THE AMERICAN BEE-KEEPER

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Successful Bee-Keeping.

BY G. M. DOOLITTLE.

Not long ago I was asked how I would work for comb honey, so as to be sure of securing a good crop, if the season proved favorable, so I thought a few words on the subject of successful bee-keeping would not be amiss to the readers of THE AMERICAN BEE-KEEPER. To be successful the apiarist should have a simple movable frame hive of some kind, and for comb honey the brood chamber should not contain more than from 1,500 to 1,800 cubic inches inside the frames. All know that bees gather honey instead of producing it, and that the eggs laid by the queen produce bees, consequently the more eggs the queen lays the more bees there are, and the more bees we have the more honey they gather. In fact the queen is the producer of honey. Therefore if we wish good returns from our bees we must see to it that we have good prolific queens, and that they fill the combs with brood before the honey season commences, so that when the honey harvest comes the bees will be obliged to place the honey in the sections, as there will be no where else for them to store it. Having the combs thus filled with brood the next thing is to put on the sections. Each section should have a small piece of comb attached to the top of it for a "starter," or be filled partly or fully with comb foundation of the thinnest make to start the bees to work more readily in them; while the center tier of sections, should, if possible, be full of comb left over from the season previous. As soon as the first few sections are filled, they should be taken off, before colored by the bees passing over them, and sections with starters put in their places, thereby causing the bees to work with renewed vigor to fill up the empty space left where the full ones were taken out, and thus keep taking out full ones and putting empty ones in their places, as long as the honey season lasts. But there is another thing which plays an important part in this matter, and that is a knowledge of the location we are in. In nearly all localities where bees can be kept, there are certain plants or trees which give a yield of surplus honey at a certain time of year, while aside from this there is little more honey obtained by the bees than is needed to supply their daily wants. Hence it is apparent to all that if

such a honey yield passes by without any surplus, none can be obtained during the season. From this it will be seen that in order to be a successful apiarist, a person must have a knowledge of their locality and secure the bees in time to take advantage of the honey flow when it arrives. Failing to do this there is no profit in apiculture. Here in central New York, our honey crop comes mainly from linden or basswood, which blooms from July 5th to 15th, and lasts from ten days to three weeks, according to the weather. In other localities in the State, white clover is the main crop, coming in bloom June 15th to 20th, and again in others buckwheat, yielding honey in August; but as nearly all have a yield of honey from basswood, I will speak of that as the harvest. Bear in mind, however, that it devolves on the reader of this to ascertain by careful watching, just when and where is the source of their surplus honey crop, so as to work accordingly. After having determined just when we may expect our harvest of honey, the next step is to secure the bees in just the right time for that harvest, doing this by some one of the excellent plans given in our bee books. If you have a field of grain to cut, you hire the laborers when the grain is ripe, not before or afterward, yet in keeping bees few give any attention to this matter, so that, as a rule, the bees are generally produced so as to become consumers rather than producers, and thus we often hear persons contending that bee-keeping does not pay. To know how to bring the bees and the locality together, it should be understood that after the egg is laid, it takes three days for it to hatch into a little larva. This larva is fed six days, during which time it has grown so as to fill the cell, when it is capped over and remains hid from front-view twelve more days, when it emerges a perfect bee, making a period of twenty-one days from the egg to the perfect bee. This bee now works inside the hive for 16 days when it goes out as a field laborer; so it will be seen that the egg must be laid at least 37 days before the honey harvest, in order that our bee has an opportunity of laboring in that harvest to the best advantage. Now if the harvest is basswood, commencing to bloom say July 10th, the egg for our laborer must be laid on or before June 3d. In this way we can calculate on any bloom, so as to have our bees ready in time for the harvest, and let me say that these two factors, securing the bees and knowledge of location, have more to do with successful bee-keeping than all else connected with the pursuit.

Borodino, N. Y.

Nebraska Notes.

BY MRS. A. L. HALLENBECK.

The Summer blossoms have faded:
The Autumn flowers are dead:
Have we gathered aught from their sweetness?
Have we learned in its full completeness
Each lesson before they fled?
Have we watched through the sultry Summer
Our bees at their daily toil?
Can we tell where they found the sweet treasure
That we enjoy now at our leisure?
Have we left them their share of the spoil?

And now, what are we going to do till warm weather comes and the bees can go to work again? Sit down by the fire and forget all about the bees

till we go and hunt over the hives in the spring and see how many of our faithful workers are alive to work for us another season?

Shall we let our books and papers lie neglected, or discontinue them entirely, because they did not enable us to get as big a yield of honey as we thought we should this year?

Whether we be *new* beginners or *old* beginners, these are questions that we will all answer in some way or other whether we ask them or not.

APPLE HONEY.

Did you ever have any? Right in front of our bee-hives is a row of apple trees that bear large, sweet, yellow apples, that ripen just about the time frost kills all the flowers. They are very juicy and if bruised or broken decay very rapidly. Sometimes after a high wind the ground will be covered with apples, each bruised place then makes a feeding place for as many bees as can get at it.

As this comes just after a full flow from golden rod that fills the hives, by giving a strong colony a few empty combs they sometimes fill and finish them nicely, and if you like sweet apples you will like sweet apple honey better.

The season with us has given some surplus, and plenty of good stores for winter.

We got just enough honey from clover and early flowers to make our bees build up well, but not enough to give any surplus or cause any swarming till the middle of August. All our surplus is from golden-rod, smartweed and fall flowers, but with us this is fine honey, as light colored as clover honey and with a flavor that many think equal if not superior to clover. It brings a good price when put up in nice shape.

Our bees were all in good condition for winter and profiting by the lessons of the past we hope they may winter well.

Millard, Neb.

Bee Escapes—Black Bees vs. Italians.

BY C. W. DAYTON.

Before the present forms of escapes were invented I was aware that nearly every bee could be driven hastily from a rack of sections with smoke, but to get every *last* bee out before a cap is torn was absolutely impossible. One bee, or even a dozen bees, in a whole rack of 21 or 28 sections may seem small—one bee to two sections. If I used escapes simply to rid the sections of bees, my time with them would be soon over. The question is not how quickly or how easily they go out, but it is how much damage they do at the time of the going, and in this, one lone straggler may do more than the thousand that she lags behind.

It depends somewhat upon what kind of honey we are producing. If there are rows of uncapped cells around the edges next to the wood or along the bottom edge alone, it will do but little harm if a few more cells *are* opened. It will sell about the same and little notice will be taken of it.

But suppose our honey combs are built evenly and with every cell sealed pearly white clear out against the wood? In this case one or two cells torn open becomes a "mark" for

criticism like a blunder in the center of a beautiful picture. Fancy folks pay fancy prices for fancy goods and choose perfection as discerned by sight and it takes very little to mar a faultless section of honey. Every cell that is bitten into counts.

Our plan is to open the hive hastily and send smoke down amongst the sections forcibly to hustle the bees out before they have *time* to open the cells. The other plan, with the bee escape, they are allowed their own time to get out, and not being scared they do not molest the cappings. In adjusting the escape board it should be done carefully and without disturbance because a jar or rap on the hives is as liable as smoke to set them to taking honey from the cells. In some instances enough cells may be uncapped that it would seem necessary to return the sections to the hives to be refilled and resealed.

Black bees are easier to start out than Italians or hybrids, but a little smoke seems to frighten them so greatly that they run heedlessly about as though they had forgotten where the place of exit was so that a few stick to the sections to a most vexatious degree and to every turn they make they grasp to the cap of a new cell. Italians do not lose their heads so easily. They know the way out but require a little longer time. Nor are Italians so liable to tear open the cells but show a marked disposition to preserve them.

In finding queens in black colonies the disposition of the bees is less favorable than of Italians. Of course the black queens are smaller and dark, on which account they are more difficult to find, but where there is enough Italian blood so that the queens are large and sometimes yellow the distinctive dispositions of the blacks are often retained.

Where there are several combs of brood it is seldom that three or four can be examined before the blacks will begin to roll and tumble, hang in festoons and drop off on to the ground and set the hive in a most confused condition, so that the queen could only be discovered by chance. At the same time every bee breaks open cells and fills up with honey until it would be easy to mistake workers for queens. In a very short time the brood will have no bees at all upon it and when robbers are around I have thought that the bees joined in pilfering their own combs.

The worst Italians are only slightly inclined this way, and they will stand still and in regular order over the brood, really spreading out as a protection from cold or robbers and though we look the combs over and over again they maintain their position as if to aid us in the search. With such bees we can see just where the sealed and unsealed brood and honey are and find the queen within a circular line of guards at her regular work on the unsealed comb.

As we begin to remove the combs on one side of the hive of a colony of blacks they begin to charge downward and under the bottom bars toward the far side of the hive and when we take out the last combs they are covered with bees four or five deep and when the last comb is taken out a great throng, perhaps the queen with them, will go rushing into the corners

and under the replaced combs. While blacks are so easily scared by smoke they deserve even more smoking than Italians or hybrids because in examining the colonies we are far more liable to be stung.

There is found to be an astonishing difference in the dispositions of different colonies of the same strains of bees and the consequent need of selection in breeding. Breeding can do much toward getting bees out of sections and in the handling of hundreds of colonies it may amount to days of labor.

But to return to escapes. How much labor they may save is a question. I estimated in the *Bee-Keepers' Review* some time ago that twenty escapes could be adjusted to the hives in twenty minutes. In taking the combs out of the hives singly and brushing the bees off I consider five minutes to the hive good speed. My time has been about ten hives extracted in about three hours. When escapes were used it was fifteen to eighteen hives in the same time. But the main advantage is not in the *time consumed.* When brushing the bees off very seldom were the times when sweat in a veritable stream did not pour off my nose into the hives. Then, again, it is very hard on the back to lean in a sort of sidewise way with a seven pound comb in one hand and the brush in the other, and continue in it for a long time. If we stand up straight the bees may be thrown harshly against the alighting-boards or young bees lost in the grass. The most escapes I ever put on at once was 48 and it seemed the work of a few moments upon a set of specially arranged colonies.

Twenty escapes in twenty minutes is equal to six hundred in ten hours, a busy, but easy day's work; in fact, the difference between escapes and the smoke and brush way of getting the honey away from the bees may be compared to the old way of binding grain on the old harvesters, by hand, and the new way by using the self-binding machines. The one is down right hard work for two men while the other is fun for a boy, who drives the team.

Pasadena, Cal.

The subscription price of THE AMERICAN BEE-KEEPER with some of the leading literary magazines is as follows: With the Century Magazine, $4.00; Scribners, $3.00; Cosmopolitan, $1.75; Demorests, $2.00; New England Magazine, $3.00; Godey's, $3.00; Californian, $3.00; Peterson's, $1.25; Lippincott's, $3.00; and with any other whose subscription price is not less than $2.50 at the price of the magazine alone.

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SHIPPING AND SELLING HONEY IN COLD WEATHER.

"If you want your business done, go; if not, send."—*FRANKLIN.*

I have long wanted to write a letter for the *Review*, and have selected this topic as of most interest to its readers of any thing I could write. My honey is produced with the one-story wide-frame with tin separators so the combs are smooth and no trouble to crate. I took them out of the frames, put them into the shipping cases and placed them in a spare room in my dwelling where a fire would keep the combs from cracking. I left them there till near the holidays, then scraped, graded, and cased them for market. I stamped them all with a self-inker. As the sections were well filled I paid no attention to the weight except to see about how they averaged. I made the following grades No. 1 white, No. 2 white, No. 1 dark, No. 2 dark, and culls. When I was ready to sell I went to our R. R. agent, told him how easy it was to break comb honey in the cold, and got permission to set a stove in the car, which I did easily in the morning. I took a large bundle of newspapers into the car and tacked them over and upon one door, then closed the other door near to the stove pipe and packed that one and then made a fire. It soon was so warm that I began to sweat. I took into the car a rack of a buggy cart and nailed it fast and upright, the distance from the end of the car that would allow the honey cases and ten inches besides at each end of the inclosure. Hay was spread four inches deep on the car floor and the cases set upon it. Newspapers were placed all over the pile, and hay ten inches deep put at the end and all sides. I gave the train men a section apiece to not bump the car. They seemed pleased and I think they did as they promised. The car went sixty miles but arrive safe without a section broken in the 1,400 pounds.

I must state that in the bottom of each case and between the two tiers of sections I had placed a sheet of oiled paper. On this were laid five strips for the sections to rest on; so if any dripped the bottom would not be so much daubbed. I shipped no dripping combs.

When I arrived at the city I took a sample section in a small grip and canvassed for orders. I told them they must average thirteen or fourteen ounces and I wanted 18 cents a box for it A good many grocers said it would never sell for 25 cents each and they must make five cents a box. But I sold out and delivered If I could not sell for money I traded for goods. All said it was very high, but as it was very nice, all white clover, they bought, and but few stopped to figure on the price per pound. I verily believe a $1\frac{3}{4}$ section full is large enough, and the way to get them full is to use them and no larger. I think they are filled fuller, more even, and quicker, and so are whiter than a $1\frac{7}{8}$ section and two-inch I would not use.

How I wish no one but specialists would raise honey, then we should

not have to compete with the broken, stained mussy honey in the market. A comission man offered me 16 cents, but I thought that two cents would pay my expenses and give me a chance to see the city. The R. R. Co. said they had no right to receive it without the cases being crated as per Mr. Ripley, but as nothing else was in the car they did not care. Of course I removed the stove before the car started. I think the car would have gone safely to New York, only for the transferring. The Mayor told me I could not sell from house to house without a license, but others said I could sell anything I raised.—*J. C. Stewart in Review.* (*Hopkins, Mo.*)

MANAGING BEES SO AS TO MAKE THEM PROFITABLE.

I started last spring with 13 colonies of hybrid bees, one being queenless. I increased them to 18, and got about 500 pounds of comb honey in one-pound sections. I use V-shape starters 4 inches wide at the top, and 2 inches long. In the center of the sections I fasten them in with a hand-made machine. I made a section-press or machine with which I use a treadle. As soon as a section is doubled it is pressed together. I can fold and press about 15 to the minute. It is on the principle of the old sash saw.

I use section-cases made of $\frac{1}{2}$ inch boards, holding 14 sections to the case, two cases filling one Langstroth hive. I use a wood-slat honey-board with four openings for the bees to pass up through. I scarcely ever have any pollen in the sections. I don't have any "young swarms." I manage to have empty combs to start on in the beginning of the swarming season, and when my first swarm comes off, I put it on empty combs with two or three frames out of the hive whose colony just swarmed. I then put it on the stand of the old hive, with partly-filled sections, and then remove to a new hive. In 15 minutes they are at work nicely, as the bees in the field come in loaded with honey, they are inclined to pass on up to the sections to unload before they do much below, and as I get all the working-force in the new hive, there are bees enough to carry on all the work above and in the brood-chamber. Now if the flow of nectar continues good, in six to ten days the sections are finished, ready to take off, or tier up and have them finished on top of 28 empty sections.

Now for the old colony: If I have any weak colony I set this old hive on it, closing it up so the bees have to pass out through the hive of the weak colony; in a short time another swarm comes off. I still have empty combs, so I go to the hive I have on top of the weak colony, take out about three frames, still partly-filled with brood (seeing they have no queen-cells,) put them in with the old combs, and putting on the partly-filled sections same as on No. 1. When I have no more weak colonies I tier up old brood-chambers after swarming, and when a new swarm comes after this, I smoke down all the young hatched bees in the top hive, remove all queen-cells, and put this on the old stand, as in the beginning.

Now, in a few days the bottom brood-chamber, into which I drove the bees from the top brood chamber, is ready for sections. I go to one of

the strongest colonies, take off one set of partly-filled sections, and put on this doubled up colony, and they will fill it full in a short time, if the flow continues.

I will say that when you put the first old brood-chamber on a weak colony, it is generally best to kill the old queen in the weak one, and rear a new or young queen from a cell in the one put on top. which generally is of the best stock, as the best build up earliest and swarm first, and are the best to gather honey.

Now for the result of this system of management: I have neighbor bee-keepers who go on in the "good old way of our fathers," and I think I can safely say I produced from twice to three times the amount of honey they do, and I sell my honey in my home market for 20 cents per pound, while they sell what little they happen to have at about 10 to 15 cents, and it is dear at that. I generally sell to one or two grocery men furnishing a nice show-case about 3x4 feet, with a glass in front where customers can see it from the outside, but cannot handle and disfigure the honey. I have kept bees for the last 15 years, and I find the longer I keep them the more there is to learn about them.

For practical purposes in producing honey for profit, we want actual experience more that theory. As a rule, bee-keepers want money, and let such men as Prof. Cook, Doolittle, and others, do the scientific work, and give their experience to the world; and then the common men and women who keep bees for profit, can have the benefit of their labor.—*Alex Rose, in A. B. J.* (*Windsor, Ill.*)

WHY VENTILATION PLAYS SUCH AN IMPORTANT PART IN THE WINTERING OF BEES.

To the puzzles thick and thin
Look a little deeper in.

In our last, we left you with the testimony of four of Colorado's foul brood inspectors favoring top ventilation. There was also present, at our annual State convention last January, Mr. W. L. Porter, one of Colorado's leading apiarists. After hearing the testimony in favor of upward ventilation, he decided to look into the matter. Just at this time the weather became quite pleasant, and Mr. Porter and a neighbor went out to see about the ventilation question. Mr. Porter's bees were supposed to be under sealed covers in the form of enameled quilts. The bees had; however, made many holes in the quilts. The result of their search was to find every colony with big holes in the quilts *dry* and *nice*, while those that had *good* quilts *sealed down*, were damp and in the poorest condition.

This spring we purchased bees from a lady who had a *few* good hives, but most of her bees were in boxes and old traps of hives. Some of the boxes were not over seven inches deep, and ten to twelve wide by sixteen to twenty long. Many of these boxes were so open that the bees had ceased to work from the lower or regular entrance—which was in many cases clogged with bees and dirt, as the hives sat right on the ground in the grass and weeds—and were flying from cracks and crevices about the top. Some had openings from a mere crack to an inch, almost the entire length of the box. Yet the bees had wintered equally as well, if not better,

than those beside them in the hives. One thing was in favor of the good hives, most of those in boxes were new, being last year's swarms, and short of stores, while the good-hives colonies had plenty of stores, and young queens. Now these boxes and all were right out in open ground, except that grass and weeds had grown up all about them.

The situation will be better understood when you remember that this is a dry climate. The ground is bare and often dusty most of the winter, so you will see that these colonies received much heat through direct rays of sun, and the heat radiating from the ground.

Last winter we had bees out-doors entirely unprotected, and with supposed sealed covers. One lot of seventeen colonies was in a little deep valley in the foot-hills. The first cover over them was a plain thin board cleated, with bee space between it and the top bars of frames; above this was a regular rimmed outer cover, same as illustrated in the K. D. hive in both the *Review* and *Gleanings* some time ago. This gives about one and one-half inches space between the covers. The inner cover become wet to some extent and warped so as to give a little top vent. Right behind the hives on the north and northwest was a big rock and hill. The rocks piled up almost perpendicularly for fifty feet or more. Thus the sun would beat down upon the hives, and also generate and reflect heat from these rocks, so that almost every clear day those bees were warmed through. There being the two covers on, the outer one slightly telescoped and close, there could not be any decided top ventilation, but where the ventilation lacked, the heat came to the rescue. Not one colony perished although one or two were very weak to start with in the fall.

Another apiary was an open ground. The hives were placed in double rows, back to back, fronting east and west. These were left with the summer quilts on, and a slightly telescoping cover close on these. Most of the duilts were more or less ragged The most of them had more or less top ventilation, but none having very much. Cases were about the hives, taking ten and twelve hives to a case, half on one side and half on the other. These cases came just about two inches above the brood chamber, and had removable roofs sloping both ways. About two inches of space was between the hive and outer case. This and the space between hives were packed with chaff, and about two or three inches of chaff on top. Thus the winter case cover lay upon the chaff at the eaves, but rose to about six or eight inches in the center, to give the pitch to the roof.

Here the loss was about five or six out of fifty seven so far as winter losses were concerned; more, however, were lost by spring dwindling. This dwindling we will discuss farther on. Another lot previously mentioned in a hive within a hive and sawdust packed, because of much shade and covering, and being so situated that the sun could *not* penetrate the hives, suffered greatly with moisture and the loss was about two-thirds. This lot was not quite so strong to start with, which had something to do with the difference in loss.

Six colonies were put up-stairs in

the honey house. They were left with sealed covers. Three faced east and three south. A four-inch space, vacant, was between the hive-wall and siding. The room was unplastered. Now notice that the location and arrangement would in summer give a more even temperature, and a warmer temperature at night. The sun upon the roof would heat up the room and contents during the day which heat would largely continue during the night. In winter, this same room would become very cold at night, while the sun's heat by day would never reach the interior of the hives. We put those bees out in the spring, and were highly pleased with the results in honey getting; but, alas, spring again found but one poor "starveling of a thing" to tell the story. Ernest Root reported a similar loss in his home apiary, but omitted particulars.

We also put a lot of bees in the cellar in December, just after a severe spell of intense cold. Most of the covers were sealed on close. There was considerable water in the hives. Nearly all the bees had diarrhœa. Loss about fifteen per cent.

Now, friends, I feel almost like making a positive assertion, that proper ventilation is the main spoke in the wheel of successful wintering. Read again B. Taylor's article on page 129, current volume. Note the account of Mr. Hitt's successful wintering for twenty-five years, by putting his bees in the cellar and *taking off the hive covers.* Also Mr. Taylor's own experience last winter while experimenting with sealed covers versus upward ventilation.

In *Gleanings* for February 1st, page 82, A. E. Manum discusses the wintering question and tells of buying a colony in the spring because it was the strongest in the lot. There was top ventilation. Also how he packed one apiary in shavings so there was ventilation through the cushions. These wintered well. Five colonies that were left with sealed covers *all* died, and were "a dauby mess.

On page 198, Vol. 20, *Gleanings*, C. P. Dadant also gives us conclusive proof that upward ventilation is safest. Holes in the quilts showed him the difference between sealed covers and ventilation.

Although we find some good authorities on both sides of this question, I think we may sum it up about this way: Sealed covers in open winters, and upon all occasions when the conditions do not favor accumulation of moisture, will be O. K. Absorbents when used in such a manner as to allow the moisture to pass out and *not be retained,* will winter O. K. But either will fail in extreme and long continued cold, when every thing favors the retention of moisture.

I would therefore recommend, in sunny climes, to pack warmly all around the hive, putting on top not over two inches of chaff, and on the sides not to exceed four inches, while two or three are better. A board or cloth may be used overhead next the bees, but leave a vent somewhere to pass off moisture.

If the climate is such that a damp cold prevails with extreme low temperature and long continued, winter in the cellar with plenty of ventilation, and a temperature not too low,

say 45° or over. The more damp the cellar the higher must be the temperature.

In the spring, when brood-rearing is wanted, is the time to economize heat. Last year brooding stopped early. In January a warm spell set some colonies to brood-rearing. A few matured their brood, and the young had cleansing flights. Such colonies were the easiest to spring. Others that had very old bees, and did no breeding until the last of February and first of March, had hard work to pull through. Some were so much weakened by the death of the old workers that they could not well rear brood, and so just eked out an existence trying to brood but failed.

Right here is where packing shows its value more than anywhere else. If these weak and dwindling colonies are hid away so deep as to exclude the solar heat, they are almost as surely doomed as if exposed to the extreme of heat and cold. But if the packing is only two or three inches thick, and so arranged as to receive the heat of the sun and be warmed through and through, it not only helps the colony during the day time, but also preserves a more even temperature by night. A little close observation will show that of two colonies of equal strength, the one packed, and the one not, the former will cover the most brood, the latter being compelled to contract or compactly cluster.

A large apiary in this county has been packed in chaff now for four or five winters. About three to five inches of chaff are above in a hive body, and the cover left partly open to allow moisture to escape. The past two winters have been colder than usual, and when the covers were left too close, moisture accumulated somewhat. However, they have wintered with scarcely any loss. The packing has been too deep all around, but when fairly started in the spring, breeding was rapid.—*R. C. Aikin, in Review.*

(Colo.)

The nineteenth Annual Convention of the Vermont Bee-Keeper's Association will be held in the city of Burlington on the 25th of January, 1894. All persons interested in apiculture, whether they reside in Vermont or not, are cordially invited to be present. For programs and information, address the Secretary, H. W. Scott, 125 Brooklyn St., Barry, Vt.

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EDITORIAL.

During the past mouth we have mailed a circular letter to each and every one of our subscribers who were in arrears on their subscription 6 months or over, in which we urgently requested them to pay up. We are glad to say we have received a great many responses yet there are still some who have neglected to give our letter the notice the circumstances demands. This number of the BEE-KEEPER will be mailed to all such subscribers and then if still no notice is taken of the matter by them we will discontinue sending it to them, and a list of such subscribers will be published for the benefit of our fellow publishers and dealers.

The publishing of accounts of delinquent debtors does not meet with general approval. Editor Root likes it but seems to think his list would be too long. Possibly he would have to issue it as a supplement to *Gleanings*. Since printing the notice last month we have heard from many old time customers from whom we had not heard in many months. So many have responded satisfactorily that we will not have a long list.

Some have written us that our course will result in a loss of patronage. We hope not. All our desirable customers always pay up promptly or make satisfactory arrangements with us before purchasing their goods and certainly cannot be offended at our course as it does not effect them. On the contrary, it is doing them justice. For if every one of our customers would pay promptly and in full, we could afford to sell goods much cheaper as there would be no loss from delinquent debtors, which now has to be figured into the cost of the goods.

Mr. A. L. Boyden of Saline, Mich., has taken a position in our office. He has had considerable experience with bees besides having been formerly engaged in the supply trade and no doubt will be of valuable assistance to us in many ways.

We note that " A. Commenter" in another column speaks of the *Review* as being the only paper that refuses to insert the advertisment of the Hastings Bee Escape. On the contrary neither the *Am. Bee Journal*, *Gleanings* or ourselves will insert the ad. hereafter having been with Editor Hutchinson convinced that the Porters are alone entitled to the idea represented in their escape.

Editor Hutchinson proposes during next summer to travel with his camera through Canada, the Eastern, Middle and Western States, and visit as many bee-keepers as possible. He don't speak of doing his traveling on a wheel but probably that is his intention.

Can't some of our readers send in some articles for publication? Take for subject the Spring Management of Bees; Introducing Queens, Queen Rearing or some other subject which is seasonable.

It strikes us that the publisher of *Success in Bee-Culture* shows a great lack of originality both in the name of the paper and the design of cover, the latter being a very poorly executed wood engraving of a design similar to that of the *Review*.

Hasty's "Condensed View of Current Bee Writings" in the *Review* is hardly rightly named. It would be, we think, more appropriate to call it "Condensed Review of Gleaning, incidentally mentioning the main features occasionally of two or three other publications." At any rate he usually gives about 6 columns more or less from *Gleanings* and two of all others. Now this is doubtless satisfactory to the many readers of the *Review*, as well as the "other papers" but hard on *Gleanings*. That is to say by subscribing for *Review* you also get *Gleanings* or a large part of it.—C?

Christmas and New Year days are both gone and 1894 is in full swing, whether it will bring us peace, prosperity and happiness or turmoils, reverses and sorrows none can say. We have turned over a new leaf in Times' record. Have we individually turned over any new leaves in our habits or method of living? Let us hope so and that the pages turned will remain unsullied throughout the year.

If you will have to purchase any new hives this coming spring, let us urge upon you the wisdom of using some standard style, like the Dovetailed, Simplicity, Thin-walled or Chaff Hive. They are much cheaper to begin with and when any new fixtures are needed for them they are always obtainable without having to be made to order at extra expense. Hardly any of the several patent hives in use two or three years ago are now manufactured at all.

Current Comments.

BY A COMMENTER.

The Michigan Experimental Apiary is being pretty well advertised of late, owing to the discussion that has sprung up in regard to the publication of the reports that are given by Hon. R. L. Taylor.

Mrs. Jennie Atchley seems to get a great amount of free advertising this season. One would rather suppose that if he ordered a queen from her that he would have no cause to complain with her manner of dealing.

Editor Alley thinks that '93 has been the dullest season that queen breeders ever saw. Perhaps it was for him, but we judge by the trouble experienced in getting queens last

May and June that the call for them must have been enormous.

The *Bee-Keepers' Review* is getting to be quite an illustrated journal of late. Editor Hutchinson promises more in this way for the coming season. In the Dec number he gives a very interesting sketch of his life.

The Dec. *Apiarist* is styled a go-as-you please number by Editor Alley, and he invites criticism on the same. Now, Mr. A. you say on page 178 that bee journals are published to give experiences on bee culture and not experiences with persons; If so why don't you use fewer words about Bro. Hasty and not take a column and a half in telling the people what you think of him.

Dr. Miller says in Stray Straws in Gleanings of Dec. 1st that he don't use bee-escapes one time in twenty. Well! well! we supposed every one liked and used bee-escapes. There is hardly an article in the line of appliances that has given us greater satisfaction for the little outlay as has the Porter Escape.

Alley says in the Nov. *Api.* "why not stop discussing such unimportant things as bee-escapes, and Hoffman frames", and then in another place he finds fault because some discuss the scraping of sections. Now tell us Mr. Alley what you would have us discuss,

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Another time he says "One reason why we have never been favorably inclined to bee escapes is because they have not been properly constructed; with one exit it must take a long time to clear a super of bees." No, sir! it does not take a long time. We have always used the Porter escape, having but one exit and found that it has cleared the super quickly indeed.

While on the subject of Escapes we are glad to note that at least one paper will not insert the advertisement of the Hastings' escape. Editor Hutchinson speaks of it as follows: "I am led to believe that the Hastings' escape is an infringement on the Porter, judging from an examination of the Porter patent and from a letter received from Mr. Hastings when I asked him for an explanation, and the Hastings ad. will not appear again in the Review until I am satisfied he has the right to make the escape as he does."

LITERARY ITEMS.

A HUNDRED TON MAGAZINE ORDER.

An event in periodical literature, not without its significance to the general public as showing the growth of the reading classes, was the receipt on the 9th of November by the Cosmopolitan Magazine of the order given below. A single order from a news company for one hundred tons of magazines! That is almost an event in the history of the world. A like order has never before been made, and if past ratios be maintained it means considerably more than half a million circulation for the December Cosmopolitan. Yet, when the list of authors and artists is examined, one is not so much surprised. It contains the only known unpublished manuscript of De Maupassant, illustrated by Vierge. perhaps the most famous of European illustrators; After the World's Fair, by Paul Bourget. John J. Ingalls, William Dean Howells, Lyman

J. Gage, Arthur Sherburne Hardy, Mark Twain, Robert Grant and others nearly as famous and nearly two hundred illustrations, to which the following artists contribute: Hopkinson Smith, Kemble, Harry Fenn, F. O. Small, Attwood, Henckel, Dan Beard, Reinhar and Remington. Think of having the World's Fair done by such expensive men as Howells, Mark Twain and Paul Bourget, and sending such artists as Charles S. Reinhart to Chicago for a single number of a magazine to be sold for only 15 cents, or by subscription 12½ cents. A book publisher, preparing such a book would not dare incur these expenses short of $5.00 a copy. Is it not a revolution that is an improvement upon old methods a revolution of vast importance to the reading public? The order to which reference is made reads as follows:

"Publisher Cosmopolitan. Dear Sir:—Of the 200,000 copies of December number to be sent us, please send as follows: 172 650 copies regular edition, 27 250 copies R. R. edition. Yours respectfully. The American News Company."

A HEART'S SONG.

A RAIN-DROP fell from the leaden sky,
And a gray bird sang when the day was nigh.
The crystal drop was lost in the rain—
By an arrows thrust the bird was slain.

A tear-drop fell from a heart's o'erflow,
And a maiden's song was sad and low:
For the one she deemed so true and strong.
Proved false to singer, and to song.

