every joint. Such disaster we have not witnessed since some ten years or more ago, when we received a lot of Langstroth 6-lb. boxes, packed in a shoe-box, and handled by the express company as poultry. A. C. KENDEL.

Cleveland, O., Nov. 22, 1882.

I entirely agree with your remarks, friend Kendel. Comb honey *boxed* up is pretty risky property. A friend in Maine wanted to send me a box of honey because it was extra white; but his express agent down there in Maine would not receive the box with glass in it unless he put it into another box, covering the glass all up. When it got here it was all "mush," but it was white, all the same. I am afraid I feel wicked every time I think of that express agent.

SCOTLAND.

We had only 10 days of continued dry weather this summer, and it came too late for the clover, so that a very poor season was the result in Scotland. The heather was very fine, and bees did well during the good weather; but 10 days is a short season; however, it was much better than last year, which turned out a failure. Ligurians have been well tried here, but nearly all have put them away. They are not equal to our old black bees. They are good robbers, and protectors of their property, but poor breeders, unless when honey is flowing in, and that is not often during the year with us. My opinion is, our country is too cold for them, or that it is too damp, which is much to the same purpose. As a rule they will starve for want; while our black bees are busy on the heather, they don't seem to take it at all. My children like your "baby" GLEANINGS and Mr. Merrybanks. They claim it every month for their use. ANDREW PRATT.

Link's Schoolhouse, Kirkeally, Scot., Nov. 2, 1882.

Why, friend P., we *used* to once in a while hear such talk about Italians, but it is an almost unheard-of thing late years. You will surely change your opinion of the Italians, after a more extended trial, unless your na-

tive bees are ahead of any thing we have here.

PLAN FOR A HONEY-HOUSE WANTED.

Where can I find a statement of how to build a house that will be most convenient for extracting honey, for storing box or section honey (especially that taken off early in the season), with an eye to fumigating the same when necessary to keep out the moths, how to light the same, and have good ventilation, and yet keep out every bee, and make it also mouse and rat proof? I want to know the height, whether one or two stories; the length and breadth sufficient to store the honey from 200 colonies of bees, half extracted and half comb honey, and sufficient room to do the work well, and store away the combs when done extracting for the season; what material to use, so as to build such a house in the cheapest possible manner, and yet good enough to answer the above requirements. I should like to hear through GLEANINGS from those who have cheap and convenient honey-houses in actual use. Under the head of "House Apiary," in A B C, are some items given, but not exactly what I want, and I know of several persons besides myself who want to build a good honey-house, and want to hear from those who have handled a large amount of honey, and know from experience what is wanted.

Belleville, Ill.

E. T. FLANAGAN.

Friend F., we do recognize the need of plain directions and drawings for such a structure, and I would give \$100 to-day for a plan of one that would just suit me. Will those who have such structures in use give us some facts and ideas in the matter? We want a house so neat that it will be a pleasure to show our visitors our crop of honey. Who has one?

SPIDER PLANT SIX FEET NINE INCHES HIGH.

My bees did very well this summer. I don't think I shall need to buy any more spider or Simpson plant seed, for I have plenty of both kinds now. I think the spider a wonderful plant; it commenced to blossom the fore part of July, and was not ended till frost came. The bees worked well on them. I think I had some nice ones. I measured some which were 6 feet 9 inches high, and 5 inches at the base. I have 16 bearing limbs, 8 of those limbs having from 3 to 7 bearing branches.

LOUIS MERTZ.

Williamstown, Ohio, Nov. 16, 1882.

I guess you have beaten us a little, friend Mertz; but I don't believe we have ever yet had ours out early enough, nor on as good ground as they might have had.

FERTILE QUEENS "GOING VISITING"

It has for a long time seemed to me that the matter of "queens going a visiting" is one of much importance as a factor in the problem of improvement in our races of bees. I have given some considerable thought to the question, and the result is, that I am led to firmly believe that many of our fertile queens do leave the hive for some unexplained purpose of their own, and more often than we have usually supposed. Certain facts that have come under my own observation, and which I have already stated to you in previous letters, would seem to strongly support my idea, if not to conclusively prove it. I of course am constantly looking for facts in support of my theory, and I now ask you why the circumstance which you relate on page 232

of A B C does not support very strongly my idea. You there mention giving a neighbor a black queen for an observing-bive, which queen shortly after came home to you, bringing her colony with her.

My explanation of that matter is this: The queen had been in the habit of making excursions from her old hive; and when carried to the new one, or shortly after, started out on another excursion; and the bees not being used to this thing, or for some inexplicable cause, went with her. The queen having become familiar with the surrounding country in various directions, by reason of prior flights, recognized the old landmarks; and when she was tried of her excursion she went back to the old home, of course taking her retinue with her, where she was recognized at once, and welcomed. Is not the above a natural solution of the matter? It so seems to me, and I never look for a mysterious or a miraculous cause when a natural one can be found.

The fact (if it is a fact), that queens do often leave a hive, would explain many other mysteries, and make perfectly clear some things which are now enveloped in doubt. I opine, that bees are "funny critters," and that we hardly understand all their idiosyncrasies yet; but if we strive to learn, and that without being governed by prejudice, we shall eventually rise out of the darkness which now envelops us, into the bright light of intelligent and liberal knowledge.

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., Nov. 9, 1882.

Thanks for the suggestion, friend Pond. May be you are right; but how about clipped queens that are found in so many apiaries? Why don't we find them lost, or hopping about in the grass, as they do in swarming time; or do they go out on the alighting-board, and have good sense enough to go in again, when they find they can not fly? Clipped queens do occasionally get into neighboring hives, but not as often as I should think, if your theory be true. I do think we are learning.

WIRED FRAMES — A NEW IDEA.

Since reading friend Clark's article on wired frames, it occurred to me to use wire staples $\frac{1}{4}$ inch long, and clip one end off thus \perp . Drive these in top and bottom bars at the points where you wish to have the wires, leaving just room enough to slip the wire over the short point. Hang the wires on loosely, drive in the staples till the wire is tight, and it is done. It works like a charm, for I have just tried it. If the staples could be bent thus \perp they would be better.

C. H. DEANE.

Mortonsville, Ky., Aug. 4, 1882.

Something similar has been several times suggested, friend M.; and although driving in so many staples will be much more expensive for us than drilling holes by machinery, it will doubtless not be as expensive when the children at home are set at it during the winter. They might be paid so much per hundred for putting in the staples and wiring. The next point is to get staples as cheaply as we should have them. The ordinary blind staple makers could modify their machines so as to give them to us very low. Of course, we could use them as they are by putting the wire through; but this would

probably take much longer than simply catching a loop of wire over the staple. Another thing to be gained is, that we should then have a smooth clean top-bar. I confess these holes and wires running along the top-bar have always been a sort of eyesore to me. I have thought of tinned tacks, with the wire given a turn around them; but I am a little afraid they would pull out; and unless the staples are put in well, we may have the same troubles with them. Make a gauge-mark along your top and bottom bars, inside, so you can drive the staples on an exact line, for we want the wires to lie perfectly level.

EXCESSIVE SECRETION OF WAX.

Inclosed please find sample of what I found on the bottom-board of hive, being completely covered. A strong wind was blowing at the time, so I saved but little. This is my second season with bees. I have 17 colonies, all of which will be wintered in chaff hives. No surplus this year. I have fed 150 lbs. of A sugar. I read GLEANINGS and A. B. J. I like to handle bees better than anything I ever did. I do not use any covering for face or hands when working among them. Let me say here, that I have fed 12 lbs. of syrup to the colony that produced sample; that may account for shedding of wax secretions.

W. M. CHAPMAN.

North Monsee, Maine, Oct. 28, 1882.

The sample sent is scales of wax, exceedingly large, and of a pearly crystalline appearance. It was, as you suggest, friend C., probably caused by the sugar you fed; and for some reason, instead of being used for building comb, was allowed to fall to the bottom-board of the hive. Very often, in artificial feeding, we get something wrong, or not quite in accordance with nature, and this wax is produced in such excess as to be wasted. I have sometimes thought white sugar produces whiter and harder wax than honey. The specimen sent looks and tastes like the hard bleached wax of commerce.