—*Albert Hardy in January Godey's*

THE AGE

How fortunate for us all would it have been had we been born a century or two later, or had civilization begun ten centuries earlier! For the nineteenth century has been, in a large sense, a probationary epoch, an era of beginnings, a period of the planting of seeds of which the twentieth or some later century will enjoy the fruit. Man has long been preparing for this great harvest of time. For ages past the clearing of the ground, the ploughing and harrowing of the soil, have gone on; and a harrowing time it has proved for poor human nature. The planting began later, and has reached its height of activity in the present century, this era of great discoveries, valuable inventions, strife and stress of industrial relations, and general turmoil of social conditions, in all of which we perceive promise of rich fruit for the coming generations. —*Charles Morris, in January Lippincott's*

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

ST. LOUIS, Mo., Dec. 20, 1893.—Demand for honey only fair. Large Supply. Priceof comb 10 to 16c. Extracted4¼@4½c. Good demand for beeswax. Moderate supply. Price 23c. for prime yellow.

THE D. G. TUTT GRO. CO

KANSAS CITY, Mo., Dec. 21, 1893.—Good demand for honey. Large supply. Price of 1 lb. white comb, 15c.; dark, 13c. Extracted White 7c; Amber 6c. Slow demand for beeswax. Price 22c.

The receipts of honey are large with a good demand and large stock.

HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY, Mo., Dec.20, 1893.—Light demand for white comb and extracted honey. Good supply.Price of comb, 10@15c. extracted 5@7c. Good demand for beeswax at 20@22c. Very light supply.

The demand for both comb and extracted is higher than we have known it at this time of the year for several years.

CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, O., Dec. 22, 1893.—The Demand fo honey is fair in a small way but very slow from manufacturers. Good Supply Price of comb, 12@16c; extracted, 5@8c, Fair demand for beeswax at 20@23c. for good choice yellow Good supply.

CHAS. F. MUTH & SON,
Cor. Freeman and Central Aves.

ALBANY, N.Y., Dec. 23, 1893.—Very Moderate demand for honey. Supply of clover large. Buckwheat wanted. Price of comb, 10 to 13c. The demand for extracted honey is improving. Fair demand for Beeswax. Ample supply. Prices 24 and 26c. We have plenty of clover honey but not enough buckwheat in pound sections to supply demand.

CHAS. MC CULLOUGH & CO.

ALBANY, N. Y., Dec. 20, 1893.—Slow demand for honey. Large supply. Price of comb 10@12c. Extracted, 5@6c. Good demand for beeswax Light supply.

H. R. WRIGHT, 326 and 328 Broadway,

CHICAGO, ILL., Dec. 23, 1893.—The Chicago market has plenty of honey, and 14c. seems to be the outside price obtainable. Anything that will not grade strictly No. 1, must be sold at 12@13c. Large quantities have been sold but the supply at present is in excess of the demand. Extracted finds ready sale at 6@6½c. for Northern honey; Southern it barrels 5c.

Beeswax 22@24.

S. T. FISH & CO.,
139 So. Water St.

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W. T. FALCONER CO.

VOL. IV. FEBRUARY 1894. NO.

New Years Address.

BY C. J. ROBINSON.

The year 1893, with its [illegible] comes, with its hopes and fears, with [illegible] and evil, has passed [illegible]

favor. A beneficent Providence has filled our honey receptacles to overflowing, in many localities, and throughout all our broad and diversified country, extending over some twenty-five degrees of latitude, but few failures or short crops are reported. But this does not answer *all* the questions. Those products which af-

[illegible] station among his fellow men.

Politics supports its class of non-producers, and its avenues to preferment are choked with crowds of eager votaries, four-fifth of whom must *necessarily* be disappointed ; and even the fortunate few, at the first giration of the political wheel, are cast upon the world—out of business—and with

habits acquired that would render business irksome, and connect the idea of manual labor with that of intolerable degredation.

Perhaps in no other branch of industry that engages the attention of the American people has better or more permanent progress been made than in that of apiculture. Fifty years ago when the writer kept bees, the true theory of apristical science was unknown. "Life in the bee-hive" was a mystery. All was vague, indefinite and implicit. The whole system af bee-keeping was embodied in that one little ominous term—"luck."

But all this has been changed. We live in a decidedly productive, progressive age. I believe that I hazard nothing in the suggestion that more real substantial progress has been made in the arts and sciences within the past half century than in any other fifty, yes seventy years of the world's history. The spirit of progress seems not to wane, and the "signs of the times" are emblazoned in characters of light, inspiring us to adopt for our motto, in the effort to obtain still greater success, "Upward and Onward."

The goal has not yet been attained, nor has an approximation of it as yet been reached. Much as has already been accomplished, there is yet need of patient research, careful experiment, and thorough investigation.

Richford, N. Y.

Hatching Bees.

BY G. M. DOOLITTLE.

Before me lies a card on which are the following questions: Where will bees hatch the soonest, in the cellar or out of doors? And which will be the best hatching, in February, March or April? Knowing that the American Bee-Keeper is a paper published largely for the benefit of beginners in apiculture I will answer these questions through the columns of the same with the editors permission. Before answering them however, I wish to say a few words to beginners in keeping bees, who have thought, or will think of asking questions on bees.

The first thing to do in starting in the bee business is to get one of the many good books on apiculture, all of which teach the first principles of our pursuit. Thoroughly read the book, for in it you will find the most of the questions answered which you will be likely to want to ask before you have passed the rudiments of this branch of apiculture. This is a duty you not only owe to yourself, but one you owe to others as well. No doubt the editor or others would be willing to answer all questions sent in, but it is not fair to the older readers of the American Bee-Keeper to have those questions of a primitive nature that they will be of no interest to them. After you have thoroughly mastered such books as "Langstroth on the Honey Bee," "Cook's Manual of the Apiary," or "Root's A B C of Bee Culture," then your questions will be such as will be of interest to all. Hoping that the above will be taken only in the kindly spirit in which it has been given, I will give my views on

the queries above given. First, then, we have "Where will bees hatch the soonest, in the cellar or out door? To this I reply, that as a rule bees commence to breed much the soonest out door, with the exception of where a very warm cellar is used, and in this case the bees are not likely to winter as well as they would where the cellar is cooler. To the second question "Which will be the best hatching," I will say, that here our questioner makes a mistake, for with bees during the breeding season there are young bees in all stages of maturity, from the egg to the perfect bee, so that there is no regular hatching, as is the case of the setting hen, but young bees are hatching all the while for a period of nearly eight or nine months, or from the middle of February till November, if out doors, and from April till November if wintered in the cellar. When the bees first commence to breed but a few hundred eggs are laid by the queen, and as the eggs hatch into larva, more are laid, sparingly at first, but as the season advances, an increase in prolificness is the result, till in June the queen is laying at the rate of about 3,000 eggs daily, so that now the hive is populous with bees, resulting in swarming, unless the swarms are kept back by a poor season or the manipulations of the bee-keeper. As the season draws to a close, the queen restricts her egg laying, so that in September and October, few, if any more eggs are laid than in February, hence the colony is kept only about so populous, except during the three summer months. Now about early breeding: The The questioner conveys the idea through his questions that he thinks the earlier the bees bred the better. The time was when nearly all thought the same, but experience has proven to nearly all of our best apiarists that in this our fathers were mistaken, for such early breeding results in the wearing out of two old bees to where one young one is produced, owing to the great strain on their vitality which is required to produce the necessary warmth for brood rearing in cold weather; while if breeding can be delayed till settled warm weather comes the bees can then produce two young ones to where one old one dies off. For this reason as well as better wintering, the cellar is now preferred by the most of those in northern climates in which to carry the bees through the winter, some even keeping them in there till into May.

Borodino, N. Y.

Standards of Excellence in Bee Culture.

BY C. J. ROBINSON.

We doubt not but that the apiarians of experience, as well as the novice in bee culture, has often felt the need of these, by which he might shape his conduct in the management of the apiary. The untold losses that have resulted from the lack of definite, reliable information, can scarcely be estimated. The unrecorded pages of history furnish no data for even an approximation. While thus without a key, they must forever remain enwraped in mystery. But can we substitute measures whereby they may be avoided in future?

Many different associations have organized for the special purpose of

advocating the claims and advancing the interests of various branches of rural industry. They have adopted what are termed as "standards of excellence," for the benefit of those industries which they respectfully represent. Can we not, as apiarists, follow their example with profit to ourselves and our successors?

Movable sectional comb frames of some form are an indispensible requisite of successful bee culture. Can we not determine depth and length of these frames? And having found this, also determine the number to use that will give us the proper size of a hive for each section of our country? And then [illegible] [illegible] will prevent most [illegible] [illegible]

[illegible]

[illegible] and [illegible] next time we take the cover off. But, take a dust-pan and bee-brush, and gather them from the hive and give them a water bath, and they will stay put.

A writer, on page 163 of the American Bee-Keeper, says M. M. Quinby invented a hive, and was generous enough to not have it patented. Mr. Quinby, in his "Mysteries in Bee-Keeping," printed in 1865, after naming many desirable things not getat-ble in box hives, says: "To the Rev. L. L. Langstroth belongs the credit of introducing to us the hive that will accomplish all these desirable results." Also, "Movable comb hives as used by the author, modified by myself from Langstroth's." Thus, giving full credit to Mr. Langstroth for inventing the hanging frame, that we all could not well do without. Moses M. Quinby knew.

Honey producers appear to have settled down to the conclusion that prevention of first swarms is not very satisfactory.

From my experience I do not approve of allowing calves in the bee yard. One cold November night, a [illegible], I heard a racket, [illegible] to see about [illegible] neigh- [illegible] [illegible] bees had a good cleansing flight December 23, after being confined about five weeks.

The mild, open weather this winter in this locality, is, so far, I think, a fair indication for bees on their summer stands to pull through in good condition, with proper protection.

New queen-introducing. Grover's Method in the Honolulu hive. Why not?

Chenango Bridge, N.Y., Jan. 20, '94.

EDITOR AMERICAN BEE-KEEPER—Deor Sir:—Inclosed find subscription to the Bee-Keeper for 1894. I have taken the Bee-Keeper ever since it has been published, and I would not do without it. When 1895 comes I am going to send you $2.00 for five years subscription, then I will know that my time is out every five years.

I have a new way of binding the Bee-Keeper to make it handy to read. If anyone wants to know how or what it is they may write to me inclosing a 2c stamp and I will send enough to bind one volume of twelve numbers.

Yours truly, WARREN T. COLLINS.
Indian Fields, Alb. Co., N. Y., Dec. 8, '93.

W. T. FALCONER M'F'G CO.,—Gentlemen: I have received samples of sections, and they are so beautifully finished that I do not see how they could be nicer. Yours truly,

C. C. MILLER.

EDITOR AMERICAN BEE-KEEPER,—Dear Sir: The year 1893 did not open very favorably for bees and bee-keepers. Bees went into winter quarters very light in stores, for we had no fall honey during the fall of 1892, and as a result many colonies perished during the cold winter months.

The opening of nature found our bees in weak condition, as a result of poor quality of honey and long confinement.

The unfavorable weather during April and May caused nearly all weak colonies to dwindle down to nothing, and many bee-keepers who did not watch with fostering care the remnant that was left, lost all they had.

About the 12th of June white clover opened, furnishing a fair amount of nectar, so that strong colonies did fairly well in storing honey but all hopes were blasted on our basswood expectations, for the weather being so dry the blossoms dried up before they would open.

However, fall flowers yielded a nice lot of honey for winter stores, and nearly all was sealed over, that is in such localities where golden rod and wild asters were plenty.

Most of the bees in this locality went into winter quarters about the middle of November and are thus far doing nicely, but so long as the winter problem is not solved the anxious bee-keeper looks forward with a feeling of distrust to dame nature.

Yours, &c., STEPHEN ROESE.
Maiden Rock, Wis., Jan. 10, 1894.

W. T. FALCONER M'F'G CO.,—Dear Sirs: Inclosed find 50 cents for which please date my paper one year in advance. I think the AMERICAN BEE-KEEPER is an excellent paper for the young hands at bee-culture, and it should be in the hands of every one who expects to make a success of apiculture. The past season was not favorable in this section for bees, but the majority of them are in fairly good shape, or at least they were when packed in the fall.

My bees had a Merry Christmas and were all out and had a good cleansing flight that day.

Wishing the AMERICAN BEE-KEEPER and all the best of success, I remain, Your friend, A. G. AMOS.
Delhi, N. Y., Jan. 16, 1894.

THE OLDEST BEES IN THE WORLD—HOW BEES HAVE BEEN PRESERVED SINCE THE TIME OF MOSES.

It is well known, that, in 1881, many royal mummies were found in Egypt—that is, the embalmed bodies of kings. For a good while after that, scholars observed that cartouches and rolls of papyrus were sold on the Egyptian market, bearing the names of kings. As to where the mummy diggers obtained these, our learned men at Cairo were at a loss to tell. The venders of these curiosities were sought for. It was soon evident that most of them came from three brothers who lived at Deir el-Bahari. These men were accordingly taken into custody. During a long examination none of them would reveal the secret. Neither threats nor promises were of any avail in making them set a price on it. The men had to be set free. Soon after that, one of the brothers came to an officer of the Egyptian museum of Boulaq. in Cairo, and said, "I am now ready to make a full exposition."

"And why *now* for the first time?" said the official.

"Because my brothers have robbed me of the profits of my share.

The betrayer then conducted Brugsch Bey (brother of the celebrated Egyptologist) to a pit 60 feet deep, and showed him a cavity where there were several mummies of kings well preserved. For three days and three nights 300 men, under guard of soldiers, were employed in bringing the valuable find to the light of day. These mummies, potographs of which were taken, are in the new museum of Gizeh. It is related that the mummy of Pharaoh (he who oppressed the children of Israel), that it might not be destroyed on board the steamboat, was put on a little skiff in tow of the steamer. At the next railroad station the mummy was put on board of a first-class car, and thus the remains of Pharaoh were removed to his capitol city some 3450 years after he had ceased to rule. In removing the folds of linen from about the body, several flowers were found that had been buried with him: and in a cup were found several mummied bees—the oldest in the world. The size of these bees is exactly that of that of Italians, with yellow abdominal bands.—*Karl H. Mathey, in Gleanings.*

THE GRANULATION OF HONEY.

The encouragement given by Bee Associations of late years in having separate classes for honey in a granulated state has in some measure removed the prejudice which previously existed against honey being shown or bought in any way but the liquid form. Why this popular objection should—and does largely—exist, can only attributed to want of experience. Very few who know any thing about bees or bee-keeping but know well that all *pure* honey, when taken from the combs, will sooner or later change into a solid granulated mass. When thus solidified, it is in a fit state to keep for years. Honey gathered from certain kinds of plants, such as

rape, mustard, and other allied plants, has a tendency to hasty granulation, while all rich and ripe samples will in time result as above mentioned. Any experienced hand can tell at first sight the density, condition, and even the colour a granulated sample of honey was while in the liquid state. Poor samples, as a rule, refuse to do more than partly granulate. The more liquid portion rises to the surface, and in time will undergo fermentation, while the heavier part sinks to the bottom and forms into large, coarse granules, mixed with watery particles. Such honey tends to spoil the market.

From a commercial point of view the popular prejudice which has so long existed against granulated honey is a more serious trouble to contend with. The inexperienced, in nine cases out of ten, prefer to buy the liquid to the granulated sample, thinking that, in order to change the honey to the latter form, adulteration has been practiced. Bee-keepers, especially those on a large scale, are aware of this wide-spread notion, and, both in this country and elsewhere, label their jars, stating distinctly that granulation is a sure sign of genuineness.

Notwithstanding this, the public and dealers in honey, the latter of whom might be expected to know better, prefer to have the honey liquid. Some will go so far as to say that granulation is the outcome of adulteration. In proof of this, during the past season I have had one such experience. In the early part of the season I sold a quantity of honey in jars to a Glasgow firm. When delivered to them, or rather when it was sent off, it was newly bottled and liquid, and in a few days was granulated hard and solid. They wrote to me announcing the fact, stating that they thought it was not pure. I tried by every argument to convince them that such was not the case, and at the same time offered to forfeit the consignment if one ounce of what they had got from me was anything but pure honey. I further suggested that the honey should be analysed, and, if impure, I would pay the expense of analysing it. If, on the other hand, it was what I represented it to be, *pure honey*, they would have to pay the cost. Accordingly, one jar was divided into three parts; one was sent to the analyst, the firm kept one, and I got the third. In a few days the announcement came back that "the sample consists of pure and genuine honey." This same firm has bought large lots of honey from me for years, but the above incident tends to show the difficulties that bee-keepers have to contend with in selling off their honey crop. Most of us older hands know that it is quite an easy matter to retard, if not altogether prevent, granulation entirely, but one shrinks from the idea of having to resort to this practice, preferring to allow all pure honey to take its natural course.—*W. M. in B. B. J.*

CONSIDER THE LOCALITY.

There is no question that in a great many cases the prevention of swarming is desirable. In out-apiaries and in the home-apiary when the owner must be away during the middle of the day, there is no doubt of the desirability of preventing swarming. Whether more honey will be secured

by the prevention of swarming has been discussed at great length, but the disputants have in most instances overlooked a most important factor, that of location, or, to be more exact, the time and duration of the honey flow. In those localities where the flow is early and short, as is often the case at the North, there is not time in which to bring the colonies up to the swarming pitch, allow them to swarm, and then wait for the old colony to build up into working condition. To secure the best results, every means possible must be used to foster and build up the strength of the colonies, that they may be ready for the early harvest; and when it comes, best results are secured if the bees attend strictly to the work of storing the surplus, and let swarming alone.

In those localities blessed with a continuous flow, or where there is a late harvest, better results are obtained by allowing at least one swarm from each colony, as there is time for both the parent colony and the swarm to get themselves into good condition for the later yields, when there are two colonies instead of one to gather the nectar. If the locality is overstocked, this brings in another factor, and, in that case, swarming might be undesirable.

The decision in regard to the size of the hives, or of the brood nest, also of contraction of the brood nest, should also be influenced by the locality. With a short, early harvest, it is not good management to use a hive so large that the harvest is well past before the hive, or, rather, the brood nest, is filled. In such a locality, the small brood chamber hive comes out ahead, because it is so quickly filled with bees, brood and honey, and the bees are then ready for the sections before the harvest is past.

Contracting the brood chamber of a newly hived swarm is in the same line; it secures the work of the swarm in the sections before the harvest is past. In those localities where the flow of honey lasts for months, or there is a heavy fall flow, there is time to fill a large brood nest and then put some honey in the supers afterwards. In other localities, if a swarm were given a ten-frame L. hive as a brood nest, it would do little more than fill the brood nest ere the harvest would be over.

The man who understands his own locality and the hives, implements and management best suited to it should not forget that there are other localities to which his requirements would not be adapted.—*Review.*

BEES FROM A HORTICULTURAL STANDPOINT.

It is an old and true saying that nothing was ever created without a purpose. If we do not always discern at first glance the purpose of the Creator, it is because we do not understand His ways.

The adaptation of means to ends is beautifully illustrated in Nature. Plants and animals are dependent upon each other for the highest development of both, or either. Our nutritious grasses illustrate this truth. Bluegrass is only found in its perfection where cattle feed upon it and spread its seeds in Nature's way. And the noble short-horn is only possible where such rich grasses abound.

One of Nature's laws, which, like

those of the ancient Medes and Persians, never changes, is, "Thou shalt not inter-marry." In-breeding is as repulsive to inanimate life as to civilized society. But plants are unable to travel and seek their consorts in remote family connections. Insects, however, do travel, and since the pollen-dust which is provided in the blossom as the life-giving element to other flowers, is just the food needed to develop the larval insect, the bee, as well as all pollen-eating insects, while in quest of the natural food for the young of their kind, in passing from flower to flower, carry the fertilizing dust on legs and bodies, and unwittingly act as agents in cross-fertilizing the plants which they visit.

A bee, in obtaining the load which it can carry on its legs to the hive, probably visits on an average fifty blossoms. Oftentimes these are growing quite remote from each other. Hence the chances are increased that some of the dust adhering to the bee's legs or body will be rubbed against the receptive pistils of plants so distantantly related that in-breeding is prevented.

It is well known too, that in many plants the stamens and pistils do not arrive at that particular stage of developement when fertilization takes place at the same time. This is another of Nature's plans to prevent too close in-breeding, and another reason why bees and insects are necessary to the complete fructification of the fruits as well as the highest development of plant life.

But bees do not always live on the nitrogenous food which pollen-bearing plants furnish. Mature bees live on honey. This is the only proper food for them after maturity. Hence the nectar in the flowers. It tempts the bee to enter, with the hope that some of its pollen-dust may be carried to a distantly related plant, or that some already adhering to its body may be brushed against its receptive pistils.

The primary object of nectar in flowers was not to furnish man a dainty and delectable sweet, but as an inducement to insects to visit the plant and accomplish for it what it could not, unaided, do. The fact that man has learned by observation and experience that bees will gather and store more honey than they need for winter, and has turned the instinct of this industrious worker to his own advantage and profit, does not prove that this is not a secondary object in their creation

Bees are as necessary in the economy of Nature as birds. They take no life from the plant which they visit, but give life through fructification, and in the added vigor which comes from cross-fertilizatson. The drop of nectar is of no advantage to the plant, if not appropriated, for it soon evaporates and is wasted. Bees, therefore, while performing a valuable service to the farmer in the fertilization of clover, to the horticulturist in assisting him to a full crop of fruit, to the florist and market-gardener by constant and friendly visits, add another resource to rural economies, which, without their aid, would be scattered to the four winds of Heaven.

Bees never injure sound fruit. Although this charge has been laid at their door, all creditable expert testi-

mony exonerates them, In the first place, they cannot if they would, bite through the skin of sound fruit. Their mandibles are not made for cutting, like those of the wasp and hornet. Where they are thought to be guilty, it is generally found, on investigation, that some other insect or bird is the depredator, or that the fruit is decaying from other causes.

In the second place, the stuff that bees get from fruit it is not only worthless as food for them, but is is positively injurious, showing that Nature never intended the juice of fruit as food for bees. They never use it or gather it, except when natural and proper supplies are exhausted.

There is therefore no reason why the horticulturist and bee keeper should not be friends. There should be a reciprocity of acknowledgments between them. The one cannot live and prosper without the other. Both avocations may follow side by side without prejudice, and with mutual advantage. The same spirit that outlaws the bee because, forsooth, we think some one else is reaping where he has not sown, would regard jealously the acquisition of any property or any other desirable thing by any other person, no matter if we through lack of industry or ability fail to acquire ourselves.—*From an address by Eugene Secor.* (Iowa.)

HOW TO KNOW WHEN BEES ARE WINTERING WELL IN THE CELLAR.

Question.—I am a beginner in the matter of wintering bees in the cellar, and I wish you would tell me just how I may know when my bees are wintering well. By knowing the conditions of wintering well I can tell whether I am right or wrong as I have them.

Answer.—It will be a very hard to tell all about this matter of the well wintering of bees, in the short space we feel at liberty to use here. Perhaps the best I can do is to tell just how I find my bees in the cellar this 14th day of December, as I have just come from the cellar, having just gone in with a view to answering this question, and having found the bees *wintering well*, according to my views in the matter. The bee-cellar is perfectly dark—so dark that it is impossible to discern even the faintest outline of a large piece of white paper carried in with me. The four doors have all been shut behind me, which lead into the cellar, one after the other as I went in, so that no disturbing ray of light or breath of cold air should arouse the bees in the least. Being in total darkness I stand still and listen, for in this listening we can tell more about how the bees are wintering than by any one thing after we have struck a light. The sound I heard when listening is best described by the low murmur of a gentle breeze in the distant tree-tops, or, as I once wrote, a hum of content, with now and then, say once in 20 to 30 seconds, a faint "zeep zeep," of a single bee, as we often hear in the summer time, only more suppressed, while on an average of about once in every two minutes a single bee will fly out from some hive to the cellar-bottom, which is readily told by the sound of its wings. There are 60 colonies in the cellar, and the above describes as best I can all that could be heard during ten minutes of standing perfectly still before striking a light. Where mice

are present in a cellar, their presence is more quickly detected in this way than with a light, for they often make a clattering among the hives, easily heard in the deep darkness and stillness that reign. If you have only a few colonies of bees in your cellar you may be obliged to place the ear near the hives to hear their low hum, and stay an hour to hear a bee fly out; where if there are 200 colonies the hum will be louder, and bees fly out oftener. If the bees are in the house-cellar you must get up before the family in the morning, when all is still, in order to test this part of the matter. I next strike a match and light a spermaceti candle. With such a candle you can get a much more satisfactory result, without annoyance to the bees, than with a lantern or a lamp; and as they can be obtained at any country store, I would advise their use in the bee-cellar. Having the light I proceed carefully along the rows of hives, looking closely for any traces of mice; for, do the best I can, I have more or less trouble with these pests. The presence of mice is detected by finding heads and abdomens of bees, with the thorax gone or eaten up, and by fragments of comb under the hives. If these are found, set a trap for the mice—a common choker trap is as good as any; and for bait I find a squash or pumpkin seed ahead of anything else.

Having the mouse question settled, I next look at the bees at the bottom of the combs. Where wintering well only rows of abdomens will be seen, the points all standing outward, and nearly or quite motionless. Be careful not to breath on the bees or hold the light too near, as they are easily aroused in this way. Few sights give me so much real pleasure as to look on those hundreds of motionless abdomens of bees, especially when they come down evenly between the ranges of combs so as to make them appear like soldiers drawn up in column for battle. I sometimes raise the cover of a few of the hives and look in at the top of the frames, but as this can rarely be done without disturbing the bees, it is better not to do it.

Lastly I look at the temperature, and I find it today to be 45°, which I consider just right, although should it fall to 40°, the bees would show little defference, except that the murmur heard in the cellar would be louder. If warmer, the rows of abdomens would not be as compact, and they would be easily disturbed by the light. As it approaches spring, the hum will become louder, and the waste of bees flying out and dying on the cellar-bottom will be greater, even when wintering perfectly.—*Doolittle in Gleanings.*

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

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American Bee Journal,	($1 00)	$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(1 00)	1 25
Gleanings in Bee Culture,	(1 00)	1 35

The American Bee-Keeper,

PUBLISHED MONTHLY BY

THE W. T. FALCONER MANFG CO.

TERMS:

50 cents a year in advance; 2 copies, 85 cents; 3 copies, $1.20; all to be sent to one postoffice.

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THE AMERICAN BEE-KEEPER.

FALCONER, N. Y.

☞Subscribers finding this paragraph marked with a blue cross will know that their subscripiton expires with this number. We hope that you will not delay in sending a renewal.

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EDITORIAL.

Since first intimating that we would in this issue offer for sale the accounts of all who are owing us and of whom we have repeatedly requested a settlement but without avail, we have received remittances and satisfactory explanations from a very large majority. We publish in another column a short list composed of a few of those who owe us for goods but who for some reason known best to themselves neglect or refuse to pay. Next month we will publish another list and will continue doing so until all delinquent names appear. Other dealers and publishers should carefully inspect these lists and give credit to any whose names appear only at a risk of losing as we have done. Remember we only publish the names of those who *refuse* or *ignore* our requests to settle up. Several who have owed us a long time have written us that they are so poor they cannot pay, although they would like to do so. The names of such will not appear. We have tried to be not only just but even benevolent in this matter, and we hope none of our friends will misunderstand our position.

Editor Hutchinson, of the Review, wants to know of all the objects of interest near where you live so that he can perhaps visit you and them at the same time. We do not know how far east W. Z. expects to wander, but if he comes this way we shall be awfully glad to see him, and as for "objects of interest," every one knows or ought to know of Chautauqua Lake, with its many interesting and picturesque surroundings. We are sure he would enjoy it.

We note that the Australian Bee Bulletin has been endeavoring to get some of its delinquent subscribers to pay up, and even threatens to force payment by law. We have never contemplated resorting to such a severe measure, but really some there are who deserve it.

Beeswax is not in great demand at present, but we shall be glad to take all that may be sent us at the following prices which are considerably above the market: For good yellow and light wax, 24c per lb., cash, or 28c per lb. in trade, the wax to be shipped to us to Falconer, N. Y., all charges paid.

Success in Bee-Keeping has apparently turned out to be a "dead failure," at least we have seen nothing of it since the November issue.

If any of our subscribers do not feel that they can spare the cash just now to renew their subscriptions we shall be glad to continue sending the Bee-Keeper right along and they can pay at any time during the year.

Henry Alley is just right when he says, "If any one has any desire to ruin bees, just pack them in sawdust. * * Sawdust is adapted to packing ice. It does not seem that an article that will preserve ice is just the thing to preserve bees, especially in winter." Sawdust, although [illegible] conductor of heat, accumulates dampness and retains it. Ground cork is [illegible]

[illegible]

We will furnish it 8c. per lb., or $4.00 per 100 pounds. A bushel weighs only about 8 lbs.

Bees should not be disturbed during the winter unless positively necessary to do so, as any disturbance causes an unusual consumption of food with bad results.

It has been very generally supposed that if extracted honey candied it was a positive indication that it was strictly pure. This idea seems to have been quite wrong, for, according to *Gleanings*, honey containing as much as 66 per cent. glucose will candy, although it has a peculiar appearance which one of experience will readily recognize. This discovery is one of importance, and it seems strange that it has not been noticed before this. In the meantime doubtless considerable glucose mixed honey has been [illegible]

[illegible]

65 cents pays for The American Bee-Keeper one year and a copy of the 50 cent book, "How to Manage Bees."

We must urge our readers to send in some contributions for publication. They are always needed.

We expect to send out a very large edition of the BEE-KEEPER next month, and it will be an excellent opportunity for all queen and supply dealers to place their advertisements before a great many thousand bee-keepers at a very low cost. We will not raise the rates of advertising, and only announcements of those who are known to be reliable will be admitted.

The winter all over the country has thus far been very favorable for the safe wintering of bees, and even if there should yet be considerable continued cold weather they will come out in good condition in the spring if they were properly put into condition for wintering, as their confinement will necessarily be short now in any event.

Every indication goes to show that the number of colonies of bees now in winter quarters are considerably less than for several years past. Many bee-keepers have become very much disgusted on account of the hard winters and poor honey seasons, and have given up the pursuit and allowed their bees to die. A noticeable fact, too, is the comparatively small number of supply dealers of any importance now doing business, and no new bee periodical has been started up for a long time, besides some of the older ones have become defunct. In fact, speaking of the latter, there are now none but the older ones left, the AMERICAN BEE-KEEPER being the youngest, and we are now over three years old. Judging from past indications the coming season should be a good one for supply dealers as well as the honey producers.

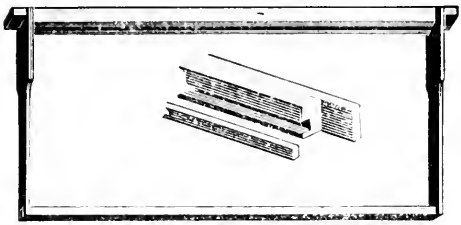
We have from the first endeavored to publish the BEE-KEEPER for the especial benefit of the novice in bee-keeping, although at the same time the more knowing ones can often gain some valuable information from its pages. Some fault has been found that we often publish experiences and instructions that conflict in method, and thus many beginners are disconcerted and at a loss to know "which is the right way." In regard to this we would say, bee-keeping is unlike almost any other pursuit inasmuch as every bee-keeper seems to be granted, by general consent, the right to advance his own pet theory without dispute, even when apparently utterly ridiculous. The only way for the reader to do is to use his best judgment, and when he decides on any particular theory or method, he must follow it out to the end closely, and must be careful not to mix it up with some other plan, lest between two plans he fail utterly.

How to manage Bees is the name of a book of 200 pages which we will send postpaid for only 25 cents.

If any of our readers wish to subscribe to any of the standard magazines they should read our terms elsewhere.

By referring to the market reports in another column it will be noticed that the price of comb honey is considerable lower than for months past. This is doubtless owing to the hard times that are existing all over the country. We have seen it recommended frequently that honey producers would do better by holding their stock until the winter months, as they would then be much more likely to receive greater prices than in the fall. Now we have always advised otherwise, and it seems the present price of honey, which is only from 10c to 15c, confirms our good judgment, as the price three months ago was at least 3c a lb. higher.

Our New Detachable Comb Guide Brood Frame.



We have just gotten out a new brood frame as shown in the above illustration. It has a groove in the under side of the top bar into which a strip of wood fits snugly.

The sheet of foundation is placed in the groove and the strip of wood is then forced into the groove beside it and fastened there by two or three small wire nails.

The foundation is securely fastened and exactly under the center of the top bar. This method of fastening foundation in frames is the best we have yet seen. The frame will be illustrated and described in our 1894 catalogue which will be issued in a few days.

Accounts for Sale.

We have on our books a considerable number of accounts against former customers, who, after continued urging, have utterly ignored our claims or refused to pay them. We have endeavored to do no injustice to any one, and in all cases where a good reason has been submitted to us for the non-payment of an account we agreed not to publish same, and have granted an extension of time. The following are a few of the accounts we offer for sale, either singly or all together, to the highest bidder. Other accounts will be offered from time to time. We can only say of them that they are every one just and valid, and collectable by law, providing the debtors have any assets. In most cases no assets are known to exist:

Aug. Angel, Jr., Ghent, Columbia Co., N. Y. $1.43.

Chas. H. Bush, Redwood, Jefferson Co., N. Y. $2.31.

S. M. Bliss, Salamanca, Catt. Co., N. Y. $3.32.

H. Babcock, Jamestown, N. Y. $6.14.

E. J. Cross, Bradford, Pa. $12.50.

Wm. Davidson, New Texas, Allegheny Co., Pa. $3.75.

Jno. D. A. Fisher, Woodside, Rowan Co., N. C. $1.14.

Elmer E. Guy, Yardley, Bucks Co., Pa. $10.33.

H. W. Hammond, North Bergen, N. Y. $5.94.

Hackett Bros., Canton, Bradford Co., Pa. $21.05.

Frederick Jaeckel, Hollidaysburg, Blair Co., Pa. $22.58.

B. L. Nichols, Troy, Bradford Co., Pa. $17.66.

E. K. Ross, Ross Mills, N. Y. $7.00.

T. T. Ross, Nashville, Nash Co. N. C. $1.23.

H. H. Schultz, Hollowville, Col. Co., N. Y. $75.64.

W. H. Sizeland, Philadelphia, Jeff. Co., N. Y. $6.59.

George E. Tucker, Springwater, N. Y. $11.24.

Samuel Taylor, Smyrna, Kent Co., Del. $1.28.

Wm. L. Utter, Kortright Center, Del. Co., N. Y. $3.33.

C. E. Woodward, Xenia, Greene Co., O. $3.59.

J. D. Wood, Mechanicstown, Orange Co., N. Y. $6.00.

Geo. A. Walrath, Norwood, St. Lawrence Co., N. Y. $3.00.

LITERARY ITEMS.

The complete novel in the February number of LIPPINCOTT'S is "The Picture of Las Cruces," by Christian Reed. The scene is laid in Mexico, and chiefly in the ancient house of a noble family, where an American artist undergoes a curious experience.

[illegible] serial story, "The [illegible]," reaches its sixth chapter.

[illegible]

[illegible] choice and varied, the opening article, "How to Make Money in Wall St.," being from the pen of Henry Clews. It has also the opening chapters of "A New Novel," "This Man and This Woman," by Margaret Lee, with illustrations by Paul Nimmo Moran; several short stories by prominent writers, "The Royalty of Hawaii," by Herbert S. Renton, "American Women in Mexico," by Marie Robinsun Wright, "A Begging Letter," a farce, by Anna Robeson Brown; several short sketches, numerous illustrations and poems. There is also a new department for "Our Boys," which ought to attract universal attention.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

CHICAGO, ILL., Jan. 20, 1894.—The ruling price for [illegible] comb honey seems to be 15c. Other grades of comb will bring 10@12c. Extracted sells [illegible]. [illegible] demand.

S. T. FISH & CO.,
[illegible] So. Water St.

ST. LOUIS, MO., [illegible]—Only a fair [illegible]

[illegible]

HILDRETH BROS., 41 Walnut St.

ALBANY, N. Y., Jan. 20, 1894.—Very light demand for honey. Supply excessive. Price of comb 8@12c. Good demand for beeswax. Moderate supply. Prices 26@27c. Honey market is over-stocked with clover honey and all grades extracted, with very light demand.

H. R. WRIGHT, 326 and 328 Broadway.

KANSAS CITY, MO., Jan. 20, 1894.—Very Light demand for honey. Good supply. Price of comb, 10@15c. Extracted 5@7c. Good demand for beeswax. Prices 20@22c. This has been the poorest honey season we have experience for several years. Look for better demand.

CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W. T. FALCONER MANFG CO.

VOL. IV. MARCH, 1894. NO. 3.

Artificial Swarming.

BY G. M. DOOLITTLE.

"How shall I manage my bees during the swarming season so as to secure the best results? Shall I let the bees swarm naturally, or shall I swarm them artificially, or divide them?" Are questions often asked by the beginner. These questions are replied to in various ways, just in accord with the mode of procedure adopted by the one giving answers. While I accord to all the privilege of answering from their own standpoint, yet I often think that advice is often given which is not correct, and at the risk of having others think I am not correct in my plans, I will give the readers of the AMERICAN BEE-KEEPER the plans which I have adopted. After years of experience I have found it to my advantage to hive all prime swarms issuing previous to ten days before the general honey harvest and deter all others from issuing which would come later. As natural swarming is understood by all I will not dwell upon that. When, by a knowledge of my location, I know that the main honey harvest is only from a week to ten days ahead, I proceed to make swarms from all the rest which have not swarmed, as follows: A hive is filled with empty combs, or if I do not have the combs, with comb foundation, and placed upon the stand of one of these colonies which have not swarmed, and all the sections are taken off and placed thereon, then all of the bees from the colony set from its stand are shaken off their combs of brood and honey, in front of this prepared hive, into which they will run as fast as shaken off. Thus I have a colony that is ready for business as soon as the honey harvest comes, having all the bees there would have been had the swarm issued naturally and about one-half more, for in natural swarming only about two-thirds of the hatched bees leave the hive, while when made as above they have the queen, all the bees and part filled boxes, all in readiness for work. Previous to this nuclei have been formed so that I have plenty of laying queens to use as I need them. I next take all the combs of brood from which the bees were shaken and brushed, except one, rearranging them in the hive the bees were shaken out of, and carry this hive to the stand of another colony which has not swarmed. Next, I take the frame of brood

which was left out, and go to one of the nuclei, taking out the frame having the laying queen upon it, and put the frame of brood in its place. I now take the frames, bees, queen and all, and set in the place left vacant for it when arranging the combs of brood. Next I put on the sections required, according to the strength of flying bees, and having all complete, I move the colony to a new stand and set the prepared hive in its place. Thus I have a laying queen and enough of her own bees to protect her, together with a hive filled with combs of brood, and all the field bees from the removed colony. In a very few days this colony is ready for the sections, and generally make splendid colonies for storing section honey. The loss of bees to the removed colony stops the swarming impulse, and in about a week they have so regained their loss by the constantly emerging brood that they are ready for the sections again. It will be seen that my aim has been, in using the above to have all strong enough to work in the sections [during the best of the harvest] to advantage, and still have none of them desire to swarm right in the height of the best flow of honey. By adopting a plan called "nucleus swarming," I once had my bees [after an early division] nearly all swarming right in the height of the best honey harvest, by which I lost at least $500; for swarm they would in spite of all I could do, and while the swarming fever is on, but little work will be done in the sections, as all best apiarists know. This taught me a lesson, and I hope to profit by such lessons, else, why the use of learning them, and I here give what gives me the best results in this locality, so as to save others from being obliged to go through a losing process of learning, when they can be saved that ordeal through the little help I may be allowed to give.

Borodino, N. Y.

Spring Management of Bees.

BY MRS. FANNIE B. DE WITT.

March is one of the most trying and severe months of the year in this northern latitude. The alternate sunshine and clouds together with the cold winds, destroy thousands of bees by alluring them out of the hives and chilling them to death so that they never return again. This is one of the main causes for spring dwindling, which is so much feared by us northern bee-keepers. It is almost impossable to prevent the bees from coming out of the hive when the sun is warm even though the air is cold. There are, however, some fine days in which they can fly with safety, and these should be utilized to their full extent. Feed your bees rye meal by placing it in shallow boxes in some sunny spot near the apiary. They will soon find it and carry it in large quantities for food for the young brood. This is especially useful if the hives do not contain much pollen. It also keeps them at work near home when the weather is to cold for them to forage in search for natural stores. They should also be fed a thin sugar syrup to stimulate them to breed strongly. The best plan is to use the simplicity feeder and fill it with syrup made out of cheap sugar. Feed regularly when ever it is warm enough for bees to take down the feed, but do not disturb them when it is cool, as you

might get the brood chilled by so doing. The brood nest can also be enlarged by inserting an outside comb between two which contain brood. The queen will soon fill this one with eggs. This must be done though with great caution, or the brood will become chilled if there are more brood than the bees can cover nicely, see that the hives are cleaned out nicely and all dead moldy bees removed.

Contract all weak colonies by inserting a division board stuffed with dry chaff, this will make the brood chamber warmer and cause the bees to cover their combs better, and brood rearing will go on at a more rapid rate.

Every apiarist, even if he has but a couple of hives should also commence making preparations for swarming by getting his new hives nailed up or ready for his swarms, cut out all drone comb put about two square inches or more in each hive, and replace with worker comb, or comb foundation. Remember that you must have your supplies now and get them made up and ready, have everything to its place and your vessels right side up, ready when the honey flow comes, as this is the essence of of success in bee keeping. If you have any empty combs get them ready for your swarms, and hive your early swarms on empty combs or comb foundation in full sheets in the brood frames and use only starters in the sections, as I find by experience that full sheets in the brood frames and starters in the sections are far better, than only using starters in both brood frames and sections. One more word or so and I will close and that is you must take some good bee paper, if you want to keep up with this advancing pursuit. I would advise you to take THE AMERICAN BEE KEEPER, as it is published in the interest of beginners as well as the more advanced in bee culture, also study the text books during your spare time and learn to cut corners and I will guarantee that you will succeed.

Sunny Side, Md.

Bee Culture in the Past, and Future.

BY G. W. DEMAREE.

The writer has owned and handled bees for over thirty years, and during this period of time he has observed, at least a part of the time, with pains taking care, the "times and seasons," as pertains to the prosperity, and adversity of the honey producing business. Since I have handled bees under the modern system, I have studied the causes and effects of weather, temperature, and electric conditions of the atmosphere and other causes if there be any, which govern the flow of nectar, and contribute to the curing process of the nectar, which must take place after the crude nectar is collected and stored by the bees. Nectar is much varied in density when being collected by the bees. Some times it is quite "thin," and at other times it has a density approaching that of standard honey. It is certain that atmospheric causes effects these differences.

As an experiment, I have removed freshly filled combs of nectar and evaporated the nector *in the combs*, by means of heat and a current of air, and the reduction will run from one-fifth to two-thirds of the bulk of the nectar, when reduced to standard

honey of about 11½ pounds to the measured gallon. These experiments give us a clue, into the causes that produce a difference in the real quality, (the eating quality) of our honeys, though the eye of even an expert, may not detect the difference. For these reasons I have but little faith in any attempt to *grade* honey after the fashion of some other products.

BUT WHAT IS THE OUT LOOK,

for bee culture in the future? As I have already intimated there have been decades of good, and poor honey years, ever since I began to observe these things, I now expect them to turn up in their regular course. When the prosperous years are on, many persons enter the apicultural field, and when the poor years begin to be felt, they drop out and leave only those that are filled for the business. Thus adversity is not without its beneficial use. The apicultural field, for this reason, is not likely to become too much crowded. To me the outlook is as bright as it ever was, and brighter.

The business is settling down in more permanant form, apicultural goods and supplies are becoming more uniform and staple in character, and less excited by doubtful, and worthless invention. And "fitness of person," is taking the highest rank in the bee business, in the place *of honey producing hives and fixtures.*

This is the most hopeful feature of our times pertaining to the future bee business. As to the seasons we can not govern them, as in the past so they are likely to be in the future, they will be good and bad, but the effects will be no harder to bear by bee-keepers than by those engaged in other branches of agriculture.

That a great "plant" like the W. T. Falconer Manufacturing Company, should stand the strain of the late "hard times" depending solely on the demand for apicultural goods, promises well for bee culture in the future.

RACES AND VARIETIES OF BEES.

How amazingly strange, things can turn out. A history of the "ins, and outs," concerning the races and varieties of bees brought to the notice of apiarists by this country in the past, would be exceedingly interesting if it could be written without prejudice.

After all that has been said, and written, and done in the premises, and after all the years of contention have past, the Italian bees, standing first, and our native black bees take the next rank in the estimation of a majority of the honey producers of North America.

These reflections, however, are not indulged in to discourage the evident desire of bee men to improve our bees. Those who know my record on this subject, from what I have contributed to the bee periodicals as well as to the agricultural press, are aware that I have advocated the hopeful wish that is abroad in the apiacultural ranks, for the best bees that the world can give. And I still cherish the hope that better races of bees will be discovered and brought under the care of the skilled apiarists of this country.

Christiansburg, Ky.

"Successful Bee-Keeping."

BY JNO. F. GATES.

It is interesting to read the many articles under the caption of "Successful Bee-Keeping." Many who follow the rules and instructions given in those articles meet with disappointment and the loss of many hard earned dollars. Still there is a running fire kept up by writers with "Successful bee-keeping" for their battle cry.

Success is a choice word, and should never be used in connection with any scheme or plan unless the writer is assured by indisputable evidence that a realization of it is certain by following his advice.

"Successful bee-keeping:" That means keeping them right along and making money out of them.

Do I know how to do it that way? Yes, I do, and will try and tell you so plainly how to do it that you may not fail.

Bees must have as good honey to winter on as they can find in the fields. If we take the good honey away we must not expect them to winter with *success*.

I know, of course, that bees have been wintered on sugar, candy, and buckwheat honey, and poor honey of all sorts, but do all bees winter *successfully* on such? Many of the boys pulled through the siege of Andersonville prison on scanty, bad food, but they *all* didn't.

Of the many experiments I have tried, there is but one plan which has proved successful and *practical*, and that is to keep bees in old-fashioned box hives for *breeders*; taking your honey for market from the new swarm, which such hives will cast early and will be large, changing the old hive to a new stand when it swarms, and setting your hive for surplus in its place, thus catching bees returning from the fields, and preventing second swarms.

I have practiced this with a portion of my apiary, until I am *convinced* that it is both successful, and practical. I take no honey from the box hives, in return they give large early swarms, which I put into *empty* hives which should not be over seven or eight inches in height, with queen excluders on top, and having new brood combs each year, the honey will not be travel stained, you will have honey so white it will command the highest price. There has not been a year so poor that such swarms did not store a large surplus, while at the same time I was bothered to get bees to work in their sections on the old plan.

By putting on sections when first hived, the large swarms ascend at once and fill them, and the bee-keeper has no idle, or sulky bees, don't have to keep removing cases from old to new colonies, has no half filled sections on account of swarming, has but one set of hives to see to, and not much to do to them only to put on cases as required.

And success in selling white honey makes one glad.

How nice to be asked if you have any more honey as nice as that? No travel stained honey, cases all full, after taking off cases, and if you have enough bees, then turn the small hives over the large ones, thus uniting them, and leave them there all winter, in the spring, remove the small hives, extract the honey and prepare them for use, using the comb for wax, for your small hives must be

empty for good results. If you have not bees enough, simply stack three or four up, making strong hives for *breeders*.

Success in wintering is also an important part of this plan, it gives, the breeders the best of honey, which is *the* principal of good wintering.

The breeders should be not less than eighteen inches high, by thirteen inches square, and should be wintered on their summer stands.

All the protection needed to winter them with success, is to raise them the last of October, and slip a honey case, or box three or four inches high under the hive leaving that much between the combs and bottom board, leave the entrance open as in summer, the hives when thus arranged should not be more than eight or ten inches from the ground. The hives need no particular protection as the hives are best with a current of air all around them, of course a sheltered location for the apiary is best. Ventilation at the top of the hive is very essential, and this can be secured by boring six or eight half-inch holes in the cover and putting on a honey case, with a cover laid over the case, a fly hole about mid way of the hive also helps to ventilate. Breeders thus arranged, that, of course, have had no honey taken from there, and consequently are full of choice clover honey will winter successfully, and will be on time with a prime swarm ready for business, while others are tinkering up small colonies which will only be ready when the harvest is almost part. It may be said by some that so much honey as the breeders would contain would be too much for the bee's share. An argument more useless could not be made. There is that scattereth and yet increaseth. "As ye sow so shall ye reap." "Such measure as ye meet, shall be measured to you again," and much more could be cited to prove that man's greed is his worst enemy. The honey stored in the breeders belongs to the bees, and by letting them have it we increase our prospects greatly for a large crop the following season, If bee-keepers would rise above that pernicious idea of hair splitting in regard to amount of stores allowed for bees, and follow some wholsome plan such as I have tried to prescribe, hundreds of large and profitable colonies could be kept instead of the poor, scanty and uncertain few, honey would come into general use, and no such idea as making bees play second by trying to transform sugar into honey would be even thought of, while millions of pounds of choice honey is going to waste. Supply dealers would rejoice in such a change, for if bee-keepers made their own rough and ready hives and enlarged their apiaries tenfold, the supply dealers would find their fields also enlarged by the needs of the bee-keepers in the sale of sections, foundation, etc., much more than would compensate for loss of the sale of hives. We could buy the *small* hives of dealers as usual if we wished to do so. Such breeding hives as I have discribed will stand the winter, and it would almost seem the bees in them could not be killed. I have had them as high as twenty-eight inches, which swarmed a month earlier than small and tinkered up colonies, but I would prefer them from eighteen to twenty-four inches high.

Ovid, Pa.

What is Truth.

BY C. J. ROBINSON.

This question is just as applicable to bee culture as to moral or religious speculations. In all the practical affairs of life, there is but one way to ascertain what is correct, and that is by practical test. In what we may still term the formative state of bee culture, when new facts are being developed, new theories advanced, new devices employed, error is unavoidably mixed up with truth, and we must employ the evidence of our own senses in separating them. Conflicting theories cannot both be true, but both may be false. Men forget this is their blind eagerness to be victors in a controvery. It has been suggested that a bee journal should publish nothing but what is known to be correct. This assumes that we have the absolute truth, and chokes off all controvery at once.

A better position is not to publish anything that is false, or that contradicts well established truth. It is probable that there is truth in all theories, though it may be so covered up by error that it cannot be found. No man wants to believe a lie, and men do not usually advocate positions they know to be false.

Much of the bitter, vindictive character of the controversies between American bee-keepers could have been avoided—I speak from long experience—and much more good have been accomplished, had these facts been kept in mind. There is too little charity in all the relation of life. We have no right to believe other men dishonest, still less to call them so, merely because they do not agree with us, Happily, the *violent stage* of apicultural controversey seems to be about passed, when mere personal tirads of abuse of the past give away to honest investigation with the sole purpose of discovering *what is truth*.

Richford, N. Y.

EDITOR AMERICAN BEE-KEEPER—Dear Sir:—Mr Doolittle (in Feb. No.) in answering 'enquirer' as to how he shall know if his bees bees are wintering well or not leaves out the most important factor of all; his nose. On entering my bee cellar from another lighted cellar with a furnace in it, through one door, which can be made as dark and is just as good as four. My first test is by my nose. If all right there will be a sweet agreeable fragrance in the room. If there is any dampness in any of the hives or the least suspicion of dysentery, there will be an offensive smell. Dampness will breed dysentery as also old soured honey and honey dew honey.

There will not be much fear of dampness in the hive if the range of temperature is kept between 40° and 50°. Mr. D. says he is always troubled with mice. if so he will always have plenty of humming in his cellar, for the bees dislike the smell of mice, and will scent them from afar.

From the reading of Mr. D's. article I conclude that the bottoms of his hives are open in the cellar, if so he loses many good bees, as well as the old and dieing ones. I use a portico hive—would have no other for various reasons, put into the cellar with bottoms on, with fly space open across the front; now if nothing prevents the bees will haul all of the dead ones out into the portico and dump them off together with themselves onto the

cellar-bottom, and to be lost. To prevent this I place a strip about one and a fourth inches wide at the front edge of the portico, and the bees finding that they cannot haul their dead comrades over this obstruction, will leave them in the portico and re-enter the hive. I put no caps on the hives in the cellar; for a cover I make a rim two and one half inches deep, and same outside dimensions as honey rack, covered with two thicknesses of carpet paper, tacked on. These covers keep the bees warm, give plenty of room over the frames, and prevent inside dampness by absorbing the moisture.

With these covers there will be always be a mass of bees on top of the frames. I have used these covers for several seasons, at first using only a few, until now I have them on all of my hives. I think it is my device and would recommend it to all who winter bees in a cellar. To beginners I would say: Keep nothing but bees in your bee-cellar keep it clean and free from any offensive odors by ventilation. The bottom should never be of boards or plank, as walking upon it disturbs the bees, and the hives should never be connected with any part of the house except the cellar-bottom. Frequently sweep up all dead bees as they accumulate on the cellar-bottom and carry them out, and in all your work about your bees you will need to exercise *intelligent care* as that is the key to successful bee-keeping.

Yours truly, CHAS. C. HARDY.
Burrs Mills, N. Y. Feb. 14, 1894.

A six months trial subscription to the BEE-KEEPER for 20 cents, three months 10 cents.

EDITOR AMERICAN BEE-KEEPER—Dear Sir :—Please find inclosed 50 cents for renewal of subscription.

Our bees are wintering very nicely, and in fact this is the case almost everywhere in this country.

When I was a boy, about 1848, my father used to take me to the woods with him to teach me to hunt bees, and for several years afterwrrd he taught me all of the old fashioned ways of bee-keeping. In those days bees wintered better than now and became more numerous in the woods than at present. My early training was in the east end of this county, (Venango county, Pa.,) although I have lived now nearly 40 years in the western part. I have observed that from year to year when bees are found in the woods they would seem to be in certain spots. Sometimes three or four swarms in one acre of land, than none in two or three hundred acres. Our own land is very hilly and was covered with a heavy forest. To my mind the bees in their liberty selected their locality by instinct, deciding thus what is the proper ground for them to prosper on, both for their health and advantage of gathering honey.

Yours truly. JACOB PIZER.
Cooperstown, N. Y.

W. T. FALCONER MAN'F'G., CO.—Gentlemen :—I received the goods in nice order and am well pleased with the hives, both in the quality of lumber and in accurate workmanship; also in mode of packing. The sections are perfect; the very best I ever saw. Thanking you for your prompt attention, I remain, Yours truly,

CHAS. W. EGE.
Woodsville, N. Y., Feb. 23, 1894.

EDITOR AMERICAN BEE-KEEPER—Dear Sir :—We have taken the BEE-KEEPER ever since it started and we like to read it very much, but the main spoke in our wheel was shattered on August 24th last, Mr. John Field, a great lover of bees and of his home, died on that date. His wife still carries on the farm and intends to keep the bees.

Our subscription to the BEE-KEEPER has expired and we have neglected to renew, not because we did not have the money, for I think it is worth twice the price, and I think it would be a good plan if you find such "slow pokes" as us, not to send any papers after the time is up, but excuse us this time.

Our honey is all sold at home and we get 15 cents a pound for comb, and our extracted honey is put in quart fruit cans and sells at 50 cents a quart.

In last month's issue I noticed an article that just suited me and that was about granulated honey. I extracted 84 quarts of honey, and before I sold it all it granulated and the people thought it was mixed and I did not know what do with it, as I had never seen anything in the bee books telling how to prevent it or liquify it again. This is my own way. I took a pan that would hold ten cans and set it on the stove. Then I put four inches of water in it and set the jars in the cold water. When the water got hot the honey began to melt and it has never granulated since. This was some two months ago, and now it looks just as nice as when it came from the hives so I did not have to worry over it any afterward. Nor did I have to mix it. When I have to mix honey then the bees will have to go.

Hoping you will have a good and prosperous season, I remain, Yours truly,

S. A. FIELD,

Tennent, N. J., Feb 21, 1894.

THE W. T. FALCONER M'F'G CO.,—Gentlemen: I received the goods I ordered of you last month and have got them nearly all nailed up, and I want to say that I think your goods beat all others in point of workmanship and material.

Yours truly, F. E. MCDOWELL.

Geneva, N. Y.

THE W. T. FALCONER M'F'G CO.,—Gentlemen: The goods shipped me Jan. 18th arrived on the 26th in excellent condition. Have not opened the comb foundation, but suppose it is all right One section short and 15 others more or less broken. Don't worry. It is a small matter that I can fix up and will borrow from some neighbors when he is not at home.

Your goods are first-class. I am well pleased with the way you people do things. Please accept thanks for promptness and liberality. Yours &c., ————

(As we have not permission from the writer to publish the above letter, we have refrained from giving his address.)

THE W. T. FALCONER M'F'G CO.,—Dear Friends: The sections arrived about two weeks ago in very good condition. They are the finest sections I ever got. They are in every way entirely satisfactory, and can find no fault with them. They are made right and are of good material. When I need more you will hear from me, for I need not look further for better goods or cheaper ones than yours. Thanking you I am. Yours very truly, J. F. HERSHEY.

Mount Joy, Pa., Feb. 26, 1894.

THE W. T. FALCONER M'F'G CO.,—Gentlemen: The car of sections came to hand. They came through all right. They are equal to what we expected. Your Falcon sections are up to their former standard of excellence. We also like the way you put up your sections in boxes. They stand shipment well, are kept clean and the box is of some value. They are easily divided up for shipment in 500 lots too. We regret not having taken a larger car load.

Yours very truly, F. W. JONES.

Bedford, Que., Feb. 26, 1894.

EDITOR AMERICAN BEE-KEEPER—Dear Sir: I would patronize you at once in the way of a nice add, but my trade is all that I can handle as it is. You have one of the best journals and advertising mediums published, and as soon as I get in shape to handle more trade I will advertise with you. Wishing you success, I remain.

Yours truly, (MRS.) JENNIE ATCHLEY.

Beeville, Texas, Feb. 20, 1894

HINTS TO BEGINNERS.

This, the month of March—one of the most disagreeable months of the year to humanity—is a very trying month on the bees, for it is a well-known fact among kee-keepers that changeable weather, from very cold to very warm, makes sad havoc among our bees. It is very necessary that the bees should enjoy perfect quiet in this, as well as in the months just passed, but at the same time it is just as necessary that every hive should be examined, and if stories are scant they should be supplemented at once—and I would again caution the beginner (should he commence to feed) on the importance of *regular feeding*. If you find your stocks are short of stores, get some pure cream candy, break it in pieces, and lay it on top of frames under the cushion. The latter part of this month is generally warm enough to commence feeding, for the purpose of stimulating the queen to lay, and this is the feeding I have reference to above. I would advise the use of our entrance feeder, into which pour about a gill of hot feed every night. Now this feed, unlike the feed for winter stores, is made from brown sugar—because it furnishes more saccharine matter, which is very desirable for brood rearing. About equal parts of water and sugar are used—put on the fire and bring to boiling point, when it is ready for use. After putting my feeders at the entrance, in March, I never remove them until the bees commence to get nectar from the blossoms. But every night about dusk I pour about a gill of this hot feed into the feeders at the entrance, never neglecting to feed them any more than I do my horse. I recommend the hot feed for a very good reason. When the hot syrup is poured into the feeder the steam which arises circulates up through the hive, letting the bees very quickly know that this savory dish awaits them below, and in a very few minutes your ear will be greeted with that subdued and quiet hum, which is so enchanting to the ear of a bee-keeper. Never feed in the morning, for two reasons: First—because it is apt to induce robbing; and, Secondly—because when they have warm food during the day, bees are tempted to fly out, and many will thus be chilled and die.

Now, without taking too much of the beginner's time, I wish to rehash a few things that I may have said in previous numbers, in reference to feeding for stimulating: It has been a frequent complaint from the beginners that they cannot get their bees to work in section boxes—until very late in the season, and in fact some times it is so late that they never get the section honey capped. Now as a remedy I say, *feed* in the spring and you will have no trouble. I already hear you say, "Why?" Well, take for example a stock of bees, which, we will suppose, had enough stores to last through until the flowers bloom, the beginner naturally supposes that they need no feed. The consequences are that they do not get any. Neither does that queen commence to lay until the bees commence to bring honey

from the fields. What is the result? Why, all the honey they bring is gathered by those bees that lived through the winter; at best there is not many of them, and what they do get is consumed in rearing the young bees. Now, I ask is there any reason why you don't get honey in your sections? Take, on the other hand, the stock that has had its gill of hot feed every night, the queen has commenced to lay, and when the blossoms commence to secrete honey, she has her hive overflowing with young and vigorous bees, who are ready to collect the sweets as soon as it presents itself. This honey is for the bee-keeper, not as is generally the case used for rearing brood, when brown sugar would have answered just as well. And by this means, strictly carried out, you can get the apple-blossom honey into your sections, which is extremely rare--some think they get it, but notwithstanding their thoughts, they don't--unless it is an exceptional year for apple blossom honey. So to the beginner I say this is one of the great secrets to a large yield. Simply attend to this part, and then if the honey comes you will be as likely to break the record as older members of our fraternity.

One more suggestion and I will close for this month. As soon as you commence feeding take the absorbing material from the top of frames and supplement it with a piece of enamelled cloth with enamelled side down; this retains the moisture which is more than necessary in brood rearing. Should any hive be found queenless, get a queen at once from some responsible breeder, if not, unite with some weak colony--for it is a losing business to attempt to keep a queenless colony--as before they can rear a queen they will almost certainly be lost by dwindling, robbing, or worms, but if united with a weak one, it makes it strong and almost double its value.--W. B. T. in B. K. M. (N. Y.)

USE OF FOUNDATION.

Foundation is a good thing. I think like Mr. Hutchinson, that we *must* have perfect brood combs. I know of just two ways to get them; and one of the ways is to have them built on the plan given by G. M. Doolittle some years ago, viz: Use weak colonies, and place empty frames between nice, straight full ones and by spacing close, you can get good worker comb. Nucleus colonies or any weak colony, will do this work quite well, especially if they have a young queen. A failing queen would give poor results. I would arrange the combs in this way: If you have a two-frame nucleus, put an empty frame between the two, and a frame of drone comb on the outside. So soon as the new frame is full of comb, spread again, and put in two empty frames, either alternating with the others, or put one of the new ones next the hive side, then a full one, and next an empty.

The reason I would use the drone comb is because if there be plenty of drone comb in the hive, the colony will not want to build any more until they get almost strong enough to occupy the whole hive. If there be about two drone combs used—one on either side of the brood nest—after the colony has grown to occupy three or four combs, you can usually have

them build about two more. Ordinairly, this plan, when starting with a two frame nucleus, will get built by each colony about four good combs. Some will build five or six, but you cannot trust them when the hive is so near full. Of course if the flow ceases and no feeding, no combs will be built. To get true combs, straight combs only must be used on either side, and the spacing rather close. A little practice along this line would be wise for beginners.

The *best* method to get good combs is to use wired frames and full sheets of foundation. The foundation should be as warm as can be handled well when put on the wires, for if not quite warm, it will stretch with the heat of the bees when put in the hive, and cause it to bulge. If the frame be not reversible, let the lower edge of the sheet be not over one-half inch from the bottom bar. If the foundation be put in quite warm and plenty of wire, and then not too large a colony to work it, one-fourth inch space is enough next the bottom bar.

As I had never made a practice of letting my bees swarm, I cannot say anything in regard to the use of starters versus full sheets in the brood chamber, to hive swarms on. I think the plan would not be a success in the hands of any but a man of experience and good judgment. I can recommend only the two methods for the brood chamber.