CYPRIONS.

I write this note to warn any person who may be without experience, to have nothing to do with Cyprian bees. They are no better workers or breeders than Italians. The most vicious hybrids I ever had are turtle doves compared with Cyprians. Gloves and veil are no protection. Smoke is only an aggravation. They will stick to you and crawl over you, and squeeze through your clothes and get into your eyes. And they will follow you and remember how you look, after you have retreated. They will fill your clothes full of stings, many of them going clear through. Their stings are larger and more poisonous than other bees'. They ought to be killed as we kill vipers and rattlesnakes. I killed mine with brimstone, and the man who gave them to me wrote that he killed his. Indeed, I had hard work to get them killed; they seemed almost brimstone-proof.

J. H. CREIGHTON.

Lithopolis, Fairfield Co., O.

Well, friend C., you make one point pretty clear, any way, and that is, that they do differ a *little* from Italians.

QUEENS REARED UNDER THE SWARMING IMPULSE.

In the report of the North American Bee-Keepers' Society, as published in November GLEANINGS, I am made to say, that "queens reared under the

swarming impulse are not necessarily any better than those reared at other seasons." This expression as it stands, without the context, would only give a fragment of my meaning, and would certainly leave the reader under a wrong impression. The language quoted (a fragment) was used during the discussion of my paper on "Queen-Rearing." In that paper I "pictured" out the conditions of the hive during the swarming impulse, and *most distinctly stated* that these conditions must be kept in mind by the queen-breeder, and conformed to, if we wish first-class queens. The report should read: "Queens reared under the swarming impulse are not necessarily any better than those reared at other seasons, provided the necessary conditions are complied with." As an act of simple justice to myself I hope you will give this, and also the paper referred to, an insertion in GLEANINGS.

J. P. H. BROWN.

Augusta, Ga., Nov. 4, 1882.

We gladly give place to the correction, friend B., although I confess I do not clearly see that it materially changes the sentence; the point being, that as good queens *can* be reared, etc. The paper referred to has escaped in some way, if it was ever handed me.

FROM ONE TO 20 BY NATURAL SWARMING.

I am a beginner. This last spring I bought one swarm of Italian bees just to have honey for our own use, and they began to swarm the 17th of May, and did not stop until they threw out 20 swarms. I tried to stop them by taking out queen-cells, but some way it did not answer.

ABOUT PACKING.

I have made chaff hives of dry-goods boxes to winter in. I made two bottoms—the top one to set hives on, stuffed below, and then all around; good roof, mat on top. I should like to know what you think of it, if it is done up right. I am 74 years old.

Polo, Ill., Oct. 30, 1882.

T. WILBER.

Why, friend W., you almost make us hold our breath. You mean, I presume, that the old swarm and the new ones together sent out twenty? It seems almost incredible; and yet I know that, where swarming commences so early as about the middle of May, they may do wonders. You have doubtless had a most unusually good season. Can you not give us a full account of how it came about, and how they behaved? Of course, you did not get any honey? Like a prudent man, you are going to try to take care of them, since they have come to you. Your arrangement will answer just about as well as chaff hives, and the only objection is the trouble it takes to rig the hives up so each fall.

"GIVE PATENT-HIVE MEN A WIDE BERTH."

The above advice is offered in Nov. GLEANINGS, page 567, under the head of "Humbugs and Swindles," and the letter following, by Mr. Malone, seems to show that more people need guardians than have them. Many are liable to be fleeced by patent-plow men, by patent-washboard men, by patent-sewing-machine men, by bogus-jewelry men, by dealers in small things as patented, which are not patented, and many are deceived by white-throated evangelists with black hearts who "steal the livery of heaven to serve the Devil in." Fraud and deception meet us at every corner. Strict business rules will usually meet the traveling fraud with defeat, what-

ever his profession. If any thing is offered for sale, and you wish to purchase, *know* that the would-be vendor either owns the article, or is authorized by the owner to sell it. If a patent is claimed, *know* all about the patent, when issued, to whom, and what it covers; and if there is any interference. A patent may be offered which has expired, or it may cover only some unimportant part of the article you wish to purchase, and thus is practically of no value, or no patent may have been issued at all, or there may be such interference with others as to make it valueless. Be as careful in the purchase of a patent as you would be in the purchase of a horse or a home-stead. Don't buy, unless you think, after reflection, the article (whether patented or not) will be useful to you. A patent neither injures any thing nor makes it any better. Sign no obligation of any sort for a stranger.

J. M. SHUCK.

Des Moines, Iowa.

All of which I most heartily indorse, friend Shuck. I would by no means object to an article because it is patented, but I would object to any man who travels about with "rights for sale."

PERFORATED SEPARATORS, ETC.

Has the matter of perforating separators been sufficiently tested to enable you to advise as to its real practicability, and that it is a real advantage? In theory it would seem a good thing, by lessening the amount of tin, and thus perhaps making them more easy to keep warm, and also making them more easy to communicate through, subject to the disadvantage, of course, that the comb may be made more irregular on its capped surface. If you can assure me, however, that you deem it an advantage to have the separators pierced with $\frac{1}{2}$ or $\frac{3}{8}$ holes, I shall want to have a machine with which to pierce my separators. Will you please give me your ideas on the matter? I would test it myself thoroughly, and report, were I somewhat differently situated; but my own profession takes up my time so such an extent that I have not the time to devote to my apirary that I should like; and consequently I do not like to experiment in a direction where the probabilities are that no advantage will be gained.

I have to-day tested the extractor, which, as I have informed you by postal, I received, and must say that its work is simply perfection. Nothing can be better, or do better work, and I am much pleased with it. Our minister has never learned any thing in regard to bee culture; but I have succeeded in getting him interested somewhat in the study, and he, although a cultured and scholarly man, and thoroughly versed in theology, says he has got a better and grander conception of the wonderful wisdom and power of the Creator, by what little he has seen in two examinations of my hives, than he ever had before. And so it goes. How can a man disbelieve in the God of the Bible, if he once sees his works in such form as he can not but see them in the frame of comb or the hatching egg?

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., Nov. 1, 1882.

I am sorry to say, friend Pond, that although we have sold quite a good many perforated separators, and at least a dozen machines for perforating them, we have, so far as I can recollect, no reports from them of any kind. Will the brethren who have tried them please stand up and report? I

am very glad to know that you and your pastor are personal friends, friend P.

Notes and Queries.

IF it is not too late I will report. I commenced '82 with one hive of blacks; increased one by dividing on May 7th; got 67 lbs. comb honey. I made the new colony May 7th, by giving a dollar queen, young bees, and brood. They were soon stronger in bees than the parent stock, which was of black bees; but the Italians gathered 27 lbs. surplus, and the blacks 40 lbs. Now, would you advise destroying the queen whose progeny gathers the most honey, to replace it with an Italian?

D. D. LESTER.

Christiansburg, Va., Nov. 22, 1882.

[I would most assuredly replace all black queens with Italians, friend L. Your test is on too limited a scale; and besides, an old colony will nearly always go ahead of a new one.]

Dr. Blanton has just sent me another lot, 17 barrels, and quite a lot of comb honey. We are still getting large shipments, and are turning out large amounts of honey. Have had now for some time, steady, two men washing bottles, filling and marking them.

C. F. MUTH.

Cincinnati, O., Oct. 30, 1882.

The season was very dry and cold up to Aug. 1; oceans of white clover, but the bees gathered just enough to keep brood going on in those stocks which were moderately strong; one natural swarm, and three artificial. I realized \$6.50 per stand, all comb honey, buckwheat. Net price, 14 cts.; 24 stands of blacks, 3 Italians; sold one, bought two, all in good shape, and packed on summer stands.

T. F. SHEPARD.

Town Hill, Luzerne Co., Pa., Nov. 11, 1882.