The use of foundation in the supers is quite a different matter. I have many doubts as to the profit to be derived from an indiscriminate use of foundation in the sections. Full sheets well put in, will make it much easier to get good work done, *especially* in weak colonies.

I believe when the flow stands moderate for four or five days and then comes more free just when the bees are in good shape to secrete wax, they do not thin the base of the foundation as they should—so we have the "fish bone" in the honey.

I believe the secretion of wax to be voluntary; and so believing, think if we could just so manage our bees that we could make *them* believe that they *need no wax*, there would not be any secreted. But since they are prone to follow instinct, they naturally fall to secreting wax when the honey comes freely. I think there is very little tendency to secrete when a large lot of empty comb is in the hive—two or three extra chambers full—but when we raise comb honey, we cannot have the comb and must have the new wax.

As I view the matter now, I would advise the use of both full sheets and starters. (Reader, note well the following): If I had the ability to foretell the honey flow just as it would be in its conditions, here is how I would arrange for it: First of all, very strong colonies. I would want a few sections with comb in, all ready to receive honey. Now for a slow flow, I would put in two or more bait combs —not too many—and fill out with starters. If the flow comes abruptly —changing in two to four days from none at all to good—use ten or more bait combs and fill out with full sheets. In either case, should the flow continue fair to good after fairly started, when more room is needed, use starters only. Just at this time

—five or six days from the start of the flow, and upwards if the flow began abruptly sooner if there was a little honey coming for several days before—they will secrete wax quite freely. As the flow "tapers off," they will have more wax than needed, so use only starters when you have occasion to give more room. This gives them a chance to use the wax they will have, and also tends to make them finish better the sections already nearly done.

Whether full sheets or starters be used, put a starter on the bottom. Cut the full sheets enough shorter, allowing one fourth to three-eights of an inch between. The bottom starter makes a section that will ship much better, and pays.

If we could just get the bees to secrete wax at our option, then we could use full sheets of foundation to advantage; but they will follow instinct—*not reason*—and do not anticipate our inter-position in giving them wax; hence, they will at times have a surplus of wax. They may secrete voluntarily, and yet be found with a surplus. How many merchants and others voluntarily bought goods before this crisis, but would have been glad later if they could have stopped their coming or found a use for them. If the act be not voluntary, then it is caused by the honey alone, and cannot any more be expected to adjust itself to the conditions than a cow can stop her secretion of milk, if the need of the milk suddenly ceases.

Loveland, Colo.

We must urge our readers to send in some contributions for publication. They are always needed.

DOES FOUL BROOD DEVELOP FROM CHILLED (DEAD) BROOD.

The question has been discussed by the most experienced apiarists in different parts of the world time after time, hence showing its importance, without however, having arrived as yet at any definite conclusion. In fact it seems almost as far off being settled as ever. There is one noticeable feature in the discussion of late, that whereas formerly many leading bee-keepers positively denied the possibility of the disease developing from dead brood, you do not find, except in very few cases now, that same positiveness of assertion. There is more hesitation when expressing an opinion among those who were so prone to speak dogmatically on the subject. It seems to me to be a matter so difficult to decide scientifically that it is quite beyond the scope and power of even our cleverest bee-keepers to do so. No doubt it would require some scores of experiments, carried out under the greatest exactness, in order to eliminate as far as possible all risk of error before anything decisive could be known. How then is it at all likely that the problem could be determined by a comparatively few isolated cases which there was no intention of testing the matter in the first place?

Many of those who have held it very probable that, foul broad has developed from dead brood, have been reluctant to advance their opinions against those of well-known men who have decided otherwise. I have had very many opportunities of examining broody colonies and have always believed that chilled or scalded (dead)

brood has, and does cause disease.

I believe that wherever life exists there also will be found the elements which will under certain conditions cause death. It is now a generally accepted theory that nearly all, if not quite all of the diseases animal life is subject to, is due to living organisms. It is a scientific fact I believe that these organisms ---disease germs ---are everywhere present, and only require congenial surroundings to develop and multiply. We are told that the spores of foul brood may float in the air, and be carried by this means over vast areas, and be quite harmless, until they happen to get into their proper element, when the disease developes in a very short time. In strong healthy animals there is a something that is destructive to disease germs, but should the system become weakened, their vitality lowered by any means, they become at once an easy prey to such germs. Now any existing condition that would cause brood to die in the hive would be unhealthy, and would therefore lower the vitality of the bees. Dead and decaying larvæ would also be a very unhealthy condition of things----in fact, just what we must suppose the proper condition needed for the development of disease. To bear out what I advance, I have known what was strictly scalded brood, in the first place pronounced foul brood, and the colony (Italians), condemned by an English expert on foul brood. He positively declared that whatever originated it, it was foul brood when he examined it, and that was ten days or a fortnight after the brood dieing. I could mention several cases all confirming and determining me in my opinion, but I do not think it necessary just now, as I am only giving my opinion for what it is worth. I think, however, on the whole, that the side I have taken is the most feasible one.

P. S.-- Since writing the above, I notice Mrs. J. Atchley, in reply to Mr. McEvoy, has an article on the above in the A. B. J., for Nov. 2nd. Mrs. Atchley is I think inclined to be dogmatic in a great deal what she says, and I consider it shows a very bad feature in a controversialist by stating that "if she did know more she would hardly be allowed the honours, as she is only a woman." This is certainly not argument, and although she makes a positive assertion to the contrary, she does not prove that dead brood is not often the indirect cause of foul brood.---Australian Bee Bulletin.

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EDITORIAL.

From Gleanings we learn that the Standard Oil Company have represented to certain Canadian manufacturers of comb foundation that A. I. Root, M. H. Hunt, Dadant & Sons, ourselves and some other leading manufacturers were using refined paraffine wax for the purpose of making foundation. We are glad to notice that all the parties above mentioned positively deny the charge and as for ourselves, we have never used anything but the purest beeswax in making foundation, and have never even had a pound of paraffine on our premises that we ever knew of.—We believe paraffine is used to a considerable extent by manufacturers of foundation in Germany, but we never knew of any one using it in this country for that purpose. The whole charge made by the Standard Oil Company arose from the fact that the Roots have for a number of years purchased from time to time a small amount of paraffine which they used for coating the inside of packages for extracted honey and paraffining the candy holes in queen cages—but for no other purposes.

We do not often complain of our treatment by our fellow bee-keepers, but we would be much pleased if we had greater support from the bee-keepers of the east, especially New York and Pennsylvania. There are many thousands of bee-keepers in those states, and if only one in every ten would send in their subscription we would be enabled to go to greater expense in the way of more original articles, more pages and a great many other general improvements.—We send this number free to several thousand bee-keepers who are not subscribers, and we earnestly request that everyone who receives a copy will immediately send in their subscription. If you have not the cash to send now, send along your name and let the cash follow at your convenience.

At this writing the temperature is 65° in the open air, and things begin to have the appearance of the approach of spring—The winter generally speaking has been a mild one, and a good one for the safe wintering of bees.

We have mailed a copy of our 1894 catalogue to everyone on our list of bee-keepers. If anyone has not received a copy or wishes another we shall be glad to send one if requested.

Since issuing our spring catalogue some dealers have reduced the price of extra thin section foundation 5c a pound, we have done the same. Our customers will please remember that we will at all times sell our goods as low as any of our competitors, and while there is positively hardly any profit on some kinds of goods we sell, we will actually sell them at less than cost before we will be undersold.

Premiums for new subscribers. Every new subscriber sending 50 cents for the BEE-KEEPER one year and ten cents extra will receive as premium a package of *choice flower seeds* valued at 90 cents or for 25 cents extra a collection of flower and vegetable seeds and bulbs, worth at retail over $1.50. This is the best offer ever made by anyone.

Some manufacturers and dealers are offering sections at prices in some cases a little less than our celebrated Falcon sections. Consumers should not be deceived by such offers. Our Falcon sections are not to be compared with that class of goods. We can supply No 1 sections equal to such at $2.00 per M.

Wm. M. Gerrish, East Nottingham, N. H., will keep in stock a supply of our goods this season. Our customers in his part of the country will find it convenient to get their supplies of him.

We regret to note that H. P. Langdon has had misfortune visited upon him by the loss by death of his wife, which occurred Feb. 19.

Did you notice the new cover on our catalogue?

The Roots say: "This years' business is starting out unusually brisk, in fact we have been obliged to add more help, new machines, new blower, more line shafting, etc." We have ourselves noticed the unusual volumn of trade for "an off year," but with our almost unlimited capacity we have no doubt that we can fill all orders with our usual promptness.

We have received from the publisher, Geo. T. Angell, No. 19 Milk street, Boston, Mass., a copy of "The Strike at Shanes," a sequal to "Black Beauty."

If any of our readers wish to subscribe to any of the standard magazines they should read the terms elsewhere.

Ground Cork is an excellent article for packing hives, being light and dry. We will furnish it 8c. per lb., or $4.00 per 100 pounds. A bushel weighs only about 8 lbs.

We are somewhat late in getting out this number of the BEE-KEEPER, partly owing to the unusual amount of extra work in our office. Notwithstanding the generally dull times, we are fairly busy, employing at this writing about 100 pairs of hands and running our factory 13 hours daily.

Last month we expressed an opinion that "Success in Bee Culture" had followed in the foot steps of many bee papers, and had "petered out." We were a little too hasty, the *December* number has arrived at this office.

We have just issued a new discount sheet for the use of regular dealers which applies to our new catalogue. It will be mailed to *regular dealers* only on application.

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO

VOL. IV. APRIL, 1894. NO. 4.

The Advantages and Disadvantage of Clipped Queens.

BY CHAS. H. THIES.

As the above question seems to be very unsettled in the minds of quite a number of bee keepers, a few remarks may be of some benefit to some novice, just why a method should meet with success with one and fail with another is hard to say, yet quite a number of our best and largest honey producers prefer clipped queens, while others of equal experience are opposed to them. He will, therefore, try to consider both sides of the question. We will first look at the advantages of clipped queens. The greatest advantage is doubtless at swarming time. How easy a bee-keeper feels when a half dozen or more swarms come out at or about the same time, when he knows that his queens are all clipped, is only known by those that have tried this method. And they can be handled and hived in just one-fourth of the time, in fact you need not handle the bees at all, only the queen need be handled or caged. Again if you should not be on hand when a swarm with a clipped queen issues, you may be sure your bees will all come back, while if not clipped they will be sure to make for the woods, then if your bees cluster on top of the highest tree, on a fence post, or on a low shrub where they are handy is all the same, as you need not climb trees, jar posts or cut limbs, but only cage the queen. Place an empty hive on the old stand with the caged queen in front and in a very short time your bees will be in the hive. As soon as the bees return the queen should be released, when usually all will be lovely.

Another advantage is that if you keep a record of the age of your queens, you may always be sure of their age, for if the bees should supercede her you may know it at once. Usually it does not pay to allow a queen to stay in a hive until the bees see fit to supercede her unless she is something very fine, and is used for breeding. Young queens are always preferred by me for many reasons. There are many more advantages in clipped queens, but we now look at some of the *disadvantages of clipped queens*. First and foremost would be the occasional loss of a queen, but this loss need not be great even if the apiarist is not present. There are two things necessary to present this

loss, one is, keep the ground in front of the hive free from weeds and grass, better still have the whole apiary clean and free from weeds, etc. The next is, do not space your hives too close, space them at least seven feet apart, and better more than less. The above is very necessary in any well regulated apiary, but particulaily in an apiary where queens are clipped. The hives should of course be low, not over two or three inches from the ground. A few insist that it injures a queen to be clipped, but from quite a little experience I could never see the injury. I have had queens that were clipped as soon as they commenced laying that lived to a good old age and did good business. It will hardly seem necessary to say that a queen should never be clipped until she has commenced laying. Another objection is that it spoils the looks of a queen. And not in a few cases have I found that a clipped queen will soon be without any wings at all. The bees seem to dislike a queen with one wing, therefore gnaw off the other, but this I think is more general with common and hybrid bees, the Italian are not so much disposed to such business. With a few remarks on how to clip queens I will come to a close for this time: Never clip a wing too close or you may injure the queen, sure enough if one-half of the wing is cut off it will be sufficient. A laying queen is usually very heavy and needs all of two wings to do much flying, therefore if you clip the half of one it will be all that is necessary. Never handle the queen in clipping or at any time when not necessary, some writers advise placing the queen to be clipped in a closed window, I prefer to clip them right at the hive on the frame. With a little practice you can clip a queen in a few minutes, and that without cutting off any of her legs which you should surely avoid. To do the work you should have a small pair of shears with a very keen edge, and when you find the frame that contains the queen do not be in a hurry but follow her up with your shears until you can make a sure clip of it, and if the first time you miss her wing, you will find it more trouble to get at her again, therefore you should be particular and not too fast, as you may make a sure thing of it at once. If any of the readers want things in more detail, they will please let me know through the colums of THE AMERICAN BEE-KEEPER.

Ill.

Robinson's "Concise History"—Reviewed and Discredited.

BY M. M. BALBRIDGE.

My attention is called to an article in the Dec. No. of the A. B. K., that claims to give "A concise history of the first importation of Italian bees" into the U. S. The writer is C. J. Robinson. The "history" covers the period from 1859 to 1861 inclusive—more thon 30 years ago. Mr. Robinson was a bee-keeper at that period, and a well-known writer on bee-topics. I remember well some of his writings at that time. I also remember some of his writings on bee-topics since, and that he has made several attempts to give certain facts in regard to the early introduction of the Italian bees into this crontry. But, somehow or other, Mr. R. has always managed, so it seems to me, to mix up more or less error with the facts, but why he has done this I will not now attempt to explain.

As I wish to be perfectly fair in my treatment of the disease with which Mr. Robinson seems to be afflicted, I will do my best, from time to time, to state substancially what Mr. R. says:—

1. In 1859 Mr. S. B. Parsons, who was traveling in Europe for the U. S., was instructed to procure some Italian bees for the use of the Patent Office. Thereupon he purchased, in Italy, ten (10) colonies for the Government, and ten (10) for himself.

I admit that Mr. Parsons was instructed, and that he bought, as stated, ten (10) colonies for the Patent Office; but deny that he bought at the same time ten (10) colonies for himself.

2. Said 20 colonies were forwarded by the steamer Argo, and they were landed at New York, April 18, 1860.

I deny the allegations in both statements.

3. None of the 20 colonies reached Washington, their proper destination, but instead were all taken to Flushing, the home of Mr. Parsons.

I deny that Washington was the proper destination for 20 hives of Italian bees April 18, 1860, or at any other date, by virtue of instructions from the Patent Office to Mr. Parsons I admit that there were Italian bees taken about that date to the home of Mr. Parsons, but deny that they were the bees bought for the Government.

4. On examination of said bees by Mr. Langstroth, at, or about the date of their arrival, all were found to be dead except two colonies, and these happened, providentially or otherwise, to belong to the ten consigned to Mr. Parsons.

I admit that Mr. Langstroth examined the Italian bees that arrived at or about the date stated, and that he found some of the queens alive, but deny that they belonged to those ten colonies Mr. P. bought for the Patent Office. I admit that Mr. Parsons had two Italian queens in his apiary, at Flushing, in the spring of 1860, but deny that either of said queens was the property of the Patent Office. I admit their existence because I saw them myself. Mr. Langstroth opened the hives and showed them to me. He also showed me a number of cells containing Italian queens nearly ready to hatch. And it so happened that we were both present when the first queen hatched in America, that was from an imported queen bred in Italy, the stock imported by Mr. Parsons. At the time of my visit to Mr. Parsons' apiary, I was attending school at Albany, New York, and so went down there to see the new race of bees and by special invitation.

5. Early in 1861 said S. B. Parsons advertised Italian queens for sale in the American Bee Journal. Now, what does this man Parsons say in his advertisement? Read: The reports of Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Baldridge and others, testifying fully, from actual observation, to the great superiority of this race over the common bee. Now when was that "observation" made? Please note the facts: Mr. Parsons had only two living Italian queens in the spring of 1860, and only one of these was successfully used for breeding queens. Wm. W. Cary, Coleraine, Mass., had charge of her and she was kept in the apiary of Mr. Parsons. The other was taken to another apiary near by and a Mr. Bodmer had her under his charge, but he made a failure as a breeder of queens. Now, let me ask T. G. Newman and others how it was possible that Mr. Langstroth, who, in 1860, was residing in Ohio, could, by actual observation, testify that Parsons Italian bees, reared from those two queens, were greatly superior over the common bees.

Let me explain: That "observation" was made at the respective homes of the persons whose names are given. They were each and all supplied with Italian queens early in the summer of 1850. The queens were bred by Mr. Cary, and from the Parson's queen spoken of, the queen bought and paid for by Mr. Parsons, and out of his own private purse. These persons, each and all, were among the first, if not the first who were supplied from Parsons' importation that season. One queen I know was received by me from Mr. Parsons about the middle of June, and another in July, 1860. They both came to my apiary, which, at that time, was in Niagara County, New York. On the 25th of October, of that year, I report-

ed to Mr. Parsons that I had 11 colonies of pure Italians at that date, but at the present time, I don't believe they were exactly pure. I think now they must have been hybrids, at least some of them. I reported also that I had at that date, two colonies containing two of the queens he sent me, that had no native bees in them. I also reported some other facts that I still think were about correct.

But Mr. Langstroth reported as follows: "If we may judge from the working of my colonies, the Italians will fully sustain their European reputation. They have gathered more than twice as much honey as the swarms of common bees. This honey has been chiefly gathered within the last few weeks, during which time the swarms of common bees have increased but very little in weight. The season here has been eminently unfavorable for the new swarms—one of the worst I ever new—and the prospect now is that I shall have to feed all of them except the Italians." Mr. Langstroth's report is a verbatim copy of what was printed in Mr. Parsons' circular, dated Jan. 1, 1861, and to which he directs attention in the *A. B. J.* advertisement to which Mr. Robinson refers. The date of Mr. L's report, and the number of Italian colonies he had are not given. But the question directed to T. G. Newman and others has now been met and I trust will prove satisfactory. Mr. R. must now see that he was in error in the supposition that Mr. Langstroth was testifying to what Mr. Parsons' bees were doing in New York while he was residing at home in Ohio.

6. Mr. Langstroth states in his work on bees, page 325, 3d edition, that Wagner and Colvin were the first who landed living Italian bees in America. Now, how can that be when Mr. Mahan brought over a few colonies of Italian bees at the same time and by the same steamer?

My answer is because there was a certain person on board that steamer just smart enough to get on shore with the Wagner and Colvin bees before Mr. Mahan did with his.

7. Mr. Parsons says in his official report, which appears in the annual report of the Patent office for 1859, that he bought ten colonies of Italian bees for the U. S. and ten for himself.

Now Mr Parsons does not say one word in said report about buying ten hives of Italian bees for himself. This being the case Mr. R. must be writing "history" at random, or from an unreliable memory.

8. Mr. Riley, in his Essay read at Washington, in 1892, at the N. A. Convention, did not mention the fact that it cost the U. S. some $1800 to defray the expenses of the Government—Parsons importation of the Italian bees; but the records are in the archives of the Department or should be there.

Perhaps the chief reason why Dr. Riley made no such statement is because it is not true that it cost the U. S. the sum of $1800, as stated, nor even *one-tenth* of that sum; Nor is it true that the records of the Department show or ever did show what Mr. R. alleges.

9. Mr. Mahan lost heavily by reason of owning a joint interest with Mr. Langstroth in his patent hive.

This statement seems to be "history" foreign to the Italian bee topic, and for that reason I have left it for my closing examination. The purpose must be intended as a special reflection upon Mr. Langstroth. In what way Mr. Mahan lost heavily needs an explanation. That Mahan and Langstroth had, many years ago, certain business relations with each other I do not deny, but that Mr. L. did Mr. M. any intentional wrong, financially or otherwise is contrary to my understanding of the matter.

On the other hand, possibly Mr. Robinson may not be aware that Mr. Langstroth met, many years ago, with a serious financial loss by reason of a certain business transaction with Mr. Mahan, and that this perhaps is the chief reason why Mr. L. has been in the past, and is today, more or less financially embarrassed.

To conclude: By this time, if not before, I presume Mr. Robinson has

made the discovery that more or less of his alleged "concise history" in regard to Italian bees, and other topics, has at last been *discredited*, and that, in order to sustain it, something, aside from bare assertions, will now be necessary. And the chief reason why the writer has done this is because he happens to know what the facts are, and because neither Mr. Parsons nor Mr Langstroth are at present in position to defend themselves against the several attacks that have been made upon their good name and reputation. Whether these attacks have been made through erroneous information or for a malicious purpose I will leave for Mr. R. to explain.

The explanation given for my interest in this matter must now suffice whether it be satisfactory or otherwise to Mr. Robinson.

St. Charles, Illinois.

Bee Notes From a Bee Country.

BY MRS. FANNIE B. DE WITT.

My bees carried in the first pollen on March 17th, and on the 18th they were carrying it in at a lively rate. The alders and the soft maple are just beginning to bloom.

Our bees are breeding up nicely and I think will be ready for the honey harvest when it arrives.

The weather here has been very warm and mild all through March without any show up to this time, March, 19th.

Will bees really build up faster with daily feeding in spring than without it, providing abundant stores are in the hive? Is often asked. No, they will not build up faster. If bees have plenty of honey in the hives, do not disturb them in any way. Let them severely alone and tuck them up warm, and my word for it they will build up much faster than those that are tinkered with, feeding sugar or honey. I have tried it both ways and I write from experience.

I see that a great many bee-keepers are down on the golden or 5-banded bees. Now, I have had them side by side with the three-banded Italians and the grey Carniolans and they are just as good in every respect as the others; they have wintered well for me so far, and are breeding up nicely now. They don't cap their honey quite so nice and white as the Carniolans, or 3-banded Italians, but I think they will make just as much of it as the other races do.

If you want to requeen your apiary the best way to do it is to save the cells from all the choicest colonies, and introduce the cells by the queen cell protectors. This plan I practice altogether, and I always succeed grandly.

WHICH WAY SHOULD HIVES FACE?

It is the practice and custom of most all bee-keepers to have their hives all face the south. This way of facing them is much better than by placing them so they will face the East, North or West. I find that by placing them so they face either South or South-east the bees will work earlier of a morning and make more honey than those that face north, as it takes the sun longer to warm them up when they face any other direction than South or South-east. Try it and report results.

SELF HIVERS.

I guess that the self hiver has about seen its day, or at least I don't see very much concerning them in the Bee Journals of late. Well! I think

they are not of much force any way. Give me the drone trap in preference to the self hiver, as they work better here for me in the Sunny Side apiary, than do the self hivers.

Friends: do you know that queens reared here in the North in this cold climate and wintered on the summer stands are more hardy, industrious, and more prolific than those queens reared in the Sunny South and then shipped to this cold climate? They are for me.

Sunny Side, Md.

The San Gabriel River.—Moving to the Willows.

BY C. W. DAYTON

After wandering about for sixty to eighty miles in the San Bernernadino range of mountains and being joined by smaller streams, the San Gabriel plunges out of its canyon and takes its course across a gradually sloping plain to the sea forty miles distance.

The land in close proximity to the mountains is composed of large and small boulders mixed with gravel. These boulders, which are rounded and smooth, were once roughly broken rocks which became detached from the sides of the canyon and were worn smooth by grinding against one another as they were hurried down the rock-bound stream.

In some instances when the water and stones fall from a precipice or jump from some high ledge, I have seen round holes worn into the solid rock where they strike at the bottom fifteen or twenty feet deep and ten to fifteen feet in diameter. These cavities filled with pure crystal water form the homes of the mountain trout, and are wonderfully interesting. That part of the rocks which wears off becomes a sand and is carried further away to the sea.

The river flows through an extensive bed of sand for about twenty miles. Underlying the sand and the stony land by the mountains, and perhaps extending under the mountains there is a broad level apron of hard-pan. Against the mountains the rock and gravel have accumulated to the depth of two or three hundred feet; while the sides and bottom of the canyon are unbroken rock.

The San Gabriel is a rushing and roaring torrent even in times of low water. Usually the descent is rapid, but there are accasional stretches where the force of water is less and there are deep accumulations of rocks and gravel into which the water entirely looses itself to reappear again further down the canyon. Thus it is after this river emerges from its mountain crevice, it is lost in these accumulated rocks and gravel lying outside, and filters itself away down to the hard-pan, and on this creeps out toward the sea.

The great amount of rock and gravel and porosity of the material, causes the river to move under ground for ten miles or more leaving a dry cacti field above it. The sand being less porous and less in quantity, the water reappears and flows in a visible stream. The country through which it flows is very flat, and the sand is constantly filled with water. In the dry season the stream is small with low banks. When the rain comes the volume of water increases perhaps a hundred-fold, and in consequence it

overflows its banks and spreads over the adjoining country, carrying sand and debris over the tilled and pasture lands, reaching the sea by two or three channels often several miles apart.

From December to April, the rainy season, this land is very damp and especially suited for the growth of willows so that there are lines of willows around every farm and field, and a wide solid belt on both sides of the channels. The whole breadth of country would soon grow up to a dense willow forest were it not for the plow and axe.

Nearly all locations in Southern California are very unsuited for the production of apples because it is so dry that they become a juiceless and leathery growth. In these damp lands more apples than all other fruits are raised.

In such a location I have moved 160 colonies of bees. The willows have been blooming now for about ten days, and I have seen the bees as busy on them as on basswood, clover or sage. Apple bloom is the best honey yielder of any of the fruits. It blooms about the 15th of March. I expect willows will last until apple bloom.

I left twenty to forty pounds of mountain honey in the brood-nests for winter and since the bees are making new honey, I am extracting the old honey as fast as possible. What the outcome will be I will be able to say later. The bees are in reach of a good quantity of oranges also.

Downey, Cal., Jan. 10, 1894.

CARE OF BEES IN SPRING.

Mr. Editor:—With your consent I will make a few timely remarks on the above to the readers of THE AMERICAN BEE-KEEPER. These remarks are intended for the beginner, those that need more instruction through the Bee-Journals, and who are usually overlooked. I don't expect the more advanced bee keepers to gain anything by this, but the beginner should be allowed a portion of a bee-journal. Many beginners have read about being ready for the honey harvest when it comes, they will fold their sections, fasten in their starters, have hives all ready etc., which is all very good, and should be done, but the principal thing "the bees" get no attention. In preparing bees for winter they should be supplied with plenty of honey, and be well packed for the cold winter, when if kept perfectly dry they will usually come out all right. Yet there are exceptions to this. We all know that two colonies placed side by side, as near alike in the fall of the year as they could be made, yet in the early spring will show a marked difference, one being as strong as ever, with plenty of honey, the other being weak and out of honey. This shows that if we do not want to lose any of our bees they will need looking after before spring and honey has really come. We usually have a few nice warm days in February and March when bees on their summer

stands can be examined without injury; this I always do. By this time you will be able to tell if they have sufficient honey. My way of doing this is to open each hive. If the first hive is good and dry with enough honey, it is marked No. 1. If the second hive lacks anything or is not in first class condition it is marked No. 2. Suppose the next hive is short of stores or otherwise need early attention it is marked No. 3, and so on with the balance. After this it will not be necessary to go through every hive to be sure all is good but only to hives marked 2 and 3 until spring has come to stay, which will greatly lessen work etc. 2 and 3 should have proper attention, put in a division board if they have gotten weak, supply them with honey, not only have honey enough in the hive, but have it where they will be sure to get at it. We may yet have some very cold weather, where bees will starve with plenty of honey in the hives, but where they cannot get at it. Also keep them perfectly dry. To manage this raise each hive about two inches at the back to give the top pitch to hurry water off, also place some board or boards on the cover, placing an inch stick between them and the covers which will again increase the pitch and make practically a double cover. Even when covers are perfect and well painted I always have some boards on top in winter to keep hives and bees perfectly dry and in summer to keep the hot sun off, This should however all be done in the fall before they have had a chance to get wet or damp. This should suffice until spring, or warm weather, when all hives should be cleaned, frames spaced perfectly, and hives all leveled, at the same time increasing or diminishing the size of the brood-chamber, according to the size of the colony of bees that occupy them. Don't crowd the queen ; give her plenty of room, but remember that the hive may be too large for the size of the cluster of bees, this to my idea is worse than not room enough for if you want brood-rearing to go on rapidly you should help the bees to keep up the required amount of heat, which is greatly needed at this season of the year, and cannot be had or produced by a small cluster of bees in a large hive. They should also be perfectly packed above. For this I prefer a piece of muslin, with a super on top, well filled with dry maple leaves, or any kind of leaves that are soft and not too large.

(*Ill.*) Yours, &c., CHAS. THIES.

EDITOR AMERICAN BEE-KEEPER.

Dear Sir :—You ask for articles from your readers for publication, so I will give you the following short one.

It is often asked, "does bee-keeping pay?" To answer this question I would say it is like all other occupations, or nearly so. For instance, take farming and say, "does farming pay?" Farming pays when there is a progressive farmer that understands how to turn things to the best advantage, but if one don't understand how to farm properly let him get some farm journals and get an understanding how to farm. The next thing is to go at it and do it as he has learned. In a like manner is bee-keeping. First get some good bee book, paper or journal. Read them until you understand something about the character

of bees. Read them until you know what a worker bee, drone or queen is, and how they have to be managed, and if you understand the management of them, although a beginner, you will have some prospects of success.

The beginner should start with a few colonies so as to learn to manage them properly. A few years ago I commenced in this way. In the spring of 1893 I had 20 colonies and run them for comb honey. My honey crop of pound sections was a little over 1000 pounds and brought me a little over $150.00, but this is by no means a very good locality for honey. The value of the honey is not all to be considered for the increase of the 20 stands for last summer was 27 natural swarms, thus increasing my apiary from 20 to 47 stands, and the hives were all full of honey and bees in the fall, with the exception of one colony that lost its queen and was neglected until rather late before I furnished it with a new queen. I valued the 26 swarms at $8.00 each, leaving out the one that lost its queen.

My bees are all in double wall chaff hives, and I am wintering them on their summer stands. At this writing they are all alive and in splendid condition. 26 stands at $8.00 each amounts to $208.00. Adding the amount of comb honey, $150.00, makes a total of $358.00. The material for 26 hives cost $26.00, thus leaving $322.00 profit.

I make my own hives so do not think they cost any more than $1.00 each, not counting my work, so you see from the above that the proceeds really amount to $332.00 for say four months' work. That is about as good as I can do at any other kind of work. I am a man 63 years of age.

I learned by experience that enamelled sheets are not good to put under chaff cushions to cover bees in winter. I spread a piece of burlap over the top of the frames on part of my stands and enamelled sheets on top of the burlaps. The balance of my stands I left the enamelled sheet off. In December I examined my bees and the hives having the enamelled sheets had the burlaps wet and frozen, while those without enamelled sheets were perfectly dry. Enamelled cloth does not absorb moisture and gathers big drops of water, and when it turns cold it freezes. Next it turns warm again and it thaws and drops down on the poor little bees.

Success in wintering bees on their summer stands depends a great deal on keeping them dry and sufficiently warm. Bees will stand a great deal more cold if they are kept dry.

Yours truly,

JOHN SLAUBAUGH.

Eglon, W. Va., Jan. 26, 1894.

THE W. T. FALCONER M'F'G CO.,—Gentlemen: I received the goods you shipped and they are all I could expect. I like your No. 1 sections very well, everything is in good shape, I especially like the way you pack your sections. Bees are wintering well in this locality. Yours Respectfully,

P. C. HARRED,

Crossingville, Pa.

THE W. T. FALCONER M'F'G CO,—Dear Sirs: I received the goods you shipped me on the 16th, all O. K. Everything in *first-class* shape. The goods I received of you last Fall, I have got all nailed up. Everything fits to *perfection*. Your sections are the *best* I ever saw. You will have my future orders. Yours truly,

W. B. SKUSE,

Geneva, N. Y.

POULTRY, IN CONNECTION WITH BEE KEEPING.

These two branches of rural economy are well adapted to each other and prove to all who combine them, a reliable source of pleasure and profit. Bee-culture is a business that requires the most attention during the spring and summer months, and then only from about 8 A. M. to 4 P. M., while attention to our feathered friends includes the whole year, but principally, in the morning and evening, so the two industries do not conflict with each other in respect to time.

During fall and winter, when our bees are at rest enjoying their summer gathered sweets, our poultry demands good quarters and kind attention, so as to secure fresh eggs, which rate high in the market reports at this time of the year. Plenty of fresh eggs in the winter means money to the producer, for no other live stock pays so well for the amount of money invested, as poultry, if properly managed, and for the amount of food consumed, the profit from eggs and meat far outstrips any of our other domestic animals, and what is often of greater importance, much quicker returns. To every one keeping bees I would recommend a flock of poultry, not only as a source of profit, but also of pleasure, for a combination of both pursuits admits a change of thought as well as physical exercise.

The work among my poultry is mostly done during the summer months in the morning and evening, when too early or too late to work among the bees, and to have fowls roam among the hives on the green sward is a beautiful sight, and not only beautiful but useful. Useful in the destruction of the wax-moth and other insects annoying to the bees. The old maxim has it that "the *early* bird catches the worm." Domestic fowls are *early*, and I always arrange to have several broods of my games feed about the apiary and thus coop them in different parts of my apiary.

In the early morn, they can be seen running about the hives picking up up the worms thrown out by the bees during the night or such as may be seeking a place to hide and spin their cocoon, and many a miller is taken "on the wing" for my games are very active and prove a sure shot every time.

The wax-moth does not appear here until about May, and by that time we always have plenty of young games to take charge of them. In this way, the bees are kept comparatively free from these disgusting insects and their larvæ.—Ex.

COMB FOUNDATION—WHEN USE, WHERE NOT USE.

When and where comb foundation could be used at a profit, has been a subject on which I have spent much thought and conducted many experiments. At times bees will apparently fill a hive with comb without using a pound of honey. At other times, it would almost seem that the old estimate of "twenty pounds of honey for one pound of comb" was none too much. To illustrate: One year when I was studying on this subject, swarms came out when there was to

all appearances only honey being gathered for the colonies which did not swarm to live from day to day; yet these swarms, which were hived in empty hives, except a starter one-half inch deep in each frame, filled their hives with comb and brood in from fourteen to twenty days and were prepared for the honey harvest when it arrived, fully as well as were the colonies which did not cast swarms. The really wonderful part of it was, that colonies which did not swarm, and the colonies which cast swarms, did not have two pounds of honey in their hives at time of swarming, and at the end of the twenty days there was no more honey in these old colonies than there was at time of swarming, while the new swarms had filled their hives with combs and brood, and had nearly if not quite as much honey at the end of the twenty days as did these old colonies. At this time pollen was very abundant, and was gathered apparently to the detriment of the old colonies, for the brood was actually crowded out by it, while, although the new swarms seemed to gather as much as the old, yet it was all consumed from some cause, so that instead of combs of pollen, as in the one case, I had frames of new white comb filled with brood, with scarcely pollen enough in the combs to last the brood twenty-four hours, when a rainy day occurred.

At another time swarms thus hived did not build combs at all, comparatively speaking, as, after being hived a week, they did not have comb equal in size to a man's hand, and not a cell of honey in sight, while swarms given empty combs would fill them with brood, although little if any honey was stored. In this latter case pollen was not plentiful. From the above I conclude that there are times when pollen can be converted into wax, and used largely for comb building and and brood rearing, but it needs close observation on the part of the apiarist to know when this can be depended upon. When it can, such combs cost nothing and foundation is lost. As friend Hutchinson has said to his leader, I use small colonies largely for comb building, and hive many of my swarms on empty combs, which have been previously built by these colonies, for these small colonies or nuclei will build comb to the best advantage, while they can do nothing else as well.

While my combs are generally built by nuclei, yet I have had hundreds of combs built on the plan given in "The Production of Comb Honey," and where I use full sheets of foundation in the sections, or sections of empty comb left over from the season previous, I always believe it the most profitable to use only starters in the sections. In cases like the experiments given in the first of this article, the sections were not put on the hives at all, for sections are of no use on a hive except at times when the bees are getting more honey that they consume, while it is often a disadvantage to have them on in times of scarcity, for the bees will often gnaw the foundations starters down and cover the nice white sections with propolis. When honey is coming in plentifully the sections should always be on the hive, and the matter of whether they should be filled with foundation or not depends on whether we use foundation or empty combs below. If we

use foundation in both the sections and the brood frames during a good flow of honey, we may be assured that we are doing so at the entire loss of it in one or the other place, for the bees always secrete wax enough at such times to furnish combs for either the one or the other, and if not used must be surely wasted ; the wasting of this wax meaning the same as the wasting of the same amount of foundation and the time and trouble of putting it in the frames or sections. Does any one doubt this ? Let him look at the bees during such times of plenty, and he or she will doubt no longer. The wax pockets have each a wax scale in them which is plainly seen as the bees hang on the limb of a tree or on our swarming basket.

In the past it has been my practice often to hold swarms out on limbs of trees from one to four hours, according to different experiments I wished to make, they being thus held by placing the queen in a cage with them. They could not go off as long as the queen was caged, for should they try to do so they would return as soon as they found the queen was not with them. In all of these cases of holding swarms, when honey was coming in from the fields, there would be little lumps of wax all along on the under side of the limb or swarming basket, and where the swarm was held as long as four hours, these lumps of wax would begin to assume the form of comb. If I hived such swarms in a hive having both the hives and sections filled with comb, I would find the bottom board to the hive well covered with wax scales the next morning, while the combs which I had given would be all plastered over with wax scales, partly or wholly welded on here and there promiscuously on the outer edges of the cells. On an old black comb this is very noticable, but with new white combs it is not so plainly seen. Even bees in the field after honey, have wax scales on them in times of plenty, as Prof. Cook tells us about, and it seems folly to me to use foundation in all parts of the hive when the bees are all prepared to build comb in this way. It is even worse than folly, for the bees are not often content to allow this wax to be wasted by tumbling it to the bottom of the hive, and so they use it on the combs and foundation, making them twice as thick and heavy as they should be to be relished by the consumer of honey ; hence the term "fish bone" was given to the foundation in honey in former years.

Understand me: I do not say that all foundation was formerly made as thin as it should be, but I do say, that the allowing of no space in which the bees could build comb had considerable to do with this state of affairs. Instead of the bees drawing out the foundation as it is expected they would, they simply added their wax to it by welding it to the side walls of the foundation, using their own wax for the cells from there out, entirely, so that after a section was completed this wax could be scraped off, when we had the foundation as perfect as it was when first placed in the sections. I became so disgusted with this matter when I first used foundation that I declared that I would never use any more ; but after finding the way of using empty brood frames when the sections are filled with foundation, I have taken back what I have said.

I once took a piece of foundation out of a filled section of honey, scraped the honey off, washed and dried it, sent it to the maker, together with an unused piece and asked him which had been used and which had not. He sent them back saying "I cannot tell." From the above I now hive colonies or swarms on frames having only starters in them, where I fill the sections with foundation, and use only starters in the sections where I use frames of comb or foundation in the brood-chamber.—*Doolittle in Review.*

Borodino, N. Y.

The American Bee-Keeper,

PUBLISHED MONTHLY BY
THE W. T. FALCONER MANFG CO.

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☞Subscribers finding this paragraph marked with a blue cross will know that their subscription expires with this number. We hope that you will not delay in sending a renewal.

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EDITORIAL.

We have been so extremely busy the last few days that it has been impossible to devote any time whatever to our editorial work, besides our printers tell us that we have so filled up the space with other matter that there is no room for editorial. Well, next month we will try to do better although probably the most of our subscribers are just as well satisfied to have us say little and thereby give them the benefit of the writings of our contributors. We are not much given to gossip anyway. Some editors make their editorial columns each month so full of personal gossip that they remind us of a session of some sewing society.

We have seen in some of the bee papers, notices of a "new process" comb foundation. We have also seen samples of it. It is made by a party in Cincinnati (or Ludlow, Ky., which is near Cin.) The manufacturer negotiated with us all last summer and until quite recently, endeavoring to get us to take hold of his ideas. The wax is sheeted without heating by his method, but there are really no superior merits in the foundation produced as far as we could ascertain or in the methods of making it.

James Heddon will issue in a few days (if it has not already appeared) the first number of a new bee magazine, the *Bee-Keepers Quarterly*. Mr Heddon is a bee-keeper and writer of vast experience and an old hand at "running a paper" so we will not be surprised if he produces a magazine worthy of high rank in bee literature.

Premiums for new subscribers. Every new subscriber sending 50 cents for the BEE-KEEPER one year and ten cents extra will receive as premium a package of *choice flower seeds* valued at 90 cents—or for 25 cents extra a collection of flower and vegetable seeds and bulbs, worth at retail over $1.50. This is the best offer ever made by anyone.

Wm. M. Gerrish, East Nottingham, N. H., will keep in stock a supply of our goods this season. Our customers in his part of the country will find it convenient to get their supplies of him.

The delightful spring weather which we enjoyed during early March, suddenly caught a severe cold and instead of an *early* spring as everyone predicted, it now looks as if summer is quite a ways off yet.

Special attention of our readers is called to the list of No. 1 and cull sections, frames, etc., printed in another column. They are well worth the prices asked.

LITERARY ITEMS.

The complete novel in the April number of LIPPINCOTT'S is "The Flying Halcyon," by Colonel Richard Henry Savage, author of "My Official Wife." It deals with treasure-hunting and the rescue of a political prisoner in Sonora, and has three dashing naval heroes, with heorines to match.

Gilbert Parker's serial, "The Trespasser," reaches its twelth chapter. Other stories are "Cap'n Patti." by Ella W. Peattie, who touches upon the Salvation Army, and "For Remembrance." by Elizabeth W. Bellamy.

P. F. de Gournay supplies an interesting account of the "F. M. C.'s of Louisana," a class which lost its distinctive existence by the war. Under the heading "The Librarian among his books," Julian Hawthorne describes the Library of Congress and its distinguished custodian.

Chief-Justice Abraham Fornander tells about "Hawaiian Traditions." H. C. Walsh explains an interesting experiment in "Co-operative House-keeping," now being made at Brookline, Mass., and George J. Varney writes learnedly of "Storage-Battery Cars." In "Heroines of the Human Comedy," Junius Henri Brown contributes a study of Balzac add his feminine characters.

The poetry of the number, besides a thoughtful and beautiful Easter hymn by M. S. Paden, comes from Celia A. Hayward and Charles Calvin Ziegler.

THE HOBBY CLUB.

Of the forming of clubs there is no end. The latest is a "hobby club," composed of twelve original spirits, each with a hobby, which can be aired at one of the weekly meetings, provided the posessor is willing to submit to the criticism and bandiage of the other members. By the rules, every member is bound to be prepared when his or her turn comes, which is decided by vote. Twenty minutes are allowed for the presentation of the hobby, thirty minutes for general discussion, and fifteen minutes afterward to the owner, to answer objections and ridicule.—*From "Chat," in Demorest's Magazine for April.*

The March number of GODEY'S MAGAZINE came filled from cover to cover with brilliant articles and excellent illustrations. The most important feature, and one which will interest all students of history, is the first of a series of hitherto unpublished papers, on "William H. Seward," edited by his son, Frederick W. Seward. The March paper treats upon "Seward and Napoleon III." There are also the closing chapters of Margaret Lee's powerful novel, "This Man and This Woman;" an excellent short story. "A New Thing Under the Sun," by Julia Magruder; "Richard Eversleigh's Viola," an hypnotic story, by Stinson Jarvis, and there are four illustrated articles, on the "Old Drury Lane Theatre, London;" "About Albani" a Neapolitan sketch; and and in the boy's department, "The Right Way to Row," by Ralph D Paine, of Yale; an unpublished letter of Daniel Webster mirrors the times in which it was written, Albert Hardy contributes an Easter poem, charmingly illustrated by Sidney Moran, and Frank Dempster Sherman, Dora Reed Goodale, Annie Robeson Brown and Mary Cornelia Francis also have bits of verse. Godey's fashions and the other departments are all good.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, Mo., March 23, 1894.—Fair demand for honey. Good Supply. Price of 1 lb. white comb, 12c. 2 lb. 20c. Amber 8 to 10c. Extracted; White 6¼ to 7c. Dark 5 to 6c per lb. Price of beeswax is 20 to 22c per lb.

HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY, Mo. March, 24, 1894.—Light demand for honey. Good supply. Price of comb, 10@14c. Extracted 5@7c. Good demand for beeswax. Light Supply. Prices 20@22c. We have not experienced for several years so slow a sale on honey as we have had this year.

CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, O., March 23, 1894.—Slow Demand for honey. Bountiful Supply. Price of comb 12@15c; extracted. 4@8c, Good demand for beeswax. Supply scant. Prices 23@25c. for good to choice yellow.

CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

BOSTON, MASS., March 23, 1894.—Light demand for honey. Fair supply. Prices of comb 12@14c. Extracted 5@7c. Fair demand for beeswax with a fair supply. Price 25c per lb.

E. E. BLAKE & CO.,
57 Chatham St.

ALBANY, N. Y., March 23, 1894.—Very good demand for honey. Ample supply. Price of comb, 10 to 12c. Extracted 5@7c. Good demand for beeswax. Light supply. Prices 26 and 28c. Had a good trade on honey Easter week.

CHAS. MCCULLOUGH & CO.

ALBANY, N. Y., March 22, 1894.—The demand for honey is very light now with a good supply. Also a good demand for beeswax with a moderate supply. Prices 27@29c

H. R. WRIGHT, 326 and 328 Broadway.

ST. LOUIS, Mo., March 24, 1894.—A light demand for honey Large Supply. Price of comb 10 to 13c. Extracted 3½@4c. Excellent demand for beeswax. Light supply. Price 27c for prime yellow.

THE D. G. TUTT GRO. CO.

A New Departure

THE BEE-KEEPERS' QUARTERLY will be issued April 1st, 1894, and be largely devoted to Editorial Review of Agricultural Literature. It will contain not only all PRACTICAL METHODS of management and devices found in Bee-Journals, but many points not found elsewhere. AN EARNEST EFFORT will be made to eliminate the impractical theories and claims so often met with in Bee Literature, giving only PRACTICAL INFORMATION, which may invariably be relied upon. There are some Bee-Keepers who are making a financial SUCCESS, even in these hard times, and to show you how they do it will be the QUARTERLY'S mission. PRICE 25 cents per year. Send Address for free sample copy to

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MRS. OLIVER COLE sells a PORTICO HIVE containing one 2-frame nuclei with PURE ITALIAN QUEEN, YELLOW, BEAUTIFUL, PROLIFIC, in June for $2.75 each 2 for $5.00.

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Carniolan Queens during '94, untested 50c. each or $5.00 per Doz. Tested $1.00 each or $10.00 per Doz. Circulars free. Address.

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4-6

Sections Cheap.

We have the following lots of sections, etc., planed one side, which we offer very much below their actual cost.

18 M sections	$4\frac{1}{4}$x$4\frac{1}{4}$x$1\frac{7}{8}$	1 piece cream	$1 per M.
5 "	$4\frac{1}{4}$x$4\frac{1}{4}$x1 15-16	1 piece cream	$1 "
$1\frac{1}{2}$ "	$4\frac{1}{4}$x$4\frac{1}{4}$x$1\frac{7}{8}$	1 piece No 1 C.T.	$2 "
$1\frac{1}{2}$ "	$4\frac{1}{4}$x$4\frac{1}{4}$x1 15-16	1 piece "	$2 "
3 "	$4\frac{1}{4}$x$4\frac{1}{4}$x$1\frac{3}{4}$	1 piece No. 1 no inset.	$2 "
53 "	$4\frac{1}{4}$x$4\frac{1}{4}$x1 15-16	1 piece No. 1	$2 "
30 "	$4\frac{1}{4}$x$4\frac{1}{4}$x1 15-16	1 piece culls	50c "

(These culls are much better than customers will expect for the price, and are well worth the amount asked.)

3 M sections	$4\frac{1}{4}$x$4\frac{1}{4}$x$1\frac{5}{8}$	1 piece No 1		$1.00	per M
3 "	$4\frac{1}{2}$x$4\frac{1}{2}$x$1\frac{7}{8}$	1	"	1.00	"
2 "	$4\frac{1}{2}$x$4\frac{1}{2}$x$1\frac{3}{4}$	1	"	1.00	"
2 "	6x6x$1\frac{7}{8}$	1	"	2.50	"
7 "	5x5x1 15-16	1	"	2.50	"
8 "	5x5x$1\frac{7}{8}$	1	"	2.00	"
6 "	$5\frac{1}{4}$x$5\frac{1}{4}$x$1\frac{7}{8}$	1	"	2.00	"

600 all wood Sections. Brood Frames put up, $1.00 per 100.

100 metal corner, brood frames put up, $1.00 per 100.

425 metal corner, brood frames put up and wired, $2.00 per 100.

320 all wood brood frames put up and wired, $1.50 per 100.

Wood separators, planed both sides, $17\frac{3}{4}$x$3\frac{1}{2}$x$\frac{3}{32}$ at $5 per M.

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Ground Cork is an excellent article for packing hives, being light and dry. We will furnish it 8c. per lb., or $4.00 per 100 pounds. A bushel weighs only about 8 lbs.

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THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W. T. FALCONER MANFG CO.

VOL. IV. MAY, 1894. NO. 5.

Prevention of Increase.

BY J. H. ANDRE.

Although my experience in bee-keeping has been with considerably less swarms than the average, I often found myself with too many in the fall notwith-standing the great care I had practiced to prevent it. Since going out of the business two years ago I have been thinking of a hive for new swarms which would run the strength of the swarm to surplus and admit of uniting with others in the fall and still prevent increase to any extent. The hive should be made the width of two frame spaces larger one way than the other. Probably three inches longer than square. Fill the center of the hive with an inverted box with the exception of a space wide enough for a brood frame on each side. Put in two frames the short way of the hive. This will shorten the space on the long side to admit of the same length of frame. Put on a queen excluder and as many sections as desirable, probably three tiers. In the fall there will be but few bees left which may be united with another colony and the brood frames used to replace old ones in the colonies intended for wintering. Or if desired, three summer colonies could be united for wintering. A wide Langstroth hive with the frames the short way is nearly the size needed. The entrance to the summer colonies could be left open on all sides. My reason for thinking this plan an improvement on contracting at the outside, is, the bees will be more inclined to enter the surplus at the outside and finish the sections better than if the strength of the colony was confined to the center of the hive.

Lockwood, N. Y.

Mortality of Bees.

BY ANDREW M. THOMPSON.

I have noticed for two winters a great difference in the mortality of bees. The swarms in the fall, when put up for winter being of equal strength. One that I noticed in particular last winter commenced to die off more seemingly than any of the ten or twelve others in my bee house. I would go down as often as every other night to poke the dead bees from the entrance of this one. And would find nearly one-half pint of dead bees, every time I went among them. They commenced dying about Feb. 1st and continued dying in this

way until about the latter part of March. And I thought that I would surely loose them all in this hive long before spring opened. But when I set my bees out on their summer stands the 8th of April, this swarm seemed to be healthy and in good condition as any of the bees in my apiary. They were chock-full of brood. And filled 24 one pound sections the quickest of any in the apiary. The others did not die seemingly one-tenth part as much as this one swarm, but came through the winter in good shape. I think the reason of their dying so much and coming through the winter so strong was that they must have commenced breeding about the time they commenced dying off. The same swarm this winter is dying more than any one of the 89 I have in my bee house The queens in this swarm will be two years old next swarming time. The winter so far has been mild here in old Allegany county, and my bees are wintering well. As I go down into my bee department and glance my eye over the tops of the frames in the hives that I left the honey boards off when I put them in, the bees lay over the top bars of the frames as though there were more bees now than when put in for winter. I put my bees up for winter the 25th of November, and the mercury in the bee house stood at 44° through December, and raised to 46,° and up to 48° through January. The mercury now Feb. 10, stands at 50° or a little above. But the bees seem more uneasy and restless than when down to 46° so every night I raise a trap door in the ceiling overhead and let the cool air pass down through the night, closing it again in the morning, I think the reason for the temperature rising was that the bees quit breeding earlier than usual through our section last fall, on account of the dry weather, there being no fall flow of honey, so the bees have commenced breeding up enrlier than common this winter. My brother has his bees in the cellar and last fall he put in a small Nuclei hive. The other day he thought he would look at them, when he lifted out one frame and found a patch of brood as large as his hand. And in one of his average swarms he found a frame nearly full of hatching brood and larvae.

The honey crop in this part of the country was poor, getting only the first flow which was of the finest quality, being all or nearly all made from white and alsike clover.

Canaserago, N. Y.

Spring Items.

BY W. M. BARNUM.

It always is a matter of surprise to the uninitiated, that the bee-keeper can work among his bees with safety. Neither gloves nor vail are tolerated by the old veteran who has learned from experience that they are unnecessary, and a positive detriment to the manipulation of the bees and hive. By this I do not mean to infer hurried movements, but *steady, careful* work; bees dislike either prolonged "fussing," or rapid jarring movements—they are apt to resent any thing of this kind in a most vigorous manner.

It is entirely proper, and perhaps advisable for the *beginner* in bee-keeping to wear both vail and gloves, but as soon as the "ways" of the bees are

understood, both should be discarded. The hands may be easily guarded by *slowly* removing them when the angry bee sounds its note of warning; the face and eyes may be protected by wearing a straw or other broad-brimmed variety of hat, and lowering the rim upon the dart of the bee. This will throw the bee "off the scent" in nine cases out of ten. The bee will never dart *under* a protection, but flies straight and generally at the eye. This characteristic when properly understood, is a reasonably safe protection, and tends to a better "understanding" between the bees and keeper.

From now on every encouragement to brood-rearing should be given the bees. On the first suitable day, open hive and clean out all dead bees, arrange frames to best advantage, and if necessary feed them, to induce more rapid brood-rearing. The more brood that can be brought out during this month, the better. If pollen is not plenty, or is tardy in growth, place a dish of rye flour in a warm spot of the apiary; and a trough or dish of water would also be of advantage, either floats or a piece of cloth should be laid in or over the water.

If there should be snow in or about the apiary, it is well to scatter an armful or two of hay or straw about, as many of the bees become blinded by the snow glare, and fail to ever reach "home sweet home."

If bees in the cellar have not been placed on summer stands, they should be at once. Too long confinement is fatal; give them their liberty at once. Never open a hive on a chilly or windy day. After getting them in shape leave them alone, until warm weather is once more with us. Too much "care" is worse than none at all.

Bees generally, have wintered well; now if we can be equally fortunate in "springing" them, why should this not be the "year of jubilee" the bee-keeper has so long been looking for.

Keep your dish right side up, with care.

Denver, Colo.

Bee Notes From a Bee Country.

BY MRS. F. B. DEWITT.

Mr. Charles H. Thies, of Steeleville, Ill., is conducting a department in "Success in Bee Culture," by the name of "Answers to Seasonable Questions," which, by the way friend Thies starts out, will be without doubt a success, it will make quite an interesting department for *Success*.

"Did not Somnambulist rather give away his identity in speaking of his lady assistant in the January Progressive? Who else but Dr. Miller has a lady assistant, and besides who but the doctor could invent such a name?" *Success in Bee Culture.* Yes Dr. you are the one who writes under the name of "Somnambulist." I guess your straw stack is about played out so you will have to hunt up some other name pretty soon.

Bees, as a general thing should not be touched in wet rainy weather. If you have work to do among the bees, leave it until it is not wet or rainy weather. The apiarist should have a house apiary, it is very hot sometimes in the House Apiary with the doors closed. If your bees are outside and you are at work with them, and a

light shower comes up, you can go into the house apiary and work quite comfortably until the shower is over. When we have a whole rainy day it is better not to handle bees at all if it can be avoided.

The best time to take bees out of the cellar is along about the 15th to 20th of April, or after they can begin to gather pollen. The best time in the day to set them out is about one hour before sunset on some warm sunshining day, and they will have a nice fly, and protect themselves the next morning from any robbers that may be around.

If you want to have good success in getting surplus honey, keep your surplus boxes warmly protected when the bees are storing honey. This is one great secret of success in getting box honey.

If your bees get to robbing and you have a colony that wont defend itself just cover the hive up with a large sheet, and then there is no chance of smothering; and, also, the robbers are not confined to the hive.

I am asked the question; 'At what time do queens commence to lay? I have had them laying in from 10 to 12 days from the time the cell was sealed over, or in three days after the queen has hatched, and at another time I reared one that did not lay for nearly a month from the sealing of the cell.

The question is asked; How few bees with a queen, may start a colony? I would not advise you to start with less than ½ pound of bees with a good young queen, an experienced apiarist might start with even less than one-half pound and increase to a strong colony and get some surplus honey from it by fall. I have started with two frames of brood and a young queen in July, and have increased to a strong colony by fall with plenty of bees and honey to winter safely.

Spreading the brood.—I would not advise the beginner to spread combs of brood and place empty ones between before the 1st of June or later, for it will injure any colony to do such work before the date named. I have had brood chilled in this way years ago when I first commenced bee-keeping, this is why I advise you to go slow about sbreading the brood. I used to practice spreading the brood nest, but I have quit it altogether, as there is more loss than gain in spreading the brood nest too early in the spring, let it alone.

If you want a good honey plant try sweet clover. I have tried it the past season and I have counted bees by the dozen on a single stalk. It is one of the greatest honey plants we now have for honey and it comes in bloom right at a time when most needed by the bees. It grows very rank and will also make good hay and good pasture for stock, but don't let it grow too rank and large before you turn stock into it.

A new bee Journal is on my desk it is published by James Heddon, Dowagiac, Mich., and is called the *Bee-Keepers Quarterly*. It is a very bright newsy paper with many good things in it. Mr. Heddon is a practical bee-keeper and I wish him success in his new undertaking.

"I took ten colonies out of the cellar March 17. Weather kept beautiful for a week, but wife would'nt let

me take out more. Said I'd given strict orders not to allow it; 24th, winter came again. Big snow storm, and about 10° above every morning up to date 30th. Glad I had a wife."

The above is a straw from Dr. Miller's straw stack for April 15—*Gleanings.*

Sunny Side, Garrett Co., Md.

Introducing Queens.

BY CHAS. H. THIES.

As the season of the year has again arrived when many thousands of queens will be introduced, I thought it might be of some benefit to some of the beginners, to make a few remarks on this subject. I have good reason to believe that there are yet many queens lost in introducing, in spite of the directions that are usually printed on the cover of each cage. There are certain seasons, and certain colonies, where introducing queens is no severe task, but at other seasons and with other colonies it is more difficult. These seasons and colonies are the ones we will take a look at. If at a season, you want to introduce a queen, and very little or no honey is coming in, it is well to feed a little at the entrance, a few days before and after introducing, but feeding should not be done before about dusk, one-half pint each night will suffice, when your queen arrives take her to a closed window, release all the bees, retain only the queen, replace the wire on cage, when you may take her to the hive, place the cage on the frames wire side down, allowing the bees to liberate her, after which do not open the hive for at least three or four days, after which time she will usually be found laying, but in the first place be sure your hive is certainly queenless. If you have a very valuable queen and want to be more sure in introducing to full colonies, a good method is as follows, which has always been sure with me: Take from some strong colony a frame of hatching brood, one that has been just hatching, and one that also has some honey, on this place the queen, with a wire cage over her about 3 or 4 inches square, with the edges turned over about ⅜ inches, pressed down on the comb and held in place by two wires. First however see that all the bees have been brushed off the comb, and then see that the cage takes in both hatching brood and honey. this frame is to be placed in a queenless colony and in from 24 to 48 hours, you will find eggs in some of the cells, when if the bees have not yet liberated her, you will find it easy to introduce her, by simply opening one cover of the cage a little, replace the frame with cage and allow her to go out at will. After a queen has once commenced laying in a hive, I have never found the bees to molest her, even if the bees are cross and no honey coming in, there are other methods, such as introducing hatching brood, etc., but after trying many different methods, I have found, all things considered, the above to give the best success.

Steeleville, Ill.

We must urge our readers to send in some contributions for publication. They are always needed.

If any of our readers wish to subscribe to any of the standard magazines they should read the terms elsewhere.

EDITOR AMERICAN BEE-KEEPER,

Dear Sir :—Our surplus season is over once more, and although not a big crop it is sufficient to keep the wolf from the door until the flowers open their buds once more and send forth their loads of sweets to quench the ever dry throats of those little things, who are the wonder of all who have time to stop and consider them. From 400 hives with bees in them (that is not 400 full swarms,) we have taken 46 casks of extracted honey, or about 5,500 gallons, and although the price of honey is too low to make us feel at all happy and the past season was a poor one, we wish the world at large to know that we are still on top and hope to stay there, and we claim the largest and finest apiary in the world as far as reports go. In good seasons bees fly from 600 hives, and in the best part af the season (January and February) the hum of our 21 frame steam extractor makes music that is welcome to every bee-keeper's ears, and though the days are short and there is only 8½ or 9 hours in which to work, it throws out with ease 2,300 pounds a day, and in fact we could extract our whole crop in one week if there were hands enough to feed it.

Now that our people have got their thoughts sweetened with pine-apple sufficient to last them a few years the once golden hue of the once enormous price has kept fading until now there is no hue left. It is black and very black at that. No longer do we see them talking in groups or hear the cry, "Plant pine-apples! Plant pine-apples!" No longer do we hear the weary little native at the peep of day swinging his knife with destructive force to help one man's poverty and help another's riches while the ox follows in the distance. Or rather no! The ox is being fatted for beef while the plow leans against some tree and the man is in the creek up to his neck fishing with a net in the vain hopes of getting a haul of fish, for which he will get $1.20 for 25 pounds, 10 pounds being a good day's work for three of them. Thus they make 20c a piece. "There is a limit to everything," so they say, and there is to the pine-apple craze, which started about eight years ago. Last year they got to shipping them at the rate of 2,000,000 barrels in a season of about four months, and what can be done with them all is a question that has been asked time and again but has not been answered.

Unless we are taken with some unexpected sickness or have some misfortune we will have next season 600 swarms ready for the harvest as fast as it flows from the flowers, which never stop blooming in this land of the evergreen. In October the flowers down here begin to open their buds to share the cool refreshing winter air and to mingle their perfume with that of a few other of their companions until away long in the summer. I do not think there is a month in the year when flowers of some kind cannot be found. Our rose bushes are full of bloom the year round and we have to get up on the house to gather the flowers. All of these flowers put more

or less dollars and cents into the bee-keeper's pockets.

The bee-keeping fever has broken out anew again this year, and it is growing fast, and unless it is checked soon I am afraid we will have more orders for queens and swarms than we fill. Cuba, I think, is the best honey country left for the bee man and could produce more honey than the whole United States, if there was good judgment used on all sides. For if our own experience is worth anything, apiaries of 500 colonies can be located only seven miles apart in almost any part of this country, and although ours is the largest apiary in Cuba, we have been told that this is about as poor a site for bees as could be found. When this place was started the country was all grown up to brush and was used for a grazing country.

The outlook for bee-keeping is the best this spring it has been for several years, and unless I am very much mistaken, we will have a good trade this summer in the shape of queens and supplies, for we have a small supply of smokers, brushes, hives, etc. on hand, and shall order more as soon as we see that they will sell.

We are now starting two new apiaries for Cuban gentlemen, but they expect to have Americans manage them next year, for unless there is a man with them who will attend to his business it is almost money thrown away, for the moths are so bad here in the fall that a colony that is strong today may become queenless, and in two weeks time the combs are all destroyed by this pest of all pests in bee-keeping. It is necessary to be continually on the watch from one day's end to to another, but then if you have enough bees and have them in good shape when the season opens, you may hope to get paid for your labor, and will doubtless find that at the end of the season when you sum up the result, that your crop is a round 50,000 pounds or more. It should not be less for the curses of this country will not allow you to stay here and sacrifice every joy that is dear to an American for a bit less. If one is willing to come here and learn to keep bees and settle down to a bachelors life for say five years, he can if he is fortunate, return home with a fair fortune to live beneath the stars and stripes.