I must tell you what I have done this summer with one of your Simplicity hives. I got 56 one-pound sections from upper story, 55 of them as white as snow; not a cell of bee bread or brood was in them; but one section was full of drone brood. I removed the honey-frames and gave 42 sections of $1\frac{1}{4}$ -lb. size, and they filled and finished 30 of them, and partially some of those left; and, stranger still, they were black bees — real wild. My Italians filled all the boxes I gave also. I have other bees ten miles from the place. They have not made me a pound of surplus honey.

J. A. McDOWELL.

Louisville, Ky., Nov. 18, 1882.

SWEET POTATOES AS BEE FEED.

I have one weak colony, and shall have to feed them through the winter. I use sweet potatoes, baked very done. They will eat a good-sized potato in one night. I will ask others to try the potato as a bee food; and if it proves to be good, it will be quite a convenient article for winter stores.

ELIAS CHAMBERS.

Newcastle, Tenn., Oct. 21, 1882.

[Sweet potatoes were some years ago recommended as containing the elements of both pollen and honey; but I would be very careful about using any such substance for winter stores. Better stick to the safe granulated sugar, and use this substance only when bees fly freely.]

The only difference between you and me about the glove matter is, you protest against gloves, and I protest against bee-stings.

S. C. LYBARGER.
Ganges, Richland Co., O., Nov. 2, 1882.

QUEENS SHIPPED IN OCTOBER.

The two cages containing bees and queen each arrived yesterday; and although the weather here is quite cold they were all as lively as in summer, not a single dead bee. Although one was turning up its heels, life was not extinct.

D. CHALMERS.
Musselburg, Oct. 21, 1882.

THE SAD FATE OF THAT "JUVENILE."

Please send me another JUVENILE, as "that pup" got hold of it, and that was the last I ever saw of it.

W. W. BLISS.
Duarte, L. A. Co., Cal., Oct. 30, 1882.

[Never mind, friend B.; it may set him to thinking.]

This has been one of the hardest seasons known in this section for bees. This county is well stocked. There are two men who have over 400 swarms each. There are a good many small apiaries. I have had the care of 94 colonies this season, from which we got 1400 lbs. of colored honey.

G. W. BASSETT.
Middlebury, Vt., Oct. 30, 1882.

On page 520 of October GLEANINGS, I read, "On the 11th of September we sent some one of our customers a dollar queen, whose progeny, now that they are hatched out, show with unusual distinctness the white rings and down which characterize the so-called albinos. Who is the lucky man?"

I am the lucky chap.
J. BEARDMORE.
Annapolis, A. A. Co., Md., Nov. 11, 1882.

ALSIKE BLOOMING IN 60 DAYS.

Bees have done very well this year in this part of the country. I sowed the 1 lb. of alsike-clover seed, and in 60 days the bees were working on it. I have cut it twice this year.

J. F. CARPENTER.
Spencer, Roane Co., W. Va., Nov. 12, 1882.

[Aren't you mistaken about the "60 days," friend H.? I know that alsike, sowed in March and April, will bloom to some extent in the fall; but I did not know it were possible to get blossoms in so short a period as the time you mention.]

PENNSYLVANIA NOT "OUT," AFTER ALL.

I don't believe I would count Pennsylvania out yet. I started in the spring with 24 colonies, 4 of them very weak; so much so that they gave very little surplus. From the other 20 I have taken over a ton of honey, over 500 lbs. in one-pound sections, the rest extracted, which we think is doing quite well, considering the cold wet spring and summer we have had. We increased to 33 by natural swarming.

GEO. A. WRIGHT.
West Lenox, Susq. Co., Pa., Nov. 6, 1882.

NOT DISCOURAGED.

My neighbors are getting quite excited over bees and honey; although this has been a bad season they seem not discouraged, but determined to improve in their knowledge and care of the little stingers. I am a mechanic, and they come to me for hives and combs, and ask me many questions which I can not answer, as I have never kept bees for fear of stings; but I find it necessary to post myself for the benefit of the trade, so here goes \$2.00 for an A B C book and GLEANINGS.

E. T. MARTIN.
Griffin's Corners, Ont., Can., Oct. 30, 1882.

Blasted Hopes,

Or Letters from Those Who have Made Bee Culture a Failure.

IN the spring of 1878 I bought of you, in a chaff hive, one stock of Italian bees. I have now from that stock 36 in chaff hives, and 6 in Simplicity. I have done my best by reading, study, observation, and experience, to make them pay, but do not "see it" as yet, for the principal reason that my stocks swarm to such an extent through the summer that they are left weak in the fall, so that they "dwindle" in the spring; and the principal result of my labors has been to fill the neighboring woods with bees. I have tried to prevent this swarming, by all the means I can read or hear of, without success.

My 36 chaff hives have each, in upper story, 10 wide frames, holding 8 1-lb. sections, making 2880 sections on the lot, and yet only about 1000 have been filled this season. One stock will fill over 100 during the season, while 7 or 8 right around it, all apparently alike, will not fill over 15 to 25 each, the whole season. Can you account for this, and give the remedy? If so, tell me what you will charge for it. I wish sometimes that you and the author of "Blessed Bees" were among mine for a short time. I think you would both sing a different tune. I came near losing a fine span of horses, mowing in a meadow near where the bees are, and my hired men have threatened to leave me on account of them. Some 20 miles north of here a bee-man had to pay \$300 for a team of horses his bees stung to death. I learned this after I had gone into the business.

Now, if you can tell me how I can keep my bees at home, and how I can make them *all* (not one in ten) fill the sections in upper story, I will pay you whatever it is reasonably worth. As it is, I am getting tired of experimenting and hoping, although I am credited with a good deal of perseverance.

Mt. Clemens, Mich., Nov. 13, 1882. EDWARD ORR.

Friend Orr, preventing excessive swarming is one of the problems in bee culture; but if you read the books and journals, I think you will find no trouble in mastering the difficulty — at least, so it will not hinder much. If you get from 15 to 100 lbs. of comb honey per colony. I can't quite see why your hopes *ought* to be blasted. From the tone of your letter, I should infer you have other business that is taking rather more of your attention than your bees. Both GLEANINGS and the A B C give the dark side of bee culture faithfully, do they not? I have never before been classed with the author of "Blessed Bees," that I know of, so far as presenting too bright a picture is concerned. The information you would like to buy, that would enable you to make each colony do as well as your best one, would pretty nearly sum up the whole science of bee culture, for it is, in fact, what we are all working for. Every scrap of information on the subject that I can scrape up is given you monthly. I know bees' stings make trouble now and then, but so do horses' heels. Did you ever hear of anybody declaring he would keep horses no more, because of the money a runaway had cost him? Thanks for your experience nevertheless.

Your Blasted Hopes department seems to be almost going begging. I think I can give you a case. I started bee-keeping with the hope of making about \$5 00 per hive; have not done so yet. Started this spring with 185 colonies; sold honey and wax for twenty-two dollars and a dime. Looks like Blasted Hopes, doesn't it? Sold bees, \$244; have 130 colonies, mostly weak. D. M. CARROLTON.

New Orleans, La., Nov. 21, 1882.

THAT INDOLENT COLONY.

BEEES THAT WON'T WORK, ETC. [SEE P. 489, OCT. NO.]

I THINK that colony could have been made to work." Just what I *thought* when I was exercising my poor endeavors to induce them to work. But I have yet to become acquainted with the bee that won't resent the whip or spur. Interfere with her daily routine in a manner that will create a necessity for repairs, and she is your humble servant; let a job forecast, and Miss Apis is very dull in comprehension. Leading will accomplish wonders; but when pushing is resorted to, others besides the operator demand the privilege of playing in the game. At such time an analogy, characteristic of the genus *homo* and genus *apis*, is very conspicuously displayed; especially when the gender of both is represented by the worker-bee.

"But, I am not sure I should have known just what to do." "Same here," without presumption; being sensible of the limits of apiarian knowledge possessed, also experience; this being my first defeat in the attempt, having heretofore always got *something* from a hive of bees.

"I should have tried moving the old stock away, and giving a young queen to the bees clustering outside." After you had built up your stock for the purpose of obtaining comb honey (increase being a secondary consideration), and failed, by not getting the bees to meet your efforts in the short time that comprised the season for surplus in this vicinity, with indications of a severe drought in prospect; with due deference, I surmise Mr. Root would have done about as I did — tried to get them in a condition to winter without dividing, thinking it would be less trouble and expense to care for one colony than two, in case feeding to supply winter stores should be compulsory. But I did divide them. Sept. 1st I took eight frames of comb, loaded with bees and brood, from the old stock, put them in a new hive, introduced a queen "the first time trying," and today, Oct. 11, they are a thriving little colony, with nice white "bulging" combs, and so strong that I am obliged to be very careful when handling them without smoke. Still, on contemplation I can't reconcile myself to any idea other than that the fumes of burning sulphur would have been the most judicious treatment, after giving the combs containing brood to another colony.

"How much honey did you get from your best workers, of nearly the same strength?" An aggregate of 58½ lbs. My best result was from a colony of pure blacks, 62 lbs. of white comb honey. In both reckonings, partially filled boxes are not counted. There are 27 of those nearly full of comb, with some honey. They would have been filled, probably, had not the flow of honey been interrupted by the drought. My bees stored no surplus of any account after the 20th of July. At that time the clover began to brown from lack of moisture. Basswood,

that usually opens about the 20th of July, gave no honey, except from a few scattering young trees — the old trees not blooming at all.

BUTTON-BUSH.

Button-bush, that grows in clumps, at intervals for some two miles on the borders of a small stream, within easy reach of my bees, follows basswood, and always displays a succession of flowers in profusion, for about two weeks. Although while in bloom this season it was roaring with bees, no surplus was stored from its nectar. (Here I would wish to ask if any bee-keeper has ever obtained much surplus honey, and, in fact, in any other form, from this shrub.) About Aug. 20, button ceased to bloom, and my black bees killed their drones. In favorable seasons, goldenrod and asters are in bloom when button-bush closes. This season the early varieties were blasted. These plants usually occupy the attention of bees until cut off by severe frosts.

IS VERY LATE HONEY DESIRABLE?

My bees have been working very busily on them for the past three weeks, bringing in pollen, and, judging from their gate as they waddle up the alighting-board, honey also. If objecting would avail, I would say, "Let the honey alone," for I have fed sugar syrup until the tops of the snow-white combs show a repletion. As to pollen, I would not object to the requirements of brood-rearing. Late honey, unless the season is very mild, and moderately dry, when it is being stored, is "no good." In cool damp weather it sours quickly, and in that condition nourishes the fungoid germs that are active agents in producing — dysentery, I believe.

This prompts another thought, and it is, "Don't feed *thin* sugar syrups to bees late in the fall." Sometimes they will cap it after it sours in the cells, or it sours after it is capped, I can't tell which, for I have found cells capped containing sour sugar syrup. Proof by analogy is this: Let any person live on sour bread a couple of weeks, and if human bowels won't (quake in that time, I'll admit that sour honey, or (acetic fermentation is meant) pollen, will not disturb the assimilating apparatus of the honey-bee. Caution: Remove all uncapped stores on preparing bees for winter, if they are in the afore-mentioned condition — sour.

Cumberland, Me., Oct. 12, 1882. J. F. LATHAM.

MY BEE-KEEPING FOR 1881 AND '82.

FROM 3 TO 17, AND 1140 LBS. OF SURPLUS HONEY.

THE spring of 1881 found me without a single bee or "buzz." Thinking that the bees here had run out and become diseased, I tried to get some more from a distance, but failed. A friend gave me one hive on trial; if I got it through I was to pay him two dollars. I fed it up and it swarmed twice, so I went into winter with 3 and came out with 3 in the spring of '82. The 9th and 10th of June they swarmed the first time; I waited for swarms for the next 10 days, then put on upper stories with sections (all L. or Simplicity hives). They began swarming again 13 days from first, and kept it up to the end of the 19th day from first issue; that got away with all my "bee knowledge." I thought then that some of the old bee-men were mistaken too. I put one back the 18th and one the 19th day from first issue; total, 13 colonies. Next, the swarms swarmed 4 times more. One of the first swarms filled 56 2-lb.

sections, and one filled 2 cases of 56 1-lb. sections, and worked considerably in the third. Honey taken up to Sept 25th, 786 lbs.; box, 546; extracted, 240. The honey season was good all summer down to the middle of Sept, except from fruit-bloom to white clover. Plenty of red clover and buckwheat, but there seems to be no honey in it.

Do my best, I could not get buckwheat honey. I have watched bees on it, and am satisfied that they get but little, and that thin. I have a wood pasture full of the so-called "lady-slipper. It grows from 2 to 5 feet high, and very thick. My bees worked on it from the first of July till late in Sept. It grows only on rich, low, shaded soil here. We have horsemint and red clover in abundance, but bees do not work on either. I have also taken 49 frames from upper stories; at 6 lbs. per frame this gives 294 lbs., and 10 more on hives yet to take off, 60 lbs. more. Total, 1140 lbs. for 3 in spring, and those the little blacks at that. I wonder what those boasted Cyprians, Holy-Land, Italians, and albinos would have done here this season. I had empty frames for two-thirds of my swarms, and two-inch starters for remainder.

I have got more honey this season from those three in spring than when I had 40 and 50 colonies heretofore. Tell your boys and girls, when they talk about strikes, to "go west and grow up with the country." Crops failed two years on my farm. I shall get grain enough to fatten one hog this season; nothing but hay, and that on a capital of \$5000.

J. E. JARRETT.

West Point, Lee Co., Va., Oct. 16 1882.

Now, friend J., you have not, in all this story, once said how many stocks you go into winter with. You see I have put it at 17, because you said that, after you hived 13, the swarms swarmed four times more; but perhaps they have even more than that. It is wonderful, any way.—I do wish the boys and girls who want to "strike" would "go west," and try farming a while, and see if they wouldn't decide that *sure pay, every Saturday night*, even if it isn't very large, is about as good as other kinds of business that have their ups and downs. I don't believe any of the girls ever had any thing to do with striking. If they did, I didn't know it.

BURYING BEES IN THE GROUND.

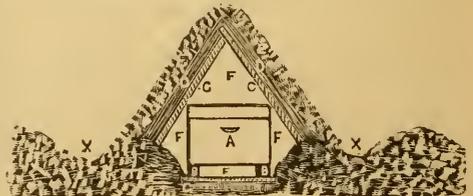
THE WAY FRIEND BOOMHOWER DOES IT.

I HAVE had considerable experience in wintering bees under ground; and if properly done, they are sure to come through in first-class condition in the spring. I have read friend Hutchinson's plan in Oct. No., and I think I can give a better as well as a cheaper way of doing it. I have buried bees in the ground for myself and for others for the last 5 years; and besides, I have seen several other bee-keepers who have practiced this method for a number of years.

The winter of 1881 and '82 will long be remembered by bee-keepers in this part of the State, as well as many others; but no bees were lost that were buried on the plan that I am about to give. One man of my acquaintance had 300 colonies buried, and 299 came out alive and in splendid condition. I had 24 colonies buried last winter in my out apiary; and so well did they come out that they could not be

seen to give off a particle of excrement, and I actually think they did not consume 5 lbs. of honey on an average, per colony. Other lots came out equally well. So well do they winter on this plan, that I would recommend all who have small lots and no good cellars or chaff hives (and, by the way, I have as yet seen but one chaff hive that is a success), to bury in the ground. Below is a drawing of the plan, which will be readily understood by any one.