Wishing you all the happiness and prosperity you deserve, I remain,

Yours very truly,

M. G. OSBURN.

Punta Brava de Guatra, Cuba, W. I., April 14, 1894.

THE W. T. FALCONER M'F'G CO.,—Gentlemen: I received my sections in good shape. They are the finest I ever had. The No. 2 are also good.

Yours truly,

JOHN BURGER.

Troy Centre, April 20, 1894.

EDITOR AMERICAN BEE-KEEPER, Dear Sir:—I was pleased to receive a copy of your journal. It is certainly a first class bee paper and is full of good thing relating to bee-keeping, and should be in every family where bees are kept, whether they are kept for profit or pleasure.

I send you herewith 50c for one year's subscription.

Another winter is past and our bees came out very bright. I wintered thirteen colonies on the summer stands.

All came out in good condition. They have been working every day this month so far, and have gathered a good supply of honey as well as pollen. The only thing that I dread now is the purchasing of more supplies, but I have one consolation in knowing where to buy the best, and that is from the W. T. Falconer M'f'g Co.

The honey flow last year was very good in the fore part of the season, but the latter part was poor indeed. I did not get any buckwheat honey, or as an old bee-keeper stated, "I did not get enough honey to 'grease a gimlet.'" We are in hopes that this year will be a good one for honey.

Yours very truly,

R. I. CROMLEY.

Muncy Station, Pa., March 24, 1894.

EDITOR AMERICAN BEE-KEEPER, Dear Sir :—Please answer through your columns the following questions :

1st. Should an entrance to a bee hive be open through the winter providing it is protected to keep the mice out, and how large should the entrance be made ?

2nd. Is it advisible to feed to stimulate brood rearing, and about what time in the spring should it be done ?

3rd. Should bees be shut in a hive and allowed to fly in nice weather, or should the entrance be left open and the hive left in such a condition that the changes in the spring would not tend to excite the bees ?

Answers to the above questions will aid me considerably in the pleasant work of bee-keeping.

The Doctor smoker which I received is the best one to suit my wants. The sections are extra fine, and the Miller Foundation Fastener works very satisfactory. In fact all your goods are *ne plus ultra*.

Yours respectfully,

C. S. BAXTER.

Sharon Springs, N. Y., March 15, '94.

[In reply to the above questions we would say :

1st. The entrance to the hive should be left open through the winter, but it is well to protect it with wire screen to keep out mice, etc. The entrance, however, should only be about $\frac{1}{3}$ or $\frac{1}{2}$ as large as usual.

2nd. It is a very good idea to feed the bees to stimulate brood rearing, and should be done as soon as the weather is warm enough so that there is no danger of the brood being chilled.

3rd. The entrance of hives should be open on every sunshiny or warm day during the winter so as to allow the bees to have a cleansing flight, and it is a good idea to arrange the hive so that in making the changes in the spring the bees will not be unnecessarily excited.

We are glad to know our goods suit you so well. ED.]

THE W. T. FALCONER M'F'G CO.,—Dear Sirs : The goods arrived in very nice condition. Before I received them I had seen some letters in the BEE-KEEPER praising them, and I thought that some of them spoke too highly of your goods, but when I opened my goods I was surprised. The sections are the very best I have ever seen and cheap to.

Yours truly,

SWEN MUNSON.

North East, Pa., April 7, 1894.

THE W. T. FALCONER M'F'G CO.,—Gentlemen : I received the goods I ordered of you on the 9th inst. and am very much pleased with them. The foundation was the best I have ever seen.

My bees wintered very well except one colony. Yours &c,

B. E. WHITE.

Pleasantville Pa., March 30, 1894.

TELLING THE BEES.

Out of the house where the slumberers lay
Grandfather came one summer day,
And under the pleasant orchard trees
He spoke this wise to the murmuring bees:
"The clover-bloom that kissed her feet.
And the posie-bed where she used to play,
Have honey store, but none so sweet
As ere our little one went away,
O bees sing soft, and bees sing low,
For she is gone who loved you so."

A wonder fell on the listening bees
Under those pleasant orchard trees,
And in their toil that summer day
Even their murmuring seemed to say;
"Child, O Child, the grass is cool,
And the posies are waking to hear the song
Of the bird that swings by the shaded pool,
Waiting for one who tarrieth long."
'Twas so they called to the little one then,
As if to call her back again.

O gentle bees, I have come to say
That Grandfather fell asleep today,
And we know by the smile on Grandfather's face,
He has found the dear one's biding place.
So, bees, sing soft, and, bees, sing low,
As over the honey fields you sweep—
To the trees abloom and the flowers ablow
Sing of grandfather fast asleep:
And ever beneath these orchard trees
Find cheer and shelter, gentle bees.—*Ex.*

RENDERING COMBS INTO WAX.

The very best method of all to render clean comb into wax is by sun-heat. The sun wax extractor of some shape is an indispensible adjunct of a well-conducted apiary. The only case in which the sun wax-extractor can render no service of any value, is when the combs are so old and thick that the wax, when melted in the sun, would be absorbed by the residues. In this case we melt the combs with water. In the first place, the combs should be crushed as well as possible while cold and brittle, to break the cocoons or cast-skins of the larvæ, which, if left entire, would in many cases encase small particles of wax which it would be impossible to dislodge. Then these combs should be soaked in water for a few days to dampen all impurities and prevent them from becoming soaked with melted wax.

The wax will be lighter if clean water is used when melting, as the water in which the combs are allowed to soak will be quite darkened by the soaking.

The combs should be melted in soft or rain water, in any kind of tin or copper boiler, the boiler kept two-thirds full, and heated slowly to prevent boiling over. If the floor around the stove is kept wet any wax that may drop, may easily be peeled off. During the melting, lower into the boiler a sieve made of a piece of wire-cloth bent into the shape of a dipper, from which you will dip out the wax with a ladle as it strains into it. If the whole is thoroughly stirred and well heated with plenty of water, very little wax will be left.

The wax that is dipped out can be put into any kind of a vessel, and later on remelted with water and allowed to cool slowly to thoroughly purify it. The slower the wax cools, the cleaner it will be, as the impurities settle to the bottom. As a matter of course, cappings and bright combs

can be rendered in the same way.

When wax is once damaged by burning, it it very difficult to bring it back to its natural color without the help of acids, and for this reason it is important to melt it properly the first time.

The above directions have been given by us to a number of our leading honey-producers who have found it difficult to render their combs properly, and we do not know of a single instance where they have not succeeded, when the directions were properly followed.

We would advise all bee-keepers to have a special vessel or boiler, in which to render up their wax, which should be used for no other purpose, for it is very difficult to cleanse a boiler that has been used for wax so as to employ it for other purposes, and the house-wife cannot be blamed if she objects to her wash-boiler being used in anything relating to the honey-bee —*Dadant in A. B. J.*

THE REARING OF GOOD QUEENS.

Dr. Miller seems to think that a young queen emerging from a cell not less than ten days after the bees commence to give it full attention, ought to be all right, according to the observations of Herr Reepen. It is true that they should be all right since no doubt the queen and worker larvæ are fed upon the same kind of food up to the fourth day, and, theoretically, at least, they should be as good, but practically they are not. And here we have again an illustration of the difference between mere theory and practice,

Dr. Miller seems to have overlooked one very important item, and that is the relative amount of food the worker and queen larvæ receive if designed from the moment of hatching. A queen-larva hatching in a queen-cell in a colony making preparations to swarm, is invariably flooded, so to speak, with the royal jelly, while all larvæ designed for workers are invariably scantily fed at the start, or for the first four days.

Now *my* observation shows that the most prolific, and especially long-lived, queens were abundantly fed during the first four days of the life queen-larvæ, and I think I will be fully sustained in this observation by all experienced queen-breeders.

On the other hand I never saw a good queen that had not been properly fed for the first four days of her life; and I think I was one of the first, if not *the* first, to rear queens by transferring small larvæ, from 18 to 30 hours old, to queen-cells well filled with royal jelly after the removal of its occupant. These queens would all hatch on the tenth day after, and would often be large and fine, to all appearance. Still, I never reared one in this manner that was extra prolific and long lived, and hence I abandoned this way of rearing fine queens, because in developing a new strain of bees, as I have been doing for the past nine years, it became absolutely neces-ary. The result has been an improved bee, highly prolific, and great workers.

Out of swarming time it is possible to bring about all the conditions for rearing perfect queens as follows:

Catch and cage a queen of a strong colony full of young bees, and take away all of their brood and give them

a comb of honey and empty combs. Place the caged queen upon the frame to keep them quiet.

At the end of three days take away the queen in the evening, and the next morning give them a frame of cells with just-hatching larvæ on the Alley plan. Not more than 20 larvæ should be given them. Now feed them well for five days. Eggs may be given in the same way, but they will not quiet the uproar in the colony like the young larvæ, and black bees have the singular habit of eating all of the eggs, but will accept the larvæ.

Should a comb of just-hatching eggs be given to the colony instead of the 15 or 20 cells prepared on the Alley plan, it will be found in a few hours that every larva in the comb will be swimming in royal jelly, showing that all are reared as if to rear queens, although but 15 or 20 queen-cells will be completed.

Thus reared, I have many times got queens that lived four years, and were highly prolific to the last. With such queens I have obtained the equivalent of two 10-frame Langstroth hives full of brood by the 10th of June but the ordinary queen would hardly fill eight Langstroth frames under the same conditions.

Of late there has been some talk of having two queens in a hive in the spring to build up large colonies,, but from the above it will be seen that one good queen is enough for any colony.—*Dr. Tinker in A. B. J.*

(*Ohio.*)

THE VALUE OF COMB FOUNDATION.

If the securing of perfect worker combs in the brood nest is not the chief advantage to be obtained by the use of foundation, it certainly stands second on the list. To be able to hive swarm after swarm, as bees are ordinarily managed, and that each and every comb will be a perfect worker comb, is a comfort indeed. To have each comb in the apiary perfect and straight, so exact a counterpart of all others that there will be no difficulty in interchanging, is a great convenience. To have such combs that no honey or labor of the bees will be wasted in the rearing of a horde of useless consumers, may be a factor that will throw the balance on the right side of the ledger, and there is only one way to procure such combs—that is by using full sheets of foundation. I used to think that more honey was obtained by the use of starters only in the brood chamber, but after putting in practice for years along with full sheets of foundation, I have to confess that I can't see that swarms hived on starters store any more honey than those hived on full sheets of foundation. The gain in preventing drone comb is so much, in addition to having combs promptly ready for the grand harvest, that it is true economy to have all the frames which the bees are to fill with wax, completely filled with foundation. We can get frames as straight and a smooth as a board by putting frames with starters in between full sheets of comb. The bees will build such combs clear to the bottom bar, and no sagging, and as a rule, by the time the comb is built down it is full of brood. If it were not for the extra work, and that the bees will insist on building drone comb, we could in this way have straight and smooth combs.

It is the only way that I have ever been able to get all combs built straight without using full sheets of foundation. When I had my combs built from starters, the time and trouble in cutting out drone comb was worth a great deal more than the cost of comb foundation, in full sheets for brood frames. We may well consider the question of hiving our swarms on full sheets of foundation. Perfect brood combs we must have. To produce a first-class article of comb honey and get nice smooth combs evenly capped over, is one of the bread and butter points in honey production. With me full sheets of foundation are worth as much for my sections as they are for brood frames. I have several times set aside an equal number of hives, and furnished one-half with starters and the other with full sheets, and in every case I have got more than enough to pay for the extra foundation. The bees go to work more readily on full sheets of foundation than they will on starters. I have time and again put sections without foundation in them in the center of a cap filled with foundation, and have left them on from the beginning of the honey harvest until the close, tiering up three high, and forty out of 150 is the most I have ever had completed.

There has been great difference of honest opinion among bee keepers about the value of drawn combs in the sections at the beginning of the honey harvest, but the principal reason why many do not see this question in its proper light is that they do not compare the sections of drawn comb with those filled with fresh foundation. I have known for years that freshly-made foundation is better than that which has been made for some time and exposed to the air. In the fall of 1892 I had a lot of sections containing full sheets of foundation untouched by the bees, and last summer when I commenced putting on supers I took two to three rows of the old sections, each of a number of supers, and placed them with the new ones containing fresh foundation. Only a moderate amount of honey was being gathered, and but a few colonies were making any progress in the supers, so that I was surprised a week or ten days later to find most of those new sections built out and finished, while in some cases the old foundation right alongside in the same supers had not been touched. Besides, by using foundation in full sheets, separators are not needed, and the untidy looking drone comb is avoided, and in its place we have nice, smooth work comb and an evenly capped surface of comb beautiful to behold.—*E. W. Moore in Prog. Bee-Keeper.* (*Ind.*)

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER.
FALCONER, N. Y.

☞Subscribers finding this paragraph marked with a blue cross will know that their subscripiton expires with this number. We hope that you will not delay in sending a renewal.

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EDITORIAL.

Is it not about time we all discontinued the practice of calling everyone connected with bee-keeping "brother" this, or "brother" that? We know of no other occupation, trade or business pursuit wherein the appelations "brother" and "friend" are so generally used as in that of bee-keeping. It is a peculiarity much noted and commented upon by those uninterested in this pursuit. We do not know the origin of the custom but it certainly is not journalism, nor business, and savors strongly of todyism and flattery. We do not believe that the fact of two men, separated perhaps by the width of a continent, being interested in the same industry, is sufficient to warrant them in referring to each other by terms indicating the closest familarity. Members of any other trade or pursuit would regard it in the light of an absurdity, so in fact do the strictly business portion of the men engaged in branches of the bee industry. When bee-keeping was in a primitive condition where there were only a comparitively few engaged in it, and they only in the production of honey, there could be no objections to the common use of the terms. Then there was little or no strife, every one had only a friendly feeling for his fellow craftsman, but now things have greatly changed. Bee-keeping has many branches: the production of honey, the raising of queens and the manufacturer of supplies, in each branch of which there is sharp competition, not always friendly, we are sorry to say. So that in many instances when the word "friend" or brother is used, it is with sarcasm or at least far from the friendly spirit which the words seem to indicate. The custom is only in vogue in the United States, where it seems to be perpetuated by the different bee publications. The terms are never seen in the journals of Canada, Great Baitian, Australia or elsewhere. Let us drop the custom or at least use it only in proper sincerity.

Within the past few days we have made definite arrangements with Mr. E. A. Weed, of Cincinnati, by which he will hereafter have charge of the manufacture of all our comb foundation. Mr. Weed is the inventor of certain machines and processes which enables him to produce foundation which runs absolutely even and uniform and the thinest ever made. The cells are deep and perfect and the wax is sheeted without heating. We will mail samples of this foundation after May 15th to any one requesting it who will send 2c stamp for postage. It is absolutely the best foundation ever produced by any one,

Chas. Dadant says in April *Review*, that the cleaning of beeswax by the use of Sulphuric acid is entirely wrong as it ruins all good flavor and essential oils, and rendering the wax more brittle and less acceptable to the bees. He also mentions that as soon as someone invents a machine that will make foundation more *regularly* satisfactory than the mills he is using he will agree to furnish foundation made on that machine. Mr. Weed's machine mentioned above will do this, and we have sole control of their product.

The weather at this writing is equal to that of early June. April was unusually cold and wet during the early part, in fact we were visited by several heavy snow storms, but it has altogether been very favorable for bees and the outlook for another good honey season is good. Notwithstanding the dull times and scarcity of money, our supply trade has been fully equal to that of last season, but has been made up of more foreign orders than usual.

Owing to the large amount of advertising received this month we are compelled to add four extra pages, which we do in the form of a supplement. We are glad to note that advertisers are appreciating the value of the BEE-KEEPER as an advertising medium. Of course there is an occasional complaint that "it dosen't pay," but usually in such cases the fault is with the advertiser. Some ads wont pay anywhere.

During a part of the past month we have found it necessary to run our factory 22 hours daily, our force a large part of the time being considerably over 100 men, including about 15 women and girls. Times are "hard" and while our home trade does not quite equal that of last season at this time, our foreign orders have been large and numerous.

We are in receipt from the author, Dr. Wm. R. Howard, of a copy of his treatise on Foul Brood. It is written in a plain and concise manner, and shows a considerable amount of research and experimenting on the part of the author. The book is published by Geo. W. York & Co., Chicago.

We send out a large number of sample copies this month. If you receive one and are not now a subscriber, you can consider it an urgent invitation to send us 50c for a year's subscription.

Wm. M. Gerrish, East Nottingham, N. H., will keep in stock a supply of our goods this season. Our customers in his part of the country will find it convenient to get their supplies of him.

We hope every bee-keeper will send for a sample of our new process comb foundation (ready for shipment after May 15.) It is superior to any ever produced heretofore.

Since the *Canadian Bee Journal* changed hands it has continually improved. It is now one of the best publications that we receive.

The price of the Bingham Honey Knife has been reduced to the following prices: one by mail 80c, two for $1.50, six for $3.50.

We have sent sample copies of the BEE-KEEPER to almost all our customers during the past three months hoping that those who are not subscribers would take the hint and subscribe. We are glad to find that many of them have done so. We will send no more sample copies for several months, and we hope every one reading this who has not subscribed will do so at once. We will send the balance of the year for only 25 cents.

If you wish your bees to produce comb honey that will bring a good price on the market you must use great care in the way it is put up. Clean, white, well made sections, completely filled and the cells all capped are the most essential requirements.

The price of beeswax has advanced considerably owing to its unusual scarcity. Notwithstanding this, we shall not raise the price of foundation unless wax should get very much higher still.

Ground Cork is an excellent article for packing hives, being light and dry. We will furnish it 8c. per lb., or $4.00 per 100 pounds. A bushel weighs only about 8 lbs.

Special attention of our readers is called to the list of No. 1 and cull sections, frames, etc., printed in another column. They are well worth the prices asked.

In England they have had a very early season. Flowers were in bloom a month or more ago.

WE WILL SEND THE AMERICAN BEE-KEEPER from now till Jan. 1st, '95, for 25 cents.

65 cents pays for THE AMERICAN BEE KEEPER one year and a copy of the 50 cent book, "How to Manage Bees."

LITERARY ITEMS.

GODEY'S MAGAZINE for April was another splendid number of this old-time and favorite Magazine. Its leading article is a continuation of the papers begun in the number before by Frederick W. Seward, and describes Secretary Seward's West India Cruise; it is profusely illustrated. There are the opening chapters of a serial story by Frederick Reddall, called Loyal Foes and magnificently illustrated by Robert W. Chambers. It is one of the strongest and most dramatic stories that has appeared in GODEY'S under the new *regime*. There are also many very entertaining short stories by well known authors, as well as descriptions of interesting places and notes of travel. These are all beautifully illustrated. Eugene E. Didier has a scholarly and interesting article on Poe: Real and Reputed. The poems in this number are by well known writers. M. E. W. contributes a charming parlor comedy called Tea at Five. The Boys' Department, Editorial and GODEY'S Famous Fashions all hold their own.

WHY N. G.

"ENCLOSED find MS. If you wish to purchase, send check: if not, please return, and state why it is N. G.—W. T. B."

This sounds business-like, but its last request is not so at all. As we have explained before now, it is no part of the business of a magazine to "state why" particular MSS are not accepted. And what right has W. T. B. to assume that his piece is worthless because it goes back to him? The fact means merely that we do not want it,—not that it may not be wanted elsewhere. The circular which takes the place of a letter in such cases is not always an empty form; in many cases other reasons than a total lack of merit determine rejection.—"*Talks with the Trade*," *in May* LIPPINCOTT'S.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, Mo., April 18, 1894.—Fair demand for honey. Prices, No. 1 white 12½c; No. 1 dark 10c; No. 2, 10c, for comb. Extracted 5 to 9c. Price of beeswax 20 to 22c per lb.
HAMBLIN & BEARSS, 514 Walnut St.

CINCINNATI, O., April 20, 1894.—Very slow demand for honey. Good supply. Prices of comb 12@15c; extracted, 4@5c. Very good demand for beeswax. Very scant supply. Prices 22@25c for good to choice yellow. CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

ST. LOUIS, Mo., April 21, 1894.—Very light demand for honey. Large supply. Price of comb 10@15c. Extracted 3@3½c. There is a good demand for Beeswax. Light Supply. Price 25c per lb.
THE D. G. TUTT GRO. CO

KANSAS CITY, Mo., April, 23, 1894.—There is a light demand for honey with a fair supply. Price comb, 10@15c. Extracted 4½@5c per lb. Good demand for beeswax at 20@25c per lb. Light Supply. The demand for both extracted and comb honey has been very light all the season.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

ALBANY, N. Y., April 20, 1894.—Light demand for honey; ample supply. Prices of comb 10@12c. Good demand for beeswax at 25c per lb.
H. R. WRIGHT, 326 and 328 Broadway.

BOSTON, MASS., April 20, 1894.—Light demand for honey. Fair supply. Prices of comb 12@14c. Extracted 5@7c. Fair demand for beeswax at 25c per lb. Light supply.
E. E. BLAKE & CO.,
57 Chatham St.

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4	"		5¼x5¼x1⅞	1 "	1	"	2 00 "
1	"		4¼x4¼x7	to foot 1 "	1	"	
			no insets				1 00 "
6	"		5x5x1 15-16	1 "	1	"	2 50 "
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300 all wood brood frames put up and wired, $1.50 per 100.

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THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO

VOL. IV. JUNE, 1894. NO. 6.

Preventing Increase or Natural Swarming.

BY CHAS. H. THIES.

While it has, for a few years past not been much trouble to me to prevent increase, yet it seems to be quite a problem to many. Why, friends! it is no trouble in the world to prevent swarming. The surest way I know of, and it will work every time, is to keep your colonies weak; try it and see, but after all, you will surely find it more profitable to keep your colonies strong, and have natural swarming. In all my experience which is not large, yet covers a period of some 12 to 15 years, I have found that bees do better and give better returns if allowed to swarm naturally, not to swarm themselves to death, but I like each colony to swarm once, no more and no less. "After Swarming" is what plays havoc with the honey crop. Many bee-keepers with experience advise keeping young queens in your colonies to keep down swarming, which to a great extent agrees with my experience, and not only that, a hive containing a young queen will breed up earlier, remain stronger, and admit nearly twice the amount of bees in one hive, without a desire of swarming, than will a colony with an old three year old queen and the strength of the colony is what makes things count when your object is a honey crop, but if you make the rearing of bees and queens the object, it is another matter. I remember years ago when honey was my object, of several methods I tried, to prevent swarming, one method although a good deal of work was connected with it, I will give for what it is worth, and if any one reading this is very desirous to prevent swarming, I wish they would try it, and report through the Bee-Keeper. This method is very simple and may not amount to much, but with me it did surely work. The method was about as follows: When you notice a colony desirous of swarming, just exchange the queen with the queen of some other colony, which is easily done at this season. This plan has worked with me whenever tried, yet it may not work every time, as we all know, or at least most of us know, that sometimes the queen is the fault of a swarm, and again sometimes the bees are at fault. I have often noticed a swarm issue, when the queen was not willing to go, and actually did not go, even in the second and third at-

tempt, (the queens were not clipped nor crippled) but usually when the bees have made a second or a third attempt to swarm and the queen is unwilling to go with them, she is balled and killed, and a lot of young queens are reared, which will wind up their colony in a lot of small swarms, unless attended to properly. When you have a colony so eager to swarm, and the queen is so unwilling to go with them, just try exchanging this queen, with the queen of some other colony, liable to swarm and which you wish to prevent. I trust that the readers of the *Bee Keeper* in general have had a better spring for their bees than Southern Illinois has given me.

Steeleville, Ill.

In Swarming Time.

BY WILDER GRAHAME.

Nothing, perhaps, is more exaperating to the bee-keeper than the lodgement of a fine swarm in the top of some high tree, unless, indeed, it be the departure and loss of the swarm entirely. It is safe to say that a good many losses of this kind occur each season throughout the country, and every such occurrence helps a little in putting the big figures on the wrong side of the balance sheet and making bee-keeping unprofitable. Besides, personal discomfort, and even danger to life is involved in this point. Only last season a neighbor of the writer of this article, a novice in bee-keeping, foolishly carried a hive up into a large tree and undertook to hive the truants direct. He was soon afterwards picked up unconscious and for days his life hung in a very delicate balance. It was not for several weeks that he was able to resume his work and in the meantime the bees he was after had gone.

It does not seem to be generally understood, and yet is none the less true, that the flight of bees can be controlled. I do not mean by this the old tin pan and dipper of water method, nor the psuedo scientific one of clipping the wings of the queen. But I refer to the previous preparation of a suitable alighting place at some convenient point for both bees and apiarist. How can one expect even the best disposed of bees to light in convenient places if none are provided? I have seen people foolish enough to place their hives remote from any suitable perch and then wonder why "their bees always went direct to a neighboring woods to light when swarming." Bees don't carry a rail fence or bush with them when they start, nor are they usually provided with tents or camp-stools. None the less, is it natural for them as soon as they have issued from the parent hive to cluster somewhere, probably to collect their forces well together, before starting upon their journey. If they do not do this it is, nine cases out of ten, because no suitable place is discovered near the hive. If compelled to fly some distance in search of one it is not surprising if they forego their preliminary stop entirely, as, after once fairly started, it is possible they do not care to stop off at every station.

Those who have tried the effect of a few shrubs and grape-vines trained in the vicinity of the hives and on the entrance side, will, I think, bear me out in the assertion that these will catch nearly all swarms issuing.

Will fruit trees do as well? Certainly, if you like to climb them. One of the advantages of something like grape-vines, is that they may be kept of such a height that the swarms may be hived on any part of them from the ground. As an example of a successfully arranged apiary, a friend of mine who has been in the business for some years and now keeps some twenty colonies, one, too, who believes wholly in the natural swarming process, has a large grape-vine about fifteen feet from the front row of hives, at right angles to, and directly across the path of the bees as they come out. This vine and one just beyond it has been selected by every swarm he has ever had issue except one, which took instead, a tree just back of and overhanging the hives. In this way alone the vines have probably saved him enough time and bees to be a profitable investment if they had been of no other use. As a matter of fact they bore freely. The fruit consideration is what prompts me to particulary recommend grape-vines to serve this purpose of swarm catching.

I am not at all sure that one could realize in full the benefits of this system if he could suddenly introduce the vines before colonies that had always been accustomed to more distant flights. More than likely the traditions of the elders would be passed down the succeeding generations only to be eliminated by degrees. Probably, by planting one or two year old vines their gradual introduction would be about in keeping with the crowding out of the old tradition by the adoption of the new convenience, and the bees be ready to make use of the innovation quite as soon as it was ready for them to use.

I am quite confident that bees transmit hereditary traits in this line as on many others. Swarms issuing from a colony that has always been used to seeking a resting place in the woods are much less apt to settle in a convenient place than those who have been accustomed to a convenient and low spot. Any departure from their natural inclination to alight near the hive on issuing indicates that something is wrong either with the bees or their surroundings. Some do go off without any apparent reason than pure cussedness, but I am confident there is some cause back of this; perhaps nothing more than the established custom of the hive in which the old instincts of wildness are particulary strong.

It has been suggested that the proneness of swarms to follow the usual course of their predecessors in settling always upon certain convenient vines while those unused to that alighting ground seek more distant quarters is due to some peculiar oder left upon the vine by the ancestral stock. I do not believe this theory, partly because while they choose the same vine, they do not choose the same spot on the vine, and partly because it is not to my mind more unreasonable to suppose their superior domesticity due to hereditary transmission in this particular than in others. I believe the choice of inaccessable places by some swarms is a remnant of their former wild state that care and culture can eliminate; and that it will always pay to provide suitable alighting places both to reclaim the

semi-wild swarms and to encourage their tamer neighbors in their domesticity.

(*N. Y.*)

Stimulative Feeding.

BY H. E. HILL.

A noteworthy feature of current apicultural literature is the disfavor with which stimulative feeding is regarded even by practical and extensive producers of honey. The idea of its declining popularity had but little weight with me until the pens of some of our most eminent specialists denounced the practice as useless and "an abandoned hobby" which naturally arouses the spirit of inquiry in one who has for fourteen successive years practiced stimulative feeding, with results highly satisfactory. Mr. Heddon in the *Quarterly* says: "If a queen does not lay fast enough, the reason may be found in her lack of fertility, strength of the colony or lack of stores in the hive." The assertion that the cause *may* be justly attributed to any one or all of the above named conditions, no apiarist will dispute, neither, I believe, will any dispute that a decided increase of brood is occasioned by a flow of honey, the increase being governed largely by the activity of the working force and the duration of the flow, and is in proportion thereto. That brood-rearing is checked or totally suspended as a result of a cessation of a flow must also be admitted, regardless of the queen's prolificacy.

An effect must have a cause. If it is not occasioned by the activity in the hive, in the former case, which is produced alike from access to a feeder of thin honey or syrup, or a flow from natural sources, why the increase? If in the latter, the inactivity of the workers has no retardative influence upon brood rearing, why does the cessation of honey, and brood rearing occur almost simultaneously?

If "stimulative feeding" is ineffectual in promoting the rearing of brood, why are bees in proxmity to extensive fruit orchards and those adjacent to forests of soft maple and other early bloom, more populous generally, at at the advent of the white clover season?

To cite a single example of what commends itself to me as corroborative evidence of the efficacy of stimulative feeding: I have known a hive of bees with brood in but one frame on April 11, being at that date so depopulated that the entire force was required to protect that one "patch." The colony was devoted to experiment, in order to test the merits of the practice of stimulative feeding, the brood-chamber was contracted to two frames and by feeding about one pound of thin honey each evening from a flat feeder over the frames, warmly covered by a sawdust cushion during the earlier days of Spring, and later, placing cards of honey, one at a time, behind a division board, below which a passage was left, occasionally changing ends with alternate combs, which had been added to the brood nest as required, scraping the cappings of honey in the brood chamber causing it to run down and thus affording activity for the workers, at a time when nature failed to do so, this colony was increased until the equivalent of seven Quinby frames were filled with brood

and during white clover and basswood bloom, as an expression of gratitude and in evidence of the truly meritorious effect of stimulative feeding, that colony erected a beautiful white monument composed of 225 well finished sections of comb honey.

Titusville, Pa., May 29, 1894.

Where Shall We Locate?

BY W. M. BARNUM.

When one has made up his mind to try the pleasures and vicissitudes of the bee business—or, perhaps, return to it,—the question comes up "Where shall we locate." Oft times circumstances make a choice impossible; Yet we may consider the question as open to all, and therefore one of material importance.

When ones ability permits, he should select either a southern or eastern slope. This secures to him, first, a *dry* apiary; secondly, a *warm* one—inasmuch as the sun may be of benefit. These two points are important ones; particularly during the spring of the year. At this time the warmth of the sun is especially beneficial. Many good apiarists go so far as to claim that an eastern or southern direction to the apiary, adds from thirty to forty-five minutes to the bees "working day;" which if true, may mean considerable during a rapid honey flow. Dampness is recognized by all to be particularly fatal to all "domestic" creatures,—and our bees are no exception to the rule. It means mouldy combs, "spring dwindling"—and the final decay of the colony. Therefore, avoid all such conditions; in locating your apiary look well "to the east!"

If we have found our location and all is well, the next point that demands our attention is the *arrangement* of it to best advantage. We have found that an eastern or southern slope or facing is best—the next thing is to arrange the hives in the best and most convenient form. This may safely be left to the discretion and commonsense of the apiarist; some form of order should be observed, however, as it greatly facilitates in the management and work of the apiary. Some kind of wind-break may become necessary, as well as shade for the hives. A high board fence will answer, but it is forbidding and gloomy; a row of evergreens is far more inviting and answers the purpose full as well. If the apiary is situated in a grove, the branches of the trees need to be trimmed high; otherwise the ground will become cold and damp.