First, select a spot of ground that is somewhat descending—so much so that surface water will easily drain off. With a shovel or spade throw out the earth as wide, or a little wider, than your hives are, and about 6 inches deep, and no deeper; cover the bottom of the trench nicely with some dry chaff, buckwheat is best, but almost any kind that is dry and fine will do, then cover the chaff with boards just as wide as the trench; then take scantling 2x3, or 3x3, just as one happens to have; lay it down lengthwise of the trench, right down on the boards. Carry and set the bees, without any bottom to the hive, right on these scantling close together; then take short boards, and stand them over the hives, as in drawing; this forms a roof; then take rye or wheat straw, stand it up lengthwise, and cover the boards evenly with the straw about 3 inches thick, then cover with earth about 6 or 8 inches, and the job is done. The earth is taken from each side of the trench so when the whole is covered the bottom of the trench from whence the dirt is thrown to cover the bees is considerably lower than the bottom of the trench. This makes it impossible for any water to collect or stand under the bees. The drawing below will explain all.



BEES IN A CLAMP.

A is the hive in position. BB are the scantling on which the hives are set. CC are the boards that form the roof. D is the straw covered over the roof-boards. E is the dirt thrown from the trenches, XX. FF are air-spaces. G is the chaff under the board in bottom of trench.

In burying bees I find only one objection; that is, where too many are put in one trench, the whole get aroused before they are all put out when the trench is opened in spring. I would not advise putting more than 12 or 15 in one trench. The bees winter so well that, when the trench is opened, they are so strong and lively that they are very quick and active.

If desired, I will tell in a future article how to proceed to take them out of the trenches in spring.

F. BOOMHOWER.

Gallupville, N. Y., Nov. 6, 1882.

Very good, friend B. Burying bees is an old idea, but your plan has two features that may be an improvement. First, making sure they are dry; second, and most important, giving abundance of air, and getting rid of all dead bees at one and the same time by omitting the bottom-boards. With the covering you give, I presume no ventilators are ever needed.

Our Homes.

Pilate therefore said unto him, Art thou a king then? Jesus answered, Thou sayest that I am a king. To this end was I born, and for this cause came I into the world, that I should bear witness unto the truth. Every one that is of the truth heareth my voice.—JOHN 18:37.

YOU will remember, friends, that there was a discussion going on in regard to the charge against Jesus of wanting to be king, and Pilate was questioning him in regard to this charge. Jesus told him, simply and plainly, he had no interest in the kingdoms of this world; for he had, but a few moments before, forbidden his followers to fight at all, and had, even by a miracle, restored the mischief that rash Peter, in his blindness and misconception, had caused. Pilate was not a Jew, and cared little about the Jewish wrangles, and seemed anxious only to let this poor, unoffending, and singularly innocent man go free, if he could do so, and at the same time avoid having any trouble with the clamoring Jews. While Jesus declined answering or saying even a word in his defense before the hypocritical chief priests, he talked freely and candidly with Pilate. After Jesus had said his kingdom was not of this world, Pilate says, in substance, "Well, then you are a king in some sense, and of something. The statement your enemies make, that you claim to be a king, is at least in some sense true." To the words, "Art thou a king, then?" the reply that our Lord, in his wonderful innocence and childlike humility makes, is one of those texts that can be read over and over again; and every time I read them, the beauty and grandeur of the words thrill my very soul. "Thou sayest that I am a king," which means, "You say rightly, I am a king;" or, "Yes, I am a king, as you say." Now comes in a point where the God part of his wonderful nature asserts itself. "To this end was I born, and for this cause came I into the world."

Remember, friends, it is the selfsame man who was "despised and rejected of men; a man of sorrows, and acquainted with grief," and who, "as a sheep before her shearers is dumb, yet opened not his mouth." This last has just been verified, as he stood before the chief priests and false witnesses. There was nothing to be said before those deliberately bad, wicked, and false men. Pilate was a bad and wicked man too, but he has no prejudice against Jesus, and so he speaks out plainly to him. Christ frankly tells him all about his kingdom, for which he came into the world, and for which he is the born monarch. Now, what is the great cause he came into the world to found? Simply truth, honesty, uprightness, and purity. In other words, "That I should bear witness unto the truth." Simple truth. He did not come into the world to rule with a rod of iron, nor to show his power and his might, as kings do, nor to impress the world with his grandeur and magnificence in any worldly sense. He knows of these things, and their allurements; for Satan once tempted him. He came into a world full of untruthfulness and selfishness; and he, by his pure, spotless life, bore witness unto the truth.

One of my skeptical friends some time ago sent me a pamphlet denying the divinity of Christ, with a most urgent request I would read it. I did read it, and, to my great surprise, it impressed me stronger than ever before with the beauty of Christ's pure, simple character. It endeavored to show he was but human, because he was so humble and so lowly; and the author could not comprehend how one having the universe under his command could take up such a humble station in life voluntarily. To his mind, it was beyond belief that the Son of God could, of his own accord, wander about the country among the lowly and the poor and humble, spending his time in ministering, and nursing sick people. A poor harmless mistaken man, with a mere handful of followers, who clung to him almost to the last moment, he wandered from place to place, disappointed and rejected at almost every turn, said the writer in substance. Unconsciously he almost said, "Despised and rejected of men," and yet did not seem to remember it had been said of him before he came here on earth. This same strange, mistaken, simple-hearted man was, however, so the author said, loved so devotedly by some of his friends that they would at any time lay down their lives for him and his cause. Do you know what that cause was, dear reader? Our text tells; it was for the cause of truth, against falsehood and injustice. Do you think there is any need now of men who will give up their lives in the cause of truth?

"For this end came I into the world," Jesus came into the world for no end or plan of his own. His enemies said of him jeeringly, "He saved others, himself he can not save." They told the truth, though not, perhaps, in the sense they intended. He could not consistently with his mission to the world, save himself. He came to bear witness unto the truth, and to save men from sin, from selfish untruth. There is a great deal in this world that is false and untrue, and almost all untruth comes from selfishness. We use falsehood, because truth would cost us something. We should lose by letting the full truth come out, so we evade and prevaricate. As Jesus came to save others, and not himself, his life was pure and truthful. Not even his enemies have ever accused him of any selfish plans or work during all the time he was here upon earth. Now, my friends, a man who comes into the world solely to get as much as he can of every thing for himself, will be pretty sure to be an untruthful and false man. The Bible says, "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength, and thy neighbor as thyself;" but suppose one instead of doing this should put in practice, "Thou shalt make thyself thy God, and love thyself with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength, and thy neighbor must look out for himself." Such a man would live only to please himself. Jesus "pleased not himself." The life and teachings of our Savior are such a constant reproach to a selfish man, that he hates him instinctively, or, what amounts to the same thing, he hates the very mention of that spirit. The spirit

of self-sacrifice is so foreign and opposite to that of selfishness, that there must ever be war between the two elements. An old friend said, a few days ago, that whisky would be drank, in spite of temperance people, just as long as it "tastes good." I fear there is a great truth there. We have those among us who will drink any thing that "tastes good," no matter what the consequences are, and no matter what it does to other people. I once heard of a steamboat accident on the Ohio River, where the number of planks and floats was insufficient to keep all the passengers above water until help could be obtained. A great strong burly man knocked a poor weak woman from a plank, that he might have it to save his own life. What do you suppose that man did when he got ashore? He saved his life, did he? Jesus said, "He that saveth his life shall lose it, and he that loseth his life for my sake, shall find it." My friend, do you want to be one with Jesus and his followers, or with those like the man in the river? I fear it must be either one or the other. "He that is not for me is against me."

Jesus told Pilate that he came into the world to bear witness unto the truth. His kingdom is truth in the hearts of men. He who would be a true man must not be a selfish one. Truth and selfishness can not go together. If I mistake not, the greater part of untruth comes from selfishness. When a man coolly decides to make self foremost and first, he lets go of truth. Men addicted to periodical intemperance are often truthful, frank, and honest, until they yield to temptation, and then their honesty, as well as honor, is all gone. They have dropped all love to God and their fellow-men, or at least they have made it secondary, and made self foremost. Those familiar with such people can tell in an instant when God and self-respect has gone out and self and Satan has come in. Even if they have not signed any pledge, nor promised anybody they will not drink any more, it is almost impossible for an intemperate man to have even a shade of honesty. It is the same when we do violence to our honest convictions in the indulgence of any thing else we know to be a sin. The disposition to hide our infirmity is in itself a sort of falsehood. We are anxious that the world may think us what we are not. Adam and Eve stood in the garden honest and pure before God. It was only after they had sinned that they had any anxiety to hide in the bushes, or to cover themselves with fig leaves. Dear reader, is there any thing in your life that you are anxious to cover up, or that you fear to have the clear daylight of truth shine on?

Jesus came into the world to bear witness to the truth. All who love simplicity and truth must love the gentle spirit with which he taught, and must love him. Any one who loves truth, and hungers and thirsts after righteousness and purity, must love to study the life and character of Jesus. Just after our text we read, "Every one that is of the truth heareth my voice." I believe there are no exceptions to this. Most of you know how imperfect is humanity; you know how

you have to make allowances for even your best friends. You know how rare it is to find one who is always perfectly fair, especially when he gets a little stirred up and contrary. Well, now, if there were in the world a perfect character, one without even a shade of selfishness and prevarication, would you know that person when you saw him? would you recognize Christ as the Messiah, if you should meet him in the world?

"Every one that is of the truth heareth my voice." Those who wanted to find him would find him at once; and those who wish to find him to-day, dear friends, will surely find him, and hear his voice of entreaty too. The trouble is, that we in our selfishness and untruth do not always want to find him. There are at least times in the lives of most of us when his presence would be such a rebuke that we would want to hide in the bushes, as did poor guilty Adam and Eve. May God help us to guard well against such times as these!

When Jesus said he came into the world to bear witness to the truth, Pilate replied by asking, "What is truth?" I don't think Pilate wanted any information in regard to what truth is; but his uneasy, guilty conscience, prompted him to make the remark in a sort of evasive way. We often see this spirit among intemperate men. They would very much rather argue about things in the abstract, than to consider the glaring sins right square before them. I remonstrated with a distinguished surgeon because he used oaths right before a company of boys. "What is blasphemy?" said he; "it depends upon what a man means by the term." He knew he was guilty, but he was too proud to acknowledge it, and so he tried in a weak way to defend himself. Such arguing and prevaricating is very common; but, friends, do you not realize how very far it is from simple, honest truth? Consider the character of people who thus evade, as a whole. Both Pilate and this great doctor were probably guilty men at heart, and, what was the worst part of it, they deliberately proposed to be guilty, and to go on so to the end of their lives. They had no sort of intention of saying, "God have mercy on me a sinner," and then making a sharp turn toward a better life. A man who says by actions, if not words, "We are all in for *number one*, and every man must look out for himself," can hardly have a shade of truth about him, for he does not propose to be fair or just in the outset; and one of the first elements of truth is fairness.

Now, it was among a people like this, or largely of this element, that Jesus came to establish his kingdom. "Blessed are the meek," he said, "for they shall inherit the earth." The other class can't well inherit the earth, for their selfishness would destroy it, and themselves along with it. Shortly before our Savior's death on the cross, he was praying for his disciples. Poor weak fellows like ourselves at this minute, they little knew what was before them. He told Peter that Satan desired to sift him like wheat; but notwithstanding this, Peter, in his innocence and self-confidence, calculated that he alone was a match for Satan. How did it turn out? Well, in this prayer for

them he says, "Sanctify them through thy truth; thy word is truth." Simple, meek, unostentatious, humble truth. It is low down and humble, and yet it towers like a great monument, when it obtains a lodging-place in the human heart.

When one is resting on truth he has God's approving voice constantly in his heart; and such a one has little need of secrecy anywhere in his heart. He need never seek to find wherein he may hide, neither need he try to cover himself with fig leaves for fear the clear light of day will show something he would rather have hidden. Who has not witnessed the painful spectacle of one trying to hide a lie by telling a score of others? He pulls the fig leaf of untruth over one spot, only to find it leaves a nakedness exposed somewhere else, and, like a drowning man clinging to straws, he chooses flimsier things than straws, to make it appear that he is a man and a gentleman. Is there any hope for such a one? Surely there is no hope when he puts his trust in Satan, and expects falsehood and evasion to bring him out of trouble. But is it possible for one who is steeped in sins of this kind to turn about and be fair and honest? It is possible; but it is much like the reform an intemperate man must make. There is a manly way of extracting yourself from the worst fix a poor mortal ever got in by falsehood and dishonesty. The sharp turn that God demands is so great that it is literally being born again. Who is there who has not, some time or other, looked back and seen where he had not been frank and honest and fair? Well, when you do see this, as you value your peace of mind and your peace with God, even though your face does flush and burn, and even though a lump does rise in your throat, say, "My friends, I have been unfair, and perhaps not quite honest in this. If you will forgive me, I will try to do better in future." You may say nobody ever does this. Yes, they do, my friend, and there are those who can remember of cases very much like it; but it almost always precedes a real radical reform. The courage that it takes to do it always gives the poor sinner a big lift toward God, for it is virtually saying, "Get thee behind me, Satan."

"To this end was I born, and for this purpose came I into the world, that I should bear witness unto the truth." These were Christ's own words to Pilate, and yet how little did they seem to avail! With a certain class, it seems to avail just as little now, to state that the Christian religion comes into the world as a witness of truth. We are not to state it, but our lives are to be a witness of it. My eye just now alighted on the following in the *American Grocer*. The writer was telling of a partnership he once formed with a young man, and says,—

I paid large prices, but was in hopes I was getting into trade with a good moral young man, a Sunday-school teacher, who possessed unusual attractions. The day after we had finished our inventory I made a most sickening discovery. George's chief recommendation was his veracity, but he proved a flattering deceiver. Mr. Smith, a coal-heaver at the furnace, came in to purchase a piece of cotton cloth. George met him with extended hand, and assured

him of his warmest friendship, stating that he appreciated his call, as he knew how much trade followed in his footsteps, assuring him that any thing he might want could be had at cost price in New York city. Mr. Smith bought a piece of cotton, paying 15 cents; was told it cost the firm 16 cents. I examined the cost-mark and saw it was only 11 cents; and after Mr. Smith's departure I said, "George do you make a practice of selling many goods below cost?" He replied, "Examine the mark, and you will be satisfied with the sale." I said, "I have done so, and thought you were mistaken; surely you would not tell a falsehood to sell goods?" He answered, "There is no other way to sell them," and that in figuring costs he only added his own time at the rate of five or ten dollars per second, or whatever was necessary to make up the deficit. I felt blue. I was now past bound to a most affable liar, in whom I could place no dependence. I was surely in trouble.

And is this really true? Are there Sunday-school teachers who bear witness for Christ in this way? If it is true, is it any wonder that the world jeers at young men who teach or superintend Sabbath-schools, and say that they are not as honest at heart as those who try to live honest and make no professions? Are we who follow in the footsteps of that meek and lowly Savior of the world letting our lives bear witness unto the truth, in the footsteps of the Master? Did you, my friend, ever try to talk to any one on the subject of religion, with a view of leading him to Christ? Do you know what it is to almost tremble when you think of the sacredness of the office? Christ came to save sinners. The world does not care whether they are saved or not; but you and I do. The world laughs in a cold, uncharitable way, when some poor brother or sister has done amiss. The world talks it over, puts it worse than it really is, and, with a cold-hearted indifference, laughs about it and rather rejoices that another has turned out untruthful. The Christian is slow to believe wrong of any one; "thinketh no evil;" and while the matter is talked over, feels sorrow in his heart, and an earnest desire to talk kindly and gently to the sinning one, and to bring him or her back to better things. Could you indulge in unkind and idle words about a person one hour, and then talk to them about their soul's salvation in the next? Surely not; for he who does God's work must feel that God's eye is ever on him, and no one need hope to succeed a single instant in winning souls to Christ, who is not earnest, truthful, and the same, whether the one who is being discussed is present, or a thousand miles away. God so loved the world, that he gave his only Son to save it; and you, as a Christian, are bound also to so love the world, that no unkindness ever spring up toward or about any one. Then shall you be consistent, and then shall you witness to the truth, even as Jesus did. It is a blessed thing, my friends, to cultivate a spirit of saying all the good you can honestly and sincerely of every one; and you will discover that, with the saying, comes the happy faculty of seeing, the good in the men and women God has placed around you. A habit of uncharitable criticism is a most

sad one, my friends, and I know, by my own experience, that it brings darkness, distrust, and trouble, if very long indulged in. Don't even tell your wife of people's faults; you will make her think ill of those she might otherwise think well of; and you will, besides, encourage in your own heart a way of thinking all the world is bad, while you alone are good; and this is a most mischievous trick Satan has, when he can get anybody foolish enough to listen to such temptations.