Grape-vines trained upon a trellis are advocated by many as the most convenient form of shade; but I have found them to be rather in the way, and difficult to handle—especially during swarming time. I much prefer a light shade board, which should be placed at the side or upon the cover of the hive. If the latter, place something beneath, elevating it above the cover; to permit of the free circulation of air beneath.

In large apiaries a small honey-house may become a necessity; this should be located in the center of the apiary,—with avenues or roads leading out from it. This house will be handy both as a store-room for the honey and as a work shop. It should be well constructed, with double walls, dry and vermin proof. Each window and door needs to have screens with bee-escapes (openings) at the top.

All these arrangements however, need to come "in due time;" let the business grow with the bees,—and let judgment and good common sense rule supreme.

Denver, Colo.

EDITOR AMERICAN BEE-KEEPER,

Dear Sir:—Last November we left sixty stocks of bees on their summer stands, ten of them were in Falcon chaff hives, twenty-five in single walled hives with outside cases, packed between with leaves, and fifteen in single walled hives with no outside protection. A portion of the last were double tiered with six to eight frames in each tier or hive. All were protected on top of frames with quilts and absorbents of moisture, with passage ways over top of frames. Out of the 60,none of which had any attention from that time until the first of April, (as we were away from home,) thirteen died. In putting on the outside cases no selections were made but all were expected to be in condition to winter, and cases were put on promiscuously over the entire lot. Now for the result or percentage of loss between those in chaff and closed hives and those in single walled hives. The figures showed that the entire percentage of loss was about 21 per cent., and that the loss in cased hives exceeded that of the single walled by about seven per cent. and I have had the same experience for the past three years of which I have noted results. Had I been at home and cared for them during the month of March, when the warm weather was, undoubtedly I could of saved a number of them as I judged some of the weaker had been robbed and then starved.

The weather here last fall was unfavorable, being dry, so that my bees scarcely made their living after clover bloom in July—hence not many young bees to go into winter quarters. During fruit bloom this spring the weather was favorable and bees have built up rapidly, and with the copious rains of the past few days, the clover harvest looks favorable. We have never had any foul brood in this locality, and buy but few queens; but for increase save the queen cells from first swarms, build them up upon the nucleus plan, or jump the nucleus, when a laying queen is obtained, with a strong stock. We think this breeding of queens from first swarms cells of great value in securing a good working bee and improving our stock and we find that our bees excel in many points any produced from boughten queens. As to excessive swarming we are not troubled with that. We use the ten frame Langstroth hive, leaving in usually about eight frames in the fall, then in in the spring take out all empty unoccupied ones. Then as warm weather advances, add empty frames from time to time as brood rearing progresses, looking well that the queen has empty cells at all times until the clover bloom, then out comes the two dummies from the outside spaces and in goes two empty brood frames near the middle, and on goes the supers with some drawn out sections in it for bait. Thus all that are in condition are treated, unless I have some special stocks that I desire to have swarm for increase, those I leave with the dummies in, and without supers unless the bees begin to cluster outside, then give a little more room by adding supers, by this mode of always keeping the hives with plenty of open room.

We are not in the least troubled with over swarming, and last season out of forty-five wintered stocks only seven cast a swarm, and we took off fifteen hundred lbs. of comb and five hundred of extracted clover honey.

If excessive heat comes on raise front of hive half an inch or so for ventilation. Our location is not one of the best as we have but very little bass-wood or buck-wheat, and not much of a fall run of flowers that yield honey. Yours, etc.,

Chester Belding.

Middletown, N. Y., May 23, 1894.

The W. T. Falconer Man'f'g Co., Dear Sirs:—The goods were received in the finest condition. They are the best I have ever had.

Yours respectfully,

C. R. Williams.

Wilmington, Del., May 24, 1894.

Editor American Bee-Keeper, Dear Sir:—I notice in March number an article on foul brood. Here, I have never been troubled with it, except a few cases one year when I neglected to confine my bees during the winter to the lower story, leaving the openings in honey-board open. And these two or three cases in 22 years, were confined to weak colonies. It is not contagious except from the frost line. According to my limited experience and observation of it and same is true of diarrhea as to cause and contagion. But we have so little of either here we give it no special notice. The so called bee paralysis we know nothing of here. Our bees have come through the winter with no loss except from dead or played out queens. They commenced getting pollen February 16th and have gathered more honey than they have consumed from the pines during March. The prospects now are that we will have a good flow this season of pine honey. It is the pine sacharine matter extracted or seperated from the turpentine, and often candies in the hive in July before the bees get it capped over. If allowed to evaporate before the bees gather it, it will make sugar about as white as the "A" brand, and with no flavor or taste except the sugar taste. But when it goes through the bees organism it takes on a little color and honey flavor. We usually have it in July or August, though one year my bees gathered 2,000 lbs., of surplus of it between September 1st and October 5th, and in the winter of 1889-90, they gathered more or less of it for 42 days, between December 20th and March 26th. The manner of its production is one of the most wonderful things in nature's laboratory.

Your correspondent, Jno. F. Gates' idea, about using old "gums" for breeders is not bad. I have often thought of it, and if I had a lot of old box hives, I would practice it instead of transferring them to frame hives. The breeders would always have a young fertile queen to go out with the first swarm, which is very necessary for strong honey gathering colonies. The only objection I see is, that you cannot tell when they are queenless 'til very weak. But by the stacking up process, this would be cured in a measure.

I like Mr. Doolittle's plan for the management of bees for comb honey, in frame hives. For extracted honey, I have found no trouble about keeping

down swarms with strong colonies, by using two stories with 21 frames. Have also been successful with part wide frame, with sections in top story. I generally move up two or more frames of the youngest brood I find below, so as to give the queen empty frames below. This makes colony strong and keeps swarming in check.

Some times it is best to take the outside frames below and shave the caps off and put them in center of brood chamber. So the bees, to fix up the comb, will remove the honey above. The main thing under any kind of management is to keep only young, vigorous queens. This is more difficult to do with two stories with little swarming, as queens will play out much sooner. So it becomes necessary to raise and introduce young fertile queens at the end of the second season. Not a few apiarists sell their old queens for $1 to "greeneys." A few years ago a very pious, praying and preaching queen dealer, sold an old queen to his christian brother for $2. Not long afterwards the cheated and ignorant brother sent old "pious" some queer looking bees that his $2 queen was producing, and asked what they were. Well old pious loving money with all his heart, did not wish to "acknowledge the corn" and returned the $2, pretended he did not know what the bees were, but advised his christian brother to send some to Prof. Cook, causing his brother farther loss of time and opportunity to save the colony by killing the old played out drone producing queen, and giving another queen, or brood to make one. The bees sent were small drones hatched from worker cells.

The Bee-Keepers Union has *spasams* of trying to purge and purify the bee-keeping business in some direction. Yet to date, I have never seen any effort made to purge fraud and humbugging in the queen line, out of its ranks. Perhaps it will come in time

W. M. Evans.

Amherst, Va., March 28, 1894.

The W. T. Falconer Man'f'g Co., Gentlemen :—I received the hives shipped me on May 26th. They are the very best I ever saw. There is nothing lacking whatever. Everything in good condition.

Yours very truly,

Manning Smith.

Cicero, N. Y., May 29, 1894.

WHAT CONSTITUTES RIPENESS IN HONEY, AND HOW IT MAY BE SECURED.

A can of honey soldered in so well—
A watermelon proudly on the swell—
Is either ripe? How can a body tell?

The subject of ripening honey is receiving some consideration at present. It a subject, too, that deserves consideration because honey is at its best when ripe. This implies that there is a time when it is unripe, and a possibility of its being over ripe. We know that honey is found and sometimes marketed, in the three conditions above mentioned. But we do not all know the exact properties that constitute ripeness in honey, because no fixed standard of perfection has been decided upon, or one that em-

braces all the constituents of honey in their highest state. One, and only one, of the conditions that constitute perfection in honey is agreed upon and accepted as a standard of quality, that is that it shall weigh at least 13½ lbs. to the gallon. But the specific gravity of honey is not the only test of perfection. Flavor and aroma are quite as important. Its density may decide its nutritive property; but it is the other two that make it grateful or otherwise to the sense of the taste and smell—in a word, that make it palatable. But people's tastes differ and honey collected from different classes of flowers has a corresponding diversity of flavor; hence the difficulty in fixing a standard of quality for honey. I am now speaking of extracted honey, because its quality is determined by the three properties above named; not so comb honey, however, because the flavor of the beeswax it contains masks the inherent flavor and aroma of the honey with which it is partaken. I do not mention color in this connection because I am treating of the ripening of honey, and the ripening process has no appreciable effect upon its color.

I define unripe honey as that in which there is an excess of water; and ripe honey as that which has been brought to the recognized standard of density and possessing the highest possible degree of its inherent flavor and aroma. I say the highest degree possible, because the ripening process, whether carried on in the hive, or by artificial means, prejudicially affects both flavor and aroma.

Most honey when it is first stored has an excess of water in it. If the flow be scant, and it remains a sufficient length of time in the unsealed cells, this excess of water will evaporate. The high temperature of the hive faciliating the work of curing. If rapidly gathered it is quickly sealed, and will remain unripe till the excess of water escapes through the pores of the cappings in the form of invisible vapor. If extracted before the excess of water has passed off, the honey will be unripe honey. The fact of its having been sealed is not a proof of its ripeness. A little experience will enable one to tell if honey is up to the standard of density (without an instrumental test) provided its temperature is not too low. But it is not so easy determining this if the honey is cold, therefore the man who is in the habit of curing his honey outside the hive is more likely to put a uniformly good article on the market, than he who is governed by the sealing test.

We may now consider what changes honey undergoes in the process of curing, apart from bringing it to the requisite density by evaporation. The principal change, other than the above is the partial dissipation of its aroma. What then is aroma? I think it may be defined as the property imparted to honey by the flowers in which it is secreted, manifesting itself mainly through the sense of taste, and this has something to do in constituting flavor but only so far as the sense of smell manifests itself through the medium of the mouth. It is chiefly by its aroma we are enabled to determine the class of flowers from which the honey has been gathered. Aroma is fleeting in its nature. Time and exposure will destroy it to a great ex-

tent. Therefore it is never so pronounced in honey as immediately after it has been taken from the flowers. The process of ripening honey in the hive, and out of the hive, is identical in its nature and effect. When once ripe it should be immediately bottled or canned and hermetically sealed, if we wish it to retain its flavor and aroma in their fullest degree. If it be allowed to remain in open tanks or cans when once ripe, both will become deteriorated. It is nonsense to say, as some say, that honey can only be ripened in the hive, and retain its flavor and normal consistency. None who have made this statement have given any reasons for the faith that is in them, unless it be Mr. Demaree, and his are not conclusive.—*R. M'Knight in Review.*

(*Can.*)

The W. T. Falconer Man'f'g Co., Dear Sirs:—Yesterday I opened my sections. They are all right. Your work is so clean and nice and fits so completely that it is a real pleasure to put it together.

Wishing you success, I remain, sincerely, L. M. Cottrell.

Alfred Centre, N. Y., May 26, 1894.

COMB FOUNDATION FOR HONEY AND INCREASE.

Read at the Kansas State Convention.

The question of comb foundation is of vital importance to every practical bee-keeper, and I think can be classed under three heads—the man that works exclusively for extracted honey, the man that works for section honey, and the man that works for an increase of bees.

We will take the man who works for extracted honey, first. We will suppose that he has all the bees he wants, and does not wish any increase. In this case he will use full sheets of foundation and a ten-frame hive; and we will suppose that his hives are all two stories high and filled with combs. Well, you say, what does he want with foundation? Just this:

At the first appearance of the June honey-flow, he will provide himself with an extra upper story for each colony, and fill every frame with full sheets of foundation. Then he will want a queen-excluding zinc for each colony. Then place the full sheets of foundation in the lower story, all but two or three, and be sure the queen is in the lower story; then place the zinc on the lower story so the queen cannot possibly get up; then put the brood on top of that, and the empty combs, if there is any on, in the third story, and if the two top stories are full of brood so much the better.

There will bees enough stay with the queen and what brood was left below, to keep her busy, and as fast as they draw out the foundation, she will fill it with eggs; and as fast as the brood hatches in the upper stories, the bees will fill it up with honey; and if the honey-flow is sufficient, in 21 days there will be no brood above the zinc, but there will be 80 pounds of honey, all sealed over, which can be extracted and returned to the hive. If the flow continues, they will fill them again in 10 days, and you are not bothered with brood when you are extracting.

In the second place, the man who works for comb honey positively must have foundation in his sections to in-

sure straight combs, as he can't handle the sections when they are filled. Then he must have foundation in the brood-chamber to have straight combs there, so he can handle the bees. Bees worked for comb honey will swarm if they get any surplus honey. He wants a one-inch starter in the brood-chamber to hive the prime swarms on, with half-sheets in the section-case, or better, take the case off the parent colony and put it on the swarm with the empty one under it, and place the swarm on the old stand, moving the old colony to a new place.

Then the man who wants to increase his bees, if he has three or more good strong colonies, must have foundation. Then when the weather gets warm—say the first of May—make all the hives two stories high, if they are not, and when the combs below are all filled with brood, remove half of them to the upper story and fill their places with full sheets of foundation, and when they are drawn out and filled with eggs, remove and put above, and fill their places with full sheets of foundation, till both stories are full of combs and brood. Then he can begin to increase.

He can take two frames from each hive, at dusk, and put them in a new hive with the adhering bees, and close the entrance with screen-wire, and set in a cool place till the next evening, when he can give them a queen, and he has a good average colony, ready for business. By replacing where he took them from, with full sheets of foundation, he can make a colony twice a week while the honey-flow lasts, or through the month of June, if he has queens for them; and queens are so cheap now that he can buy them cheaper than he can rear them, unless he is pretty well versed in queen-rearing.—*J. C. Balch.*

The W. T. Falconer Man'f'g Co., Gentlemen:—The goods arrived today and I find them all first class, as I have always found your goods in all the years I have dealt with you.

Inclosed find.....which with the $30.00 sent before, balances the account. Yours very truly,

W. H. Osborne.

Chardon, O., May 25, 1894.

HINTS ON BEE-KEEPING.

A paper read before the Western Bee-Keepers' annual meeting at Tilbury Centre:—

"I have gathered a few facts out of my own experience of 19 years of hard work in apiculture. I have during that time taken a great deal of notice of bee-keepers at large; have noticed some making money at the bee business, while others make a total failure; hence this paper. So I will take for my subject why so many men fail and condemn the keeping of bees for a livelihood. Of course before going further, I don't wish any person to get the idea that I keep my own bees to perfection; but have the idea all right, so if I preach what I don't practice you will kindly look over it and make no remarks. Now I will proceed to give the facts why so many men condemn the bee or honey industry.

Some men get the idea when they see a man making a fair livelihood that there is lots of money in the business and little expense; and the work light and not much of it to do. Well, the first thing they will do is to

invest a lot of money in procuring a lot of bees, thinking the expense is all over, at least the bulk of it, and they start out knowing but very little more about apiculture than a cow knows how to skate. Well, they start out, we will say with $100 worth of bees. They begin to scratch their heads, trying to find out what course to pursue. He finds out that a smoker will have to be had, an extractor, honey knife and a dozen and one different things. Not knowing how to use the honey knife and extractor, will most surely make a bungling job of it. I might just state here, once I sold a man an extractor and knife and he went home thinking to make lots of money in extracting honey; but in a few days he came back with them and said he would not have the things; he said the honey would stick to the knife and tear the combs, and the extractor would jump all over the house. Now, I said to him, "you just take them back home and keep the uncapping knife in hot water when you are not uncapping, your knife will be always warm." He condemned the extractor for that.

Very often a farmer tries to keep bees. The worst with farming and bee-keeping is that nine times out of ten the bees are neglected, they will not pay expenses. They forget that in order to make bee-keeping a success they should have as much care or more than a crop of corn or potatoes.

Then what little honey some of these careless bee-keepers get, they put on the market in such a poor shape that they get a small price for it and often cannot sell it at all. Comb honey stays on the hive so long that it gets travel-stained and their extracted honey very often taken to market in a candied form which makes it realy worse than it is; then these same men seldom grade their section honey and don't scrape the propolis. These are men that condemn the honey industry.

Some men have so much other work to do they cannot or will not control the swarming, thus adding expense for hives and getting little or no money, because we notice that when there is a good honey season the bees will swarm more than they will in a poor season. So you will see that the man who has too many irons in the fire lets the bee industry iron burn. In that case apiculture don't pay.

I would say in conclusion those that are looking for a livlihood with lots of money in it, with little or no work, don't start keeping bees. If you do you will be sure to fail, and perhaps be many dollars out. Of course we are aware that some men will make failure of any industry they take up. What will bring success is an eye open to business, and keeping constantly at it brings success.

DECORATING SECTIONS OF HONEY.

The finer grades of comb honey will perhaps always remain a luxury, and how to produce this article in the most attractive form has always been a constant study with our most progressive producers. Most of us recognize the fact, that it is the beautiful appearance of a section of honey, more that anything else, that helps to sell it, and although we produce it for our own use, or to give to our friends, it is a great satisfaction to have it just as attractive as can be.

But here comes in the question—How can we add to the beautiful appearance of a section of honey as produced by the bees? We must, of course, furnish bright, new sections, holding not over one pound each, filled with foundation. Of sections we have full control, and if we fail to use the best, the bee-keepers, and not the bees, are to blame. Of the honey filled in by the bees, we have not so much control, and often when we have planned as best we know how, we find our snow-white sections filled with honey-dew, black as ink. These disappointments have come to us in the past, but it is to be hoped they will not soon occur again.

To get my idea of section honey, separators must be used, and they should be as wide as the sections, and no part of the outside must be exposed to the travel of the bees. Foundation, of course, is almost indispensible in full sheets, to get the bees to attach to the comb to the section bottom.

Now when all is well done, and we have the beautifully white capped honey in new white sections, we may ask: Can we not do something more, to make our product even more attractive? But as the true lover of nature looks at these sections of snow-white, beautiful comb honey, the hopelessness of making them more attractive must be apparent. Can we make the rose more beautiful by daubing paint on its petals? Section honey, when in nearly perfect shape, is simply beyond improvement, and all efforts in that direction must end in dismal failure.

Nevertheless, I have seen honey on the market in sections that were painted a bright red, others that were stained a cherry red, or mahogany color. Did this add any to the appearance of the honey? No, it rather indicated that something was covered up, and the honey had a queer look, and if the sections were new and clean, the paint and stain were only a detriment. But can nothing be done to render section honey more attractive—is nothing admissible? Well, almost nothing. A small rubber stamp with bright red ink can be used, and I am not sure but that it is a real improvement; but beyond this, nothing. The stamp, too, will advertise the producer, and be a guarantee to the buyer.

SHIPPING-CASES FOR HONEY.

As to the shipping cases to hold these sections, it is not so important about paint and stain. I have seen cases painted a black walnut color, that rerlly looked quite neat, and the white edges of sections, and delicate comb honey, looked very attractive through the glass. I should prefer to ship my honey in cases painted black, rather than have them go stained or dirty.

But even when applied to shipping-cases, it is very doubtful if anything can be gained by paint—nothing seems so neat and bright as new, planed boards. The whiter the wood the better it pleases me for sections, even though the comb is capped yellow, or even dark. Somehow it lends a charm of neatness, that can be secured in no other way.

As to the cases, it is perhaps just as well, if not so white. Pine is plenty good enough, and if quite yellow, showing the grain of the wood, all the better. But whatever the cases may be, let the inside be so neat, new and clean, as to be a surprise and delight to the receiver.—*Dibbern, in A. B. J.* (*Ills.*)

The American Bee-Keeper,

PUBLISHED MONTHLY BY

THE W. T. FALCONER MANFG CO.

TERMS:

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THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

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EDITORIAL.

During the past four weeks the weather has been more like that which we usually experience in November than May. It has been cold, very wet and an occasional light frost has in many places done considerable damage. The outlook for a good honey season is not as hopeful as it was three or four weeks ago.

A great many bee-keepers do not know that one-piece sections should be dampened in the grooves before folding thus preventing their breaking on account of being too dry. It is very easily accomplished, one simple method being a bottle with a goose quill inserted in the cork, the sections being laid on a table the grooves upward and in line. Fill the bottle with water and draw the end of quill through the grooves.

Probably not many of our readers are aware that we were the original makers of polished sections, and today we have the only perfect machine for manufacturing them successfully. Our Falcon sections are so popular that we have had to run our section machinery day and night nearly all the spring to keep up with orders and notwithstanding this have been compelled to decline several large orders from Europe.

We regret to learn through our correspondence with numerous customers in California that this will be a decidely " off year " for honey and fruit in that state. The weather has been very dry and bees will in many localities barely survive the summer. Oranges are very dry and pulpy and are not marketable.

Our New Process Foundation is a great success. The base is extremely thin and uniform while the side walls are high and of considerable thickness. The wax is soft and bees seem to take to it much better than to wax that has been sheeted by the old method, they utilize all the wax in the foundation pulling the side walls out very thin.

Editor Holterman of the *Canadian Bee Journal* has started an art gallery judging by the last number of his journal. The halftones of " The editors family " show a very interesting group.

We are in receipt of an official notification from committee of awards for the Worlds Fair Association that we were awardsd a diploma of merit

for the small exhibit which we made there. It reads as follows:

"* * * the material and workmanship are excellent the hives and section boxes being especially commended, * * *."

The Wm. Penn Bargain House whose advertisement appeared in our columns some time ago has turned out to be a swindling firm. Our readers are cautioned against having anything to do with them.

Wm. M. Gerrish, East Nottingham, N. H., will keep in stock a supply of our goods this season. Our customers in his part of the country will find it convenient to get their supplies of him.

Special attention of our readers is called to the list of No. 1 and cull sections, frames, etc., printed in another column. They are well worth the prices asked.

65 cents pays for THE AMERICAN BEE-KEEPER one year and a copy of the 50 cent book, "How to Manage Bees."

If any of our readers wish to subscribe to any of the standard magazines they should read the terms elsewhere.

The book "*Success in Bee Culture*" by Heddon is now out of print and no more copies can be furnished.

How to manage Bees is the name of a book of 200 pages which we will send postpaid for only 25 cents.

We must urge our readers to send in some contributions for publication. They are always needed.

If you want to extend the brood-nest of old stocks, *always* do so with full sheets of foundation, otherwise the bees will most likely build drone comb. To put a new swarm into a frame-hive, make all ready, frames with foundation starters or full sheets, at discretion, quilts in place, with hole cut for feeder; now open entrance full width; get a wide board—say, lid of a case, or, failing that, the wife's paste-board will do—place this in a slanting position from the ground to the alighting board of hive. Shake out the swarm on the slanting board, and the bees will run in. This job is best done after four p. m. See that the hive stands level when putting on crate sections, for if far out of level the bees will possibly build the end of comb to the divider, and thus make the section unsalable. Feed your new swarms 1 lb. of syrup each night for a few (say, five) nights; it will pay, as the colony will be ready for supers earlier if they get help in starting.—*Ex.*

LITERARY ITEMS.

Honey Ants.—In Mexico they have live ants for sale. They are honey-ants, and the boys and girls of that country think them a great treat. The whole back part of the ant is filled with a clear, sweet honey. To get the honey one takes the head between the fingers, sucks the honey from the body, and throws the rest away. The tribe has its king and queen, but is mostly made up of workers and honey-bearers, the honey-bearers being those from which the honey is taken. Most of the tribe are busy little fellows that go at night

to gather from the gall insect of the oak-tree a bitter-sweet fluid, which they feed to the honey-bearers, whose bodies soon become round and full of honey.

The honey-bearers have but one duty, that is to sleep. They hang from the roof of their cells, and let the workers feed upon the honey from their bodies. When a worker wants her dinner, she goes to the honey-bearers' cell and touches one of them lightly with her feelers. The honey-bearer seems to wake up, and at once gives forth a drop of sweet, yellow honey, which, you may be sure, the worker immediately eats.—*From "Ant Stories;" Demorest's Magazine for June.*

Godey's Magazine for May is attractive inside and out. Frederick W. Seward contributes part two of Seward's West India Cruise. It is profusely illustrated, as is Loyal Foes, the serial by Frederic Reddall, with drawings by Robert W. Chambers, and which is concluded in this number. There are two other illustrated articles on Bermuda's Sunny Isles, by Mary E. Child, and Capri, by J. Howe Adams. The short stories and special articles are "The Heavenly Twins" of Columbia Street, by Julia Magruder; a Patron of the Arts, by Melville Upton; Strayed form the Fold, by Lillian A. North; Entirely by Rail, by Minnette Slayback Carper, and Physical Culture Necessary for Brain Workers, by Wilton Tournier. The poems in this number are by Will Carleton, Mel R Colquitt, Lee C. Harby, Ernest N. Bagg, Nancy Mann Waddle, Rosalie M. Jonas and others. The departments are more complete and better than ever.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRCE.	BOTH.
American Bee Journal,	($1 00)	$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(1 00)	1 25
Gleanings in Bee Culture,	(1 00)	1 35

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, Mo., May 22, 1894.—Fair demand for honey. Price of No. 1 white comb 12½c. Price of No. 1 dark comb 10c. Extracted 5 to 9c. Price of beeswax 20 to 22c per lb.
HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY, Mo., May, 22, 1894.—Only a fair demand for honey. Supply is not large. Price of comb 10@15c. Good demand for beeswax. Light supply. Prices 20@22c per lb.
CLEMONS, MASON & Co.,
Cor. 4th and Walnut Sts.

ALBANY, N.Y., May 21, 1894.—Very slow demand for honey. Light supply. Price of comb 8@12c. Extracted nominal. Beeswax is in good demand at 27@28c per lb. Light supply. As it is out of season for honey now there is very little demand for any kind.
H. R. WRIGHT, 326 and 328 Broadway.

BOSTON, MASS., May 21, 1894.—Very light demand for honey. Price of comb 12@14c. Extracted 5@7c.
E. E. BLAKE & Co.,
57 Chatham St.

CINCINNATI, O., May 21, 1894.—The demand for honey is exceedingly slow. Supply plentiful. Price of comb 12@14c for best. Extracted 4@7c. Good demand for beeswax. Scant supply. Prices 22@27c for good to choice yellow. CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

ST. LOUIS, Mo., May 21, 1894.—Very light demand for honey. Large Supply. Price of comb 10@15c. Extracted 2½@3c. There is a good demand for Beeswax. Fair supply. Price 26@26½c per lb.
THE D. G. TUTT GRO. CO.

Sections Cheap.

We have the following lots of sections, etc., planed one side, which we offer very much below their actual cost.

3 M	sec $4\frac{1}{4}$x$4\frac{1}{4}$x1 15-16	1 Pce	No. 2 op. 4 sides $1.75 per M
5 "	$5x5\frac{1}{4}$x1 15-16	1 pce	planed 1 side $2 50 per M
2 "	5x5x1 15-16	1 "	1 " 2.50 "
22 "	$4\frac{1}{4}$x$4\frac{1}{4}$	"	1 " cull .50 "
3 "	$4\frac{1}{4}$x$4\frac{1}{4}$x1$\frac{5}{8}$	1 "	1 "full op 1.00 "
1 "	$4\frac{1}{4}$x$4\frac{1}{4}$x7	to ft. 1 "	1 " 1.00 "
1 "	$4\frac{1}{4}$x$4\frac{1}{4}$x7	to ft. 1 "	1 " C. T. 1 00 "
1 "	$4\frac{1}{4}$x$4\frac{1}{4}$x7	to ft. 1 "	1 " no insets 1.00 "
1½ "	$4\frac{1}{4}$x$4\frac{1}{4}$x1$\frac{5}{8}$	1 pce	planed 1 side 1.00 "
2 "	$4\frac{1}{4}$x$4\frac{1}{4}$	1 "	1 " op 4 sides 1.00 "
1½ "	$4\frac{1}{4}$x$4\frac{1}{4}$x 1 15-16	4 pce	Dtd 1.00 "
1 "	$4\frac{1}{4}$x$4\frac{1}{4}$x1 15 16	1 "	1 side C.T. 2.00 "
2½ "	4x$4\frac{1}{2}$x1$\frac{3}{4}$	1 "	1 " 1 00 "
1 "	$5x5\frac{1}{2}$x1 15-16	1 "	1 " full op. C. T. 1.00 "
3½ "	$5\frac{1}{4}$x$5\frac{1}{4}$x1$\frac{7}{8}$	1 pce	planed 1 side 2.00 "

400 all wood Simp. Brood Frames put up, $1.00 per 100.

100 metal corner, brood frames put up, $1.00 per 100.

200 metal corner, brood frames put up and wired, $2.00 per 100.

Wood separators, planed both sides, 17¾x3½x3-32 at $2 per M.

(M means 1000.) All the above are in good condition and equal to sections offered by some dealers as "best quality."

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JAMESTOWN, N. Y.

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W. T. FALCONER MANFG CO.

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Notes on the June Bee-Keeper.

BY W. M. BARNUM.

That was a good article of friend Hills' on "Stimulative Feeding," on page 84. He ably defends the practice, and his reasons are worthy of candid consideration. Stimulative feeding is not dead by a good deal—nor will it die for some little time yet.

THOSE SWARMING BEES!

Thies, "the man from Illinoy," gives a good article in support of natural swarming. He does not consider "after swarming" as natural. He draws the line there: And that is, I believe, the proper position for us all to take. One *natural* swarm is the proper thing, and means more *honey* and *money*! Thies is sound upon this subject.

"Wilder Grahame" follows with a very complete and readable essay upon "swarming time." He gives some valuable hints: Among them he advocates the grape vine as a swarm catcher. This I have not found as satisfactory as a low (fruit) bush for instance. The vine has proven unhandy to me, and I therefore do not advocate them as a means of shade for the hive; preferring a light shadeboard. His article otherwise is full of meat.

SOMETHING NEW FOR THE UNION.

Messrs. Belding, of N. Y., and Evans of Virginia, give good reports,—which is a reliable indication of the live, wide-awake bee-keeper. The latter calls the attention of the Union to the "fraud and humbugery" in the queen breeding line. There is no doubt but what there is considerable of it going on; but it is a difficult thing to handle. It seems to me that it is a duty of our journals to keep the craft clear of this "pest," as far as may lay within their power. Those who are bitten should not hesitate to send their complaints to their journal, and the journal should promptly and thoroughly investigate and if the complaint be found true—the party should at once be black-listed: a kind of advertising that is not overly relished by birds of this feather. It is a difficult matter to cope with. But I most emphatically agree with Bro. Evans that something should be done. Let us hear from others of the brotherhood. As to the rest of the number it is good all through. The Editor is giving us a good journal. With me

the BEE-KEEPER is worth reading from cover to cover,—and the only thing that I am disposed to "grumble about," is, *there is not enough of it!* Truly the bee-keepers of grand old America have reason to be proud of their bee papers: Long life to every one of 'em!

Denver, Colo.

Does Bee-Keeping Pay?

BY CHAS. H. THIES.

The above question at just this time is asked by many. In answer I would say, yes! No doubt there have been times when it paid better. Yes, during my own times, in handling bees I have found them to pay better, but every business and avocation has its ups and downs, why not the bees? A good many years ago good comb honey readily brought 25 to 30c per lb., but at the same time other necessarys were higher. I well remember when wheat first came down to $1,00 per bushel; it was then said that a farmer could not raise or produce wheat at that price which in opinion it should really be worth to give the producer something for his hard work. But today wheat is bringing less than 50c per bu. and $1.00 per bu. would look a big thing. Yet the production of wheat is not abandoned. Why not hold to the bees? For the last year or two, we have seen hard times, and in many places honey crops have been short if not a complete failure, while some localities have been more favored, and are able to report big yields of honey. Let us hold on, and be ready when our favored time comes, no doubt better times, and big honey crops will come again. This is a good deal like climbing a hill or a mountain, which is pretty hard work, but we may be pretty sure that when we have arrived at the top of the hill we will have the other side to go down, Really friends don't you think it is best for things to have their ups and downs? then when we are up we will surely know it. You know it is said that a man can do more walking on an up and down hill road than he can on a perfectly smooth and level one. And so I think it is best with beekeeping, best not to have everything smooth all the time. Let us stick to our bees and do our portion of the work well, and I am satisfiied they will pay as well as most anything else, considering the amount invested, both time and money. This is not from hearsay but from actual experience. G. M. Doolittle in the *American Bee Journal*, tells us of the large amount of rain they are having in N. Y. Southern Ill., would be glad to take part of your over supply, but we could very well do without the storms and washouts they are having in many places. Really I do not know which of the two I would prefer, too wet or too dry.