Jesus was always the same.

Jesus Christ the same yesterday, and to-day, and for ever.—HEB. 13:8.

We have no record that he at any time talked to any of his disciples about some of the others who might be absent, in a way he would not talk right to the absent one. If he had any complaints to make, these complaints were always made in a spirit of loving kindness, directly to the erring one. He never talked to any one about the shameful way in which some other person was going on. He wasn't kind and sympathetic one day, and then proud and overbearing at some other time. The first two verses of one of my favorite hymns are as follows:—

Ever patient, gentle, meek,
Holy Savior, was thy mind;
Vainly in myself I seek
Likeness to my Lord to find;
Yet, that mind which was in thee,
May be, must be formed in thee.

Days of toil 'mid throngs of men,
Vexed not, ruffled not thy soul;
Still collected, calm, serene,
Thou each feeling couldst control;
Lord, that mind which was in thee,
May be, must be formed in me.

The hardest battles I have to fight now are just in this line. It is only by hard striving that I can avoid saying any thing of the absent, which I would not say if they were present. Again and again I have resolved I would not tell even my wife of how I have been tried by people during the day. I know it is wrong to talk of people's faults, because it always impairs my nearness to God when I allow myself to do so. It also tends to make her think the world is all bad, and that I alone am good, which is by no means the truth. Whenever I keep down this spirit, and tell her of the good I have found in people during the day, I always feel a great deal happier.

Two things tempt me to find fault with folks, and enlarge their faults. First, I do not love the world as Jesus loved all mankind; and I do love myself as Jesus did not love himself. Self-love, instead of love to my neighbors, is the trouble. Whenever folks begin to talk about some of my *especial friends*, I can take the part of the absent one with a good grace. I tell you; now, why do I not have love enough, and charity enough, for the whole human family, to do the same when *any* one of them is assailed? Do you not think, friends, that such a life would be helping toward "Thy kingdom come, thy will be done in earth as it is in heaven"? It was the same kingdom that Jesus meant, remember, when he said,—

To this cause was I born, and for this cause came I into the world, that I should bear witness unto the truth. Every one that is of the truth heareth my voice.

It was exactly this kind of fair, honest truth, that he came to bear witness of.

In closing this talk to you, I wish to give here a few words from our pastor, read to us at our last teacher's meeting. It sums up, in a few words, the results accomplished, by the crowning act of our Savior's life here on earth:—

What did the atonement of Christ accomplish? This question is often asked. Any answer other than that which comes from Scripture is of little value. There are in reason, hints of the need of an atonement; but the fact is set forth in the Bible only. We must, therefore, gather the value of this great fact from the Bible: What does Christ's dying for sinners accomplish?

1. It gained their attention.—JOHN 12:32.
2. It took away the fear of death from those repenting.—HEB. 2:15.
3. Brought eternal life more clearly before men.—II. TIM. 1:10.
4. Freed from sin.—I. JOHN 1:7.
5. Saved from hell.—REV. 1:18.
6. Made plain the way to heaven.—JOHN 11:35, 26.

BITTER HONEY, AND WHERE IT COMES FROM.

ALSO SOMETHING ABOUT HONEY-DEW.

ABOUT 30 years ago this country was overrun with a weed commonly called "bitter-weed," and sometimes "wild chamomile." It resembles the chamomile, but the flower is of a deep yellow color, and the stalk is quite hard, and it grows about 18 inches high. In the spring of the year it comes up with the grass, and the cows eat it (I think unintentionally), and yield bitter milk. It blooms from May till frost. But so long as there are better flowers, or honey-dew, the bees do not gather honey from it. In dry weather it yields but very little honey; but every fall our honey is made bitter by it.

This year there was a honey famine from June 1st to the middle of July, from which I lost several May swarms. About the middle of July, abundant rains began to fall, and the bitter-weed began to flower profusely. Everywhere yellow blooms greeted the eye, and from 10 o'clock A.M. till near dark every evening, the bees swarmed upon the bitter-weed. The early morning hours they spent on the diminutive morning-glory and the poor land-weed, from which they gathered a little good honey. At first the honey was very abundant, but so thin that it would pour out of the combs when tilted, like water. The bees, for the purpose of evaporating it (as I believe), kept up a continued roar in the hives night and day. In the latter part of August the bees capped their honey, after which the roaring, for the most part, ceased.

About this time I extracted five gallons of the honey. It is as yellow as gold, and exceedingly bitter. It can not be eaten. Is there any way of purifying it? The color and taste are evidently from the pollen of the bitter-weed. Is it possible to filter it so as to purify it? In my past experience I have had bitter honey from the *chinkapin* bloom, but nothing to equal the bitterness of the bitter-weed.

Last winter my bees wintered on a small stock of this bitter honey, but now they have an abundant supply, and ought to come out strong next spring. I had three large swarms about the 1st of September, two of which I hived. I think they will store up honey enough to winter on. Had my bees been

strong last spring I could have extracted much fine honey, for the flowers were very abundant, and rich with honey. We had swarms here as early as the 14th of March. These were the Italians. I never knew the black bees to swarm here sooner than the 30th of March.

HONEY-DEW, NOT FROM THE APHIS.

We have had no honey-dew here this year. Is there ever any of it on trees that bloom freely? I have noticed, that when my peach-blossoms are killed by frost, the tree yields honey-dew, which is found at the foot of the leaf-stem, and no aphids about. The best years for honey-dew is when the early verdure is killed by frost. Both last year and the year before, the white-oak blossoms were killed, and both years honey-dew was found upon them. It was very white, and formed sugar. Last year it sugared on the leaves, and the bees were unable to gather much of it. The fronts of the hives were white with it.

Minden, La., Oct. 6, 1882.

T. M. FORT.

Thanks for facts given, friend F. Who knows but that this bitter honey may not have medical properties, say equal to quinine? Honey is often prescribed as a vehicle for medicine, and here we have it already commingled by nature. I presume, friend F., you could put it up in nicely labeled bottles a deal cheaper than doctors charge for their bitter stuff.—I believe you have struck a great truth in your conjecture about honey-dew after an untimely frost has killed the verdure. While I was reading your letter, something seemed to be glimmering in my mind in regard to the relation between frost and sugar; but it was some time before it bubbled up to the surface, that potatoes are made sweet by being frozen. The freezing converts the starch into grape sugar, and, presto! we have honey oozing out of wheat stubble, peach-tree leaves, and, possibly, corn-stalks. Don't I come pretty near being a scientist?

GLEANINGS IN BEE CULTURE.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: \$1.00 PER YEAR, POST-PAID.

FOR CLUBBING RATES, SEE FIRST PAGE
OF READING MATTER.

MEDINA, DEC. 1, 1882.

Thy word is truth.—JOHN 17: 17.

We are now fully supplied with honey, and could not at present pay more than 9c. for the best, clover and basswood, delivered here.

In our Nov. No. I said the price of waxed strings for sealing the Jones honey-pails was 60c. per 100. It should have read *thirty* cents only.

A NEW USE FOR THE 50-CENT SMOKER.

It is capital to use in the printing-office to blow dust out of the type-cases. Every printer should have one. A regular bellows costs from \$1.25 to \$1.50. We will furnish the smoker bellows alone, without the tin part, for 25 cents.

As we go to press this 29th day of November, we have 5445 subscribers. The kind help you have given me has made my task a pleasant one during the past year, and it has also enabled me to give you a call during the greater part of the year, a little oftener than we either of us expected, when we started in a year ago. Once more, I thank you.

We can sell honey-labels for 25c per hundred, if you take such as we keep constantly in stock; but of course these can not have your name and address on them. In fact, we can not furnish any kind of a label with your name and address on, even if you wanted only a dozen, because it would not pay for setting up the job, and getting ready to print. I say this, because so many ask for 25c worth of labels, printed to order.

We are surely going to run short of beeswax before another twelve months passes over our heads, and I fear all there is in the world will not meet the demand of the next year. A letter came to-day, asking me what I would furnish a ton for, and I replied 30 cts. If this man takes me up I do not know where I can get it back again, even if I should offer 35 cts. It may be there are those who are holding on for better prices; but the general report is, that there is none, for it has been all bought up. It will certainly do no harm for us to commence saving every particle of it.

We have sold an immense quantity of the perforated zinc (for excluding queens and drones, and still allowing the workers to pass) during the past year, and friend Jones informs us it is just the thing for preventing the queen from going into the upper story, or to prevent the bees from building the space between the upper and lower stories all solid with honey. We are now fully supplied, and can furnish any-sized sheets at 15c. per square foot, or only 12c. if taken in the sheets, just as we get it, 3x8 feet.

A YEAR ago I promised to come again to the Michigan Bee-Keepers' Association, and at present writing I expect to be on hand. The secretary sends us a printed postal that reads as follows:—

MICHIGAN BEE-KEEPERS' ASSOCIATION.

The 17th annual convention of the Michigan State Bee-Keepers' Association will be held in Kalamazoo, Dec. 6 and 7, 1882. All interested are cordially invited to participate in the discussions, which will embrace the live issues of the A.iculture of to-day. Thomas G. Newman, A. I. Root, D. A. Jones, Prof. A. J. Cook, and many other distinguished apiculturists, are expected to be present. Low rates of board at hotels have been secured for those attending.

T. F. BINGHAM, Sec'y, Abronja, Mich.

SOME of you will remember a man who wanted our bee folks to subscribe a certain sum each toward getting stingless bees from South America. I believe few, if any, subscribed. Perhaps the prompt warning the journals gave was the reason they did not. Well, every little while somebody suggests doing something of this kind, if a certain number will give, say \$1 00 each. Now, while I would not question for a moment the sincerity of those who start such projects, I *would* question the wisdom of such proceedings. If you feel like developing some new thing, do it with your own money, and trust to those who are benefited, to do the fair thing by you. If you feel you can not trust humanity, don't go in to it.

WE are now prepared to furnish the artist's camera, described by friend Hutchinson in the Nov. No., for an even dollar. If wanted by mail, add 20c. for postage. The buzz-saw table in this No. was sketched by means of one of these cheap instruments.

AMONG the list of vice-presidents for the coming year, mentioned in our convention report last month, page 553, the name of our old friend Wm Muth-Rasmussen should have appeared in place of W. R. Musser, as vice-president for California. The error was "secretarial," and not typographical.

COMMITTEE ON STATISTICS.

At the Convention at Cincinnati, a committee was appointed to furnish some more accurate statistics, in regard to our honey crop. This committee was to be composed of T. G. Newman, Dr. C. C. Miller, and A. I. Root; but this latter personage was so very careless as to have missed getting it in the reports to all. If the friends will forgive me, I will try to do better next time.

IN the article from friend Wiltse, he states that the bees reared brood before they had gathered a cell of pollen, the experiment seeming to indicate that pollen was not absolutely necessary. It has occurred to me since, that the new honey they brought in during this time must have contained quite a little pollen, for all honey is found to contain pollen that can be seen under the microscope; and by means of this pollen, it is possible to tell what flowers the honey came from.

BAD ADDRESSES, AGAIN.

WRITE your addresses plainly. We have to-day an order inclosing about \$17.00, but the address was so bad we could not any of us tell where the goods were to go. He gave no county, and the names he mentioned were not to be found on any of the postal or railway guides. We boxed up his goods, and waited two weeks for better shipping directions, and now comes the same thing written on a postal card. It is so badly scrawled that none of the clerks here, nor any over at the railroad and express office, can make it agree with any thing we can find anywhere. Back his goods must go to the warehouse, while we wait two weeks more. But this time we have asked him to be kind enough to get some friend who is a plain writer to write it for him. Why will you not write plainly your town, county, and State? We can do nothing in the world with the names of railroad companies, because they are not located anywhere particularly. The name of your county is most important of all; for with this we can hunt you up. Please, friends, do not clog business and bother us thus. Give us your abiding-place once, and after that we will try to hold on to it for ever.

GALVANIZED IRON FOR HONEY.

I have several times explained to the friends, that galvanized iron, though it keeps bright and clean, apparently, is dangerous and poisonous for articles containing food. It keeps clean, very much as a piece of ice keeps clean; the surface is all the time wasting away, and therefore nothing can well adhere to it. Honey-gates can easily be coated with zinc; but no process is yet known, if I am correct, of coating cast-iron with tin in the same way. They can be tinned in a slow way by rubbing them with a soldering iron, but in no other way; consequently, we can not very well have a honey-gate tinned outside and in, no matter how desirable this would be.

Some of the friends may have noticed that we have advertised a gate tinned outside and in. We did this on the strength of a promise from the manufacturer; but finding they meant *galvanized* when they said tinned, we are obliged to fall back on the old kind of japanned gates. We can furnish the largest size, that we call "whoppers," neatly japanned, for 35c. each; or in lots of ten, for \$3.00. If wanted by mail, 35c. each extra. These are the same we used to sell for 75c. each. We got this great reduction by purchasing several gross at one time. The inside diameter of the bore is 1½ inches. We can tin them, for soldering into a can, for 10c. each extra.

Conventions.

CONVENTION DIRECTORY.

TIME AND PLACE OF MEETING.

1882.

Dec. 2.—Boone County Bee-Keepers' Association, at Lebanon, Boone Co., Ind.

1883.

Jan. 9.—Cortland Union Bee-Keepers' Association, at Cortland, N. Y.

Jan. 19, 20.—Mahoning Valley Bee-Keepers' Association at Berlin Center, Mahoning Co., O.

NEBRASKA STATE CONVENTION.

The Nebraska State Bee-Keepers' Association will hold its annual session in Wahoo, Saunders Co., Neb., commencing Thursday, Jan. 11, 1883. Arrangements have been made with the R. R. Co's to secure 1½ fare for the round trip. The Saunders County Bee-Keepers' Association will furnish entertainment free to all visiting apiarists.

T. S. VONDORN, *Pres.*, Omaha.
GEO. M. HAWLEY, *Sec.*, Lincoln.

OHIO STATE BEE-KEEPERS' CONVENTION.

The Ohio State Bee-Keepers' Association will meet in Columbus, in the rooms of the *Ohio State Journal*, on Tuesday and Wednesday, Jan. 9th and 10th, 1883. A full attendance of members, and all interested in bee culture, is requested, as matters of interest and importance will be discussed.

DR. H. BESSE, *Pres.*, Delaware, O.
DANIEL SPEAR, *Sec.*, Cardington, O.

The time of next meeting of the N. E. B. K. Association is changed from Jan. 16, 17, 18, to Jan. 9, 10, 11, one week earlier. Of course, you know that Syracuse is the place of next meeting.

GEO. W. HOUSE, *Sec.*
Fayetteville, N. Y., Nov. 25, 1882.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
11-3d JNO VANDERVORT, Laceyville, Pa.

BEESWAX WANTED.

I will pay 28c per lb., in cash for pure, bright-yellow beeswax, delivered here. Address
W. D. WRIGHT, Knowersville, Albany Co., N. Y.

A GOOD HONEY-PLANT.

100 BUCKTHORN TREES by mail, postpaid,
12d \$1.00. Address
CHAS. KINGSLEY, Greeneville, Tenn.

50 TO 150 COLONIES OF PURE ITALIAN BEES,

In new, superior, well-painted, movable-frame hives (frames 12¼x12½ in.), for sale at \$6.00 per colony, delivered at depot or express office at Lexington, LaFayette Co., Mo. DR. G. W. YOUNG.