Steeleville, Ill.

Stimulative Feeding.

BY ED. JOLLEY.

When and under what conditions should we feed to stimulate brood-rearing? Is a question that has never been thoroughly settled. Some of our leading bee-keepers claim that the gain is not enough in proportton to the trouble and expence to pay. Others claim large returns on the in-

vestment. But I think the profitableness depends largely on the locality, or, rather, on the source of our first crop of surplus. In many of our northern localities where we are dependent on white clover for our main crop of surplus honey, we can not possibly get an extra large force of bees any too soon and unless we have extra strong and well provisioned colonies in the spring we are very liable to not have them soon enough without stimulative feeding. Although there is clover in nearly all localities in many, little or no surplus is expected from it. In these localities stimulative feeding is unnecessary, except where colonies are weak or short of stores, for they will have what clover there is to rear brood upon and will be plenty strong enough by the time the next honey flow is ready for them. Again it is unwise to feed when there is any simptoms of spring dwindling, for by a little coaxing their ambitions will rise and they will start brood beyond what their decreasing numbers can care for, and the dead brood thus occasioned will be more to the detriment of the colony than all the extra bees that a colony in this condition can rear, will make up. It would be well to double two or more of these colonies together after the oldest of the bees have dwindled away, and then by judicious feeding force them along as fast as the circumstances will permit. I think stimulative feeding should be practiced more often in the fall than is customary, for often honey is coming in so very slowly from the middle of August on, that brood rearing is practically stopped. These colonies may get enough honey to nearly fill their combs, and to all appearance be in the very pink of condition for winter. Yet the slowly gathered honey has offered no inducements for fall brood-rearing. And the apparently fine condition for winter is a delusion that has carried the hopes of many a bee-keeper through the winter to have them dwindle away with the old bees in the spring. A little encouragement for a few weeks in the fall would have prevented all this. Here is the sum of it in a nut shell: Study well your locality and how early you will need the bees; look closely to the condition of your bees both fall and spring and give each according to its needs.

Franklin, Pa.

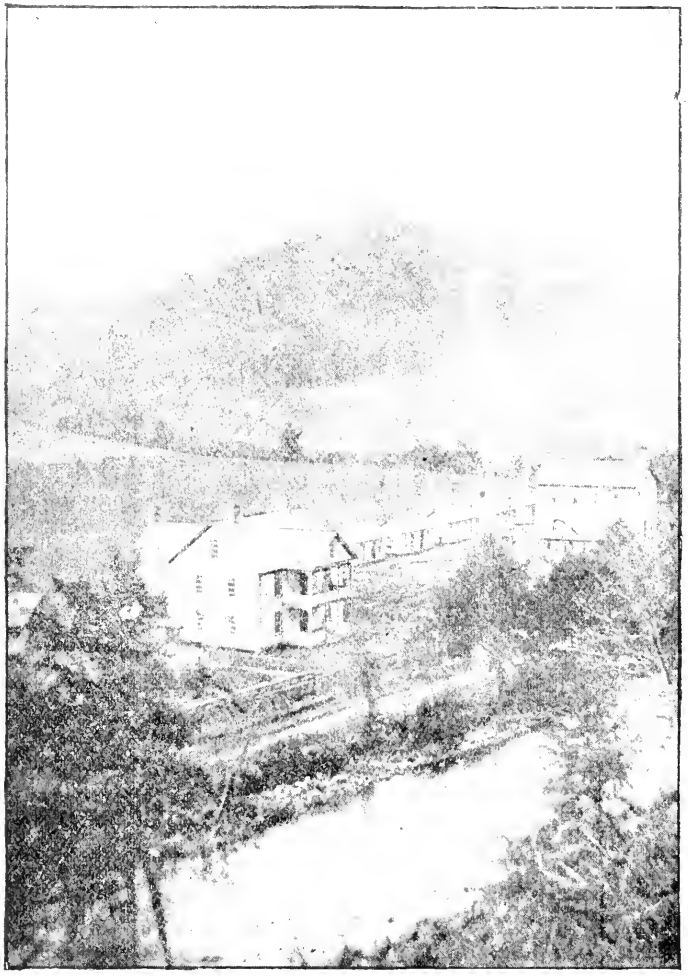
The Honey-Bee in the "Old North State."

BY J. C. MOORE.

It might be well to give a description of this place before proceeding to bees, &c.

The place where we live is hedged in on all sides by towering mountains; and when viewed from a peak south west from here it has the appearance of a large globe,—hence the early settlers mamed it *Globe*. Through this little valley runs a clear and sparkling stream called John's River and on either side there are pretty homes owned by the well-to-do farmers. About the center of the valley the houses are close together and are called by some a village. There is a flourishing school here,—of which I am a student. This is Globe Academy which was erected in 81-82. It is at the junction of the Gregg and

Estes prongs of the John's River. The school buildings and surrounding with over one hundred colonies. The hive used in this section is the box, as



scenery, as shown in the engraving make a charming view from the cliffs on the opposite side of the river.

Farming is the chief occupation, but nearly every one has a few hives of bees. The largest apiary is owned by a gentleman two miles from here, with nearly fifty colonies. Twelve miles from here there is an apiary the people haven't tested many of the more modern hives.

Our bees are the blacks; and the closest and only Italians I know of are owned by a gentleman ten miles from here.

Now as to the trees &c., from which the bees gather their honey. The poplar or tulip tree is the most plenti-

ful. Thousands grow in easy access of the bees. While the lumber men will cut off a good many, yet there will be more than the bees can utilize. The honey produced from the poplar is of a reddish color, and although it is not so white as some others, yet it has a very delicious flavor. The next great honey tree is the *sourwood*. This tree may be new to the northern bee keeper, yet it is very common in this section. It does not grow very large or tall, but is a kind of shrub. When in bloom it is perfectly white. Sourwood honey is much sought after, as it has a very delicate flavor and the comb is very white and tender. It usually sells 50 per cent. higher than other honey. Comb honey generally sells for from 8 to 10 cents per lb. There is a good supply of the holly, basswood, and locust trees. We hardly ever sow much buckwheat, clover, &c., for our bees.

The honey season is now here, and on every side one may hear the merry hum of the little fellow as he sips the nectar from the blossoms. They have been gathering honey for a few weeks past from the white clover, but since the poplar has been in bloom they hardly notice the white clover. Bees are late in swarming this year, partly owing to the weather changing so often, as they usually swarm about the 10th of May.

Now as this is my first piece, I hope the critics will pass by my imperfections, as I am only 15 and a beginner in the business. So with my best wishes for the AMERICAN BEE-KEEPER, I will close,

Globe, N. C., June 5th, 1894.

EDITOR AMERICAN BEE-KEEPER—Dear Sir:—You ask for articles for the American Bee Keeper so we vote ourselves one to turn on the flow of natural gas that should be forth coming from the brethren to exchange views of our plans and ideas how to get the best results. Now Mr. Editor, is it not natural of mankind to have a hobby, and especially is it not so among bee-keepers?

Not very long ago a very well-read bee-keeper left us an order for a number of six frame double wall hives for summer and winter use, saying that such a hive gave him better results in his locality than hives of large brood capacity. Some one will exclaim on reading this "Well, well, how on earth can he get good paying yields from a six frame nucleus." Wait now and I will trot out this hobby, but before we do so we wish to add, that after using a hive on a "long idea" plan of 24 frames, then the ten frame, and later on eight frames, and now our own hobby is not over seven frames at any time in the chamber. This man's idea of six frames is only one below ours. We will now speak of the above or short system of management of those two hard working bee-men, the above answering to both our ideas so well one description will answer to both cases.

You will note as I said before, that we use these six or seven frames for

brood chamber, but of course six or seven frames are not enough in themselves for the building up of a good populous colony for comb honey building. So in order to gain this essential point a shallow chamber of eight closed and half depth frames made same as the dovetailed section holder with a top bar added, the end bars $1\frac{3}{8}$ x 5-16, top and bottom bar one inch by 5-16 are used. We now have the equivalent of ten frames in his or eleven frames in ours. These same frames are placed over the brood-chamber without excluder or honey-board, they being placed there to give the colony a chance to store all surplus from early spring sources away from the brood, thus giving the queen ample room to fill below the frames well up with brood. She also has the privilege of these small frames should she desire to enlarge her colony to such an extent.

At the commencement of white clover broom we lift this shallow super of frames, first seeing that the queen is in the lower brood section, placing the excluder on the hive, then placing one or more supers or section boxes above or the excluder, ending up by setting the shallow super of frames above all thus giving a storage room between honey above and brood below.

We have had from two to seven of these section box supers besides the shallow frame supers on the same hive at one time, while other bees were spending precious time swarming and our colonies were working their best during it all.

The eight frame hive is far better if used in the above way than on any other one plan we have ever experimented on, giving a larger percentage of comb honey and also a fair crop of extracted honey.

Not wishing to tire you longer I will close for this time, knowing full well how different localities "pan out" in regard to success. There are a thousand and one different modes of bee-keeping. We are ready for any criticisms that may be made, and it may be possible that our methods have been used by others.

Wishing all a bountiful return for their labors for the season of 1894, I remain, Yours &c.,

CHAS. L. HILL.

Dennison, O.

EDITOR AMERICAN BEE-KEEPER,

Dear Sir :—I will give you some of my experiences with bees. They may be of interest to some of your readers. Five years before our civil war broke out my father kept a swarm of bees in one of the gums. We could not in those days catch on to the Langstroth hives. I have the same crude hive yet and the same combs are still in it. The colony which it contains is the largest and stongest I have. I have heard it said that combs are worthless after a few years. I find that they are good for 25 years, and I know that they are often good after 12 or 15 years. So what is the use of interfering with them as long as they are all right. If any one has had any experience in this line I would like to hear from them through the columns of the BEE-KEEPER.

Last year the colony of which I have spoken gave off one good swarm and about 25 lbs. of honey. They are the black or German bee and today

you never saw a more healthy colony in your life. Yours,

J. W. BUCKMAN.

Leesburg, Va., May 16, 1894.

EDITOR AMERICAN BEE-KEEPER, Dear Sir :—Please find postal note enclosd for renewal of subscription.

We consider the BEE-KEEPER an excellent and profitable investment to those who wish to succeed in apicultural industry. We consider it one of the foremost and best advertising mediums in the country at present, especially on account of its straightforward position in regard to honesty and fair dealing, thus barring swindlers from its columns for the protection of the honest and unsuspecting buyer, and apiarist at large. We are unlike our friend Mrs. Jennie Atchley, of Beeville, Tex., who claims that her producing capacity, should she advertise, would be taxed beyond control. We fear no such evil effect, on the contrary, since there is always room to do more business, and do it right, ceasing to advertise would be ceasing to exist so far as our patrons in Apiculture are concerned.

It is evident, however, from experience, that highly colored and exagerated advertisements are less productive than to simply state what we have and then supply fair and honest dealing if we wish to build up a permanent and lasting trade. The mature mind of the experienced looks suspiciously upon such advertising as "The Cheapest in the World," "A Fortune Free," "A Thousand Dollars Given Away," etc. The victims of these snares are mostly school children and new beginners. Hence the injustice of such impositions is two-fold : to the buyer, and to the honest dealer. The sooner our bee journals strictly assume the position of the *Farm Journal* in this regard the sooner will the apicultural interest be benefitted.

Bees in this section have wintered excellently as they generally do, protected by the blue ridge mountains on the west. The hill device for wintering is successfully used in this section.

Our branch apiary at Palatka, Putnam Co., Florida, about which I wrote in the BEE-KEEPER some time ago, has proved a success, both for honey and for supplying early *tested queens* for the market. Two sets of section honey from orange bloom have been taken this spring. Besides, high priced imported queens can be sent there for safe wintering and returned north in the spring with safety. There is plenty of room for experimenting and investing in Apiculture in the south, about which I will write more in the future.

S. P. RODDY & BRO.

Mt. St. Mary's, Md., April 16, 1894.

Wm. M. Gerrish, East Nottingham, N. H., will keep in stock a supply of our goods this season. Our customers in his part of the country will find it convenient to get their supplies of him.

The book "*Success in Bee Culture*" by Heddon is now out of print and no more copies can be furnished.

How to manage Bees is the name of a book of 200 pages which we will send postpaid for only 25 cents.

We must urge our readers to send in some contributions for publication. They are always needed.

NOTES FROM THE PACIFIC COAST.

It doesn't pay in greedy way
To live for grabbage;
Nor yet awhile in Sloth most vile
To live a cabbage.

It is dull days now with bee-keepers in this sunset country; especially in this southern portion of it; less than six inches of rain where we need twenty or more, is a sure precursor of the failure of the honey crop, or at least a light yield.

The diversity of elevation and climate in our large State will enable some portion of it to give its wonted yield, and that will save us from the humiliation of having a total failure.

In now and then a locality, we find that the bee-keeper is subject to the nagging process, and one of the great needs of the bee-keeper has been a person with some authority to stand between him and the fruit grower, and act as a peace-maker. It causes no little rancor between two great industries when things get to such a pass that the fruit man deliberately, under the cover of darkness, when evil men do evil deeds, goes to the lone apiary in the foothills and saturating the hives with kerosine commit them to to the flames. The bee-keeper might retaliate by cutting down an orchard or more in the same stealthy way, but but to the honor of bee-keepers there is no such retaliatory meanness on record. Aside from fire there are various other ways that the bee-keeper is made to feel uncomfortable, and an apiary located where it can be seen for a considerable distance is sure to find itself a target for the viciously disposed. It is a noticable fact that while certain fruit men are thus disposed, that many of our leading bee-keepers whose colonies are numbered by the hundreds are also extensive fruit growers; the interests so conflicting in other places, here run without friction. If the bees eat a few grapes the owners put up with it; or if the drying raisins are greatly molested the trays are covered with wire cloth or mosquito netting screens, and all is harmony.

It is also noticable that in all of our horticultural meetings, from State to county associations, there is always a discussion upon the noxious parisites and insects that prey upon fruits; put the honey bee is never discussed in that light, on the contrary if there is discussion at all, it is favorable to the bee; for some fruit grower has made the discovery that his fruits bear better crops if the bee is there to perform the proper and profuse pollenization, the fruit grower thus enlightened feels it his duty to tell the facts to the assembled association. If, perchance, a bee-keeper is in the audience he verily has a millenial time when, "The lion and the lamb" can lie down together in peace.

California has needed more of these intelligent investigators, and we feel very joyful to think that hereafter more of this quality of men will grow in this climate.

The bee keepers of the East thought, and not without reason, that they had

lost a good friend of their industry when Prof. Cook left them and came to this country. We Californians feel that in this great fruit and honey country the Prof.'s field will be greatly broadened, and the educative influence he can exert here, will result in greater good than in any other portion of our country. The Prof. comes to us and stands between two great industries, fruit growing and bee-keeping, as a veritable peacemaker

"Blessed are the peacemakers for they shall be called the sons of God."

In my school boy days we used to sing a lively song, the inspiring chorus of which ran thus: "Swinging, swinging, 'neath the apple tree." Alas! we have none of those old apple trees with dense shade, and brawny arms in this valley; and a sorry swing we could have among the sage and greasewood bushes. But, say friends, I have a hammock on the veranda of my habitation, and allowing the coastwise breeze to swing me in that, revives memories of old, in a location 3,000 miles away. Now, I would tell how this hammock of mine is made, for it is a home-made affair, but as the readers of the *Review* insist upon a fellow talking bees, and nothing but bees, I shall say nothing about the burlap sacks sewed together, with sticks across the end, and swung up with baling wire; but I tell you friends, this obscure hammock is just the thing to dump one's self into and to think about the honey bees.

While thus comfortably fixed and thinking of the half-a-mile walk that that I have to perform every time I visit the apiary, it occured to me that if bee-keepers in this State, could each and every one, have their apiaries located near their residences, and under their own vine and fig tree, where they could, all the year round, hear the busy hum of their workers and be upon more intimate terms with them, I really believe the bee-keeping industry would take upon itself a phase for the better.

In all of the East there is scarcely an apiary that is located away from the residence of the owner thereof; or, if he has several apiaries they are located near the residences of other persons. It is needless to say that the practice is reversed here, for the apiaries are nearly all located out in some lonely nook in the plains, or in the foot hills. A greater number of these apiaries are in such a forlorn condition with old unpainted hives, with brush growing at will amongst them; and yes, now and then a rattlesnake raises its warning rattle, or if he does not raise it, his slimy folds are seen wriggling through the brush. A club or a stone soon puts a quietus to his career, and his rattlers always pay the forfeit as a trophy. With such forlornness, and with bees with an intensified iracible disposition, who can blame the bee-keeper for keeping away from it as much as possible. It is no wonder that bee paralysis and foul brood get possession of the hives, and that the Eastern bee-keeper coming immediately from a pretty apiary in which are flowers and trailing vines and a place in which it is a pleasure to sit down and beholding the condition of things here exclaims against the general apathy of the fraternity.

The above conditions are, however, all changed even here in California,

when the apiary is situated near the residence of the proprietor. The hives are painted, arranged in better order, vines, fruit trees, and rose bushes with a wealth of flowers and tints, such as no other country can produce, all surround the apiary, making it a pleasure to the eye and in fact to all the senses.

Such a revolution in California bee-keeping would result in more enthusiastic bee-keepers, fill our conventions, make better exhibits at our fairs, and place our products upon the markets at a more profitable figure. "The mills of the gods grind slow but very fine." It may be that such a reform may in time be ground out. That it may is the wish of the—*Rambler in Review.*

(*California.*)

CRAMPS IN QUEEN—FEAR ASSIGNED AS THE CAUSE.

I used to be bothered a good deal by queens getting the cramps, when caging them. Sometimes they would appear all right when put into the cage, but would keel over and lie on their side motionless for several seconds, without showing a sign of life, then begin to move their legs, and then would drag themselves around feebly, but would soon be all right again, and as spry as ever. I was afraid they might be injured, and returned several to their hives until their eggs hatched and larvæ were well grown. Several times they would be a long time in recovering, and I had a few, perhaps three or four, that died. One, at least, that I returned to the hive never recovered.

I think *fear* has a good deal to do with the cramps," as, in my experience, the queens that are hard to catch are more liable to the affliction than others. Queens that are picked up quietly, and quickly placed in a cage, seldom if ever show any sign of "cramps," while if a queen is chased around, and frightened, then held some time before caging, she is quite apt to show more or less of the symptoms.

As I have caged some 600 queens this spring, with but one showing any sign of cramp, and that was owing to my carelessness, as I was in a great hurry, I will tell how I do. I open the hive as quietly as I can, when I find the queen, set the frame so I can pick her up, take the cage in my left hand, and spring up the wire cloth with the forefinger, then pick the queen up by the wings, with thumb and forefinger of right hand, bringing the cage close to the queen as I pick her up and drop her into the cage quickly and gently. Very simple, is it not? But sometimes there is a hitch. Quite often the frame has to be held with one hand while the queen is caught, and then while the other hand is getting the cage ready the queen gets terrible frightened, and struggles frantically to escape and goes off into a kind of fit. Under these circumstances, as soon as I have caught the queen by the wings with thumb and forefinger I slide the second finger out under the queen so she can stand on it. When every thing is "lovely" she has solid bottom under her, and seems to lose most of her fear at once. I have carried queens around for some time when held as above, and have never had

one show a sign of the cramps while caging.

Queens fly but little, and are seldom out of the hive. In their normal condition they are surrounded by a throng of friendly bees, in partial or complete darkness. From this peaceful state comes a rude awakening; smoke pours in; the comb on which she was peacefully and no doubt happily employed is raised out in the glare of the daylight; amid the confusion she tries to hide, but is chased around, rudely taken up by her wings, by a master she has never seen. No wonder fear fills her heart, and she feels all hope is gone, and "heart failure" results, or she "swoons," or gets the "cramps."

There are lots of bees handled in this or a worse way. I wonder how many people would die of "heart failure," or "swoon," or have "cramps," if they were used as ruthlessly and unnaturally.

My daughter Edna, who assists me in the apiary, aged 14, caged 25 queens by half-past ten, without assistance. Last night was very cool, so she could not commence until nearly 8 o'clock a. m. Only 10 queens were in hives marked ready; the others had to be hunted up.

So far we are having the best season I have known here. I took 200 gallons from 50 colonies May 14 and 16, and now they are nearly full, and ought to be extracted at once, and still are hard at work. I am suffering from a billious attack to-day, and have to keep out of the sun, though we are pushed by our work.—*J. B. Case in Gleanings.*

(*Fla.*)

TRANSFERING BEES FROM BOX HIVES.

Question—Briefly stated, what is the best method of transfering bees from box hives?

Answer.—The majority of our most practical bee-keepers of the present time believe that what is known as the "Heddon plan" of transfering is the best of any so far given. This plan is as follows: Drive the bees from the box hive and put them into a hive furnished with frames of wired foundation, the furnished hive to be placed on the stand the colony had occupied up to the present time, while the box hive with its combs of brood and honey, with the few adhering bees, is to be placed close beside the new hive. In 21 days after all the brood shall have emerged as worker bees, drive the bees again from the box hives, driving clean this time, and, after destroying the queen with this last drive, or the one in the colony driven before, according as to which is the most valuable, unite the bees with those first out, thus getting the bees all on to nice straight combs, and in good shape to give a good yield of surplus honey. The combs are now taken out of the box hive, the honey extracted from them, and they are rendered into wax to help in making more comb foundation.

Now, while the above is probably the best known plan where the combs in the box hive are crooked or poor, and the season of the year that when the bees are securing honey from the field, yet if the combs in the box hives are good straight ones of the worker size of cell, or we do not have the foundation, or we wish to do this work early in the season, before the bees

are getting honey from the fields so that they will not draw out of the foundation readily, then, decidedly, the old plan or method given in nearly, all the standard works on bee culture is the proper one to use. I never could understand the logic that melted up good straight worker combs, made the wax from them into foundation, wired the frames to keep that foundation from sagging, and then "transferred" the foundation into those wired frames with an amount of labor nearly equal to that required to transfer the original combs, all for the fun of saying that we used the Heddon plan. Straight worker comb, properly transferred into a frame, and fastened by the bees, makes just as good a frame of comb as is the one finished by the bees, makes just as good a frame of comb as is the one finished from foundation; and a frame properly filled with comb, without any wires in it, is just as good for all practical purposes, including shipping bees across the continent, as in the one having wire in it; while the wire is a positive nuisance if, from any reason, holes get in the combs from moldy pollen, mice, or any thing of the kind, so that we wish to "put in a patch" of worker comb to keep the bees from building in drone comb. I have shipped bees to nearly all parts of the United States and Canada on combs unwired, and have yet to hear of the first comb broken in tran sit. I do not wish to be considered cranky; but when a thing savors of more money out than of profits in I have always felt it a duty as well as a privilege to enter a mild protest, after which I am not to blame if any see fit to use any thing recommended which may result in a financial loss.

PREVENTION OF INCREASE.

Question.—What is the best way to keep down increase? The colonies which I now have furnish about all the honey my home trade demands, so I do not want to increase my number of colonies further than I now have.

Answer —The surest way is to give plenty of comb room, and then extract closely. Probably not one colony in twenty will offer to cast a swarm treated in this way. In fact very few colonies will offer to swarm where tiered up for extracted honey, and the extracting not done till the end of the season, providing that empty comb room is given as fast as needed. But when working for comb honey the case is different, and the bees are almost sure to swarm, no matter how much section room is given, or whether these sections are filled foundation or not. My way of keeping my apiary at the original number of colonies while working for comb honey would be to unite the colonies about three or four weeks before the honey harvest, making one colony out of two, preparing for this in advance by keeping each colony shut on only half of the combs contained in the hives I used, and then let them divide by natural swarming to the original number, keeping down all after swarming. Or you can let them swarm without uniting before the honey harvest, and after the honey season is over, unite back to the original number. This accomplishes the same object as the former, only it gives more mouths to feed after the

honey harvest is over, without any real gain in an increased crop of honey. Dr. C. C. Miller and myself are waiting, and living in hopes, that some bright bee-keeper will yet invent something which will entirely do away with the swarming desire in bees, so that they will work all the "livelong day," and all the days of the season, with the vim manifested by a new swarm, with no such thought as swarming. What fun there would be then in having out-apiaries, and piling up honey—yes, and home apiaries also! —*Gleaning.*

STORING AND FUMIGATING COMBS.

Question.—I have about 800 empty combs. How can I protect them from the moth? and what is the best method of fumigating them?

Answer.—If the questioner wishes to keep these combs for an indefinite time, there is no way except to fumigate them and store them where the female moth cannot have access to them. But if he or she intends to use them during the present month or fore part of July, fumigation may not be necessary.

My plan of storing combs from which the bees have died the previous winter is to store them in some dry, airy room, where they can be hung two or more inches apart. In storing them I select out all that contain much bee-bread or pollen, and place them by themselves where I can use these first; and I select all having but little pollen in them, and place them where they will come to hand next after those first named; then I select all which are old and black, and have these next at hand, while those having been used but little by the bees for breeding purposes, and having no pollen in them, are left to be used last or latest in the season.

All white combs in which no brood has ever been reared, whether containing honey or not, and that have been taken from the hives during the fall, winter, or early spring, are also moth-proof, or, at least, I have never to my remembrance, had such combs disturbed by the larvæ of the wax-moth, where kept as above for any term of years; but when such combs are taken from the brood-chamber of the hive during hot summer weather, and stored away as above, then they may be troubled some.

Combs stored two or more inches apart, with those having the most pollen in them to the front, need not be looked after in this locality until June, when they should be examined; and if any fine webs are noticed about the cells containing pollen, these should be given to the bees as soon thereafter as possible. By about the 10th to 15th, look after those having little pollen in them, and by the 25th look after the old, tough combs; while those which the bees have used but little for breeding will rarely be touched before July 4th to 10th. In this way I have no difficulty in using all the spare combs I may chance to have, before the moth troubles them to an extent tending to injure them.

But if we wish to keep combs during a whole season or more, they must be fumigated, or else have been exposed to a temperature of about zero during the previous winter. When this latter has been the case, pack them away in early spring in

some box or closet which is moth-proof, and they will keep forever, or as long as the closet or box keeps, providing no female moth is ever allowed to deposit eggs on them.

To fumigate, place in a tight room, or in hives which will fit closely on each other, without bottoms, when we burn sulphur to the amount of a pound ts every 400 cubic feet contained in the hives or room.

In sulphuring combs there is little fear of using too much tulphur; for should a deposit of sulphur occur on the combs, thereby giving them a greenish tinge, it will not harm as it does on comb honey.

In sulphuring honey, *too much* care cannot be taken in guarding against the possibility of fire; for a room filled with the fumes of burning sulphur, is a poor place to extinguish what may prove to be a conflagration, unless extinguished in time. For this reason, an iron kettle, partly filled with ashes, with live coals on the ashes, with the combs so hung that none of them can melt and fall in the fire in the kettle, is the best thing to use to pour the sulphur on.

If you wish the combustion of the sulphur to be complete, too much must not be poured on too small a surface of coals, otherwise a part of the sulphur will not burn as it should. —*Doolittle, in Gleanings.* (*N. Y.*)

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRCE.	BOTH.
American Bee Journal,	($1 00)	$1 35
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The American Bee-Keeper,

PUBLISHED MONTHLY BY

THE W. T. FALCONER MANFG CO.

TERMS:

50 cents a year in advance; 2 copies, 85 cents; 3 copies, $1.20; all to be sent to one postoffice.

Postage prepaid in the U.S. and Canada; 10 cents extra to all countries in the postal union and 20 cents extra to all other countries.

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Advertisements must be received on or before the 20th of each month to insure insertion in month following. Address,

THE AMERICAN BEE-KEEPER,

FALCONER, N. Y.

☞Subscribers finding this paragraph marked with a blue cross will know that their subscripiton expires with this number. We hope that you will not delay in sending a renewal.

☞A blue cross on this paragraph indicates that your subscription expired last month. Please renew.

EDITORIAL.

We are in receipt of a sample wrapper for 1 lb. section honey from H. R. Wright, the Albany commission man. It is simply a piece of heavy paper printed "Choice Comb Honey" on one side and is designed to be tacked around the section, giving the package a neat appearance and making it more salable.

Bicycles are becoming almost an article of necessity now-a-days, and since the general reduction in prices are being more generally used. For a ladies wheel we think the Lovell Diamond is all that can be desired. One of them is in use by one of our clerks constantly and gives the best of satisfaction.

We have had a great many words of praise for our New Process Foundation. Owing to its peculiarities of construction it is the most economical to use. It may not be generally known that bees never touch the bases of the cells in comb foundation, but they draw out the side walls until very thin so if your foundation has a very thin base and deep, thick side walls the bees will draw it out more rapidly and the comb will be thin and without "fishbone." Another thing, where only two or three inches of foundation is used in brood-frames it will be observed that worker cells are invariably bulit only on the foundation, the comb below being all drone cells, thus ensuring a surplus of drones. It will be seen from this that it is much better to use full or nearly full sheets of foundation, and while a little more expensive to begin with it is economy in the end.

We have always used every means possible to protect our readers from being swindled or cheated by irresponsible and dishonest queen breeders and supply dealers. We have succeeded fairly well, but in one or two instances, in spite of all possible precautions, we have been led into inserting advertisements for parties who would not or could not fulfill their offers and obligations. The latest complaints are against W. Root, Raleigh, N. C., whose ad. appeared in last issue, and Mrs. Fannie B. Dewitt. We received the Root ad. accompanied with cash only a day or two before the date of issuing the BEE-KEEPER, and consequently we had no opportunity to investigate Mr. Root's integrity. Of Mrs. Dewitt we have had numerous complaints and while we have been very reluctant to believe them and have deferred exposing the matter several weeks, we have after a thorough investigation become convinced that she is entirely unreliable and is working in conjunction with M. H. Dewitt, of Sang Run, who has swindled so many that he dare not attempt to do business in his own name. They are husband and wife, and while she disclaims any business relations with him, his letters prove such claims on her part to be entirely untruthful. Those of our readers who have been swindled or defrauded by any of these parties have our sympathy as the Dewitts have "touched" us to the tune of $50.

We warn our readers not to send them any orders. They are thoroughly unreliable.

Some bee-keepers always winter their bees in the cellar, others leave them on their summer stands. The former method is good but entails a great deal of labor. If the latter method is followed some suitable protection should be afforded the hives. The best and cheapest way to do this is by using our thin outside winter case for dovetailed or thin walled hives.

We are surprised at the unusually good trade we have had on supplies during the past three weeks. Bees seem to be doing very nicely everywhere and some bee-keepers are having trouble in securing supplies promptly. We are all caught up with

orders and can supply almost anything on short notice except Falcon sections. These we are short on and we cannot furnish them for about four weeks yet. We can furnish No. 1 Planed Sections, however, equal to those furnished by others.

We are somewhat late these summer months, but hope to get around soon to mailing the BEE-KEEPER promptly on the 5th or 6th of each month as formerly.

LITERARY ITEMS.

BITTER-SWEET.

"OH, love, you have cursed my life," he said,
"Because I have listened to you,
The heart of me at your feet lies dead
Where your arrow has pierced it through.
I leave you my broken heart, faith, and home,
I go to a land where you cannot come."

He journeyed far to the "sundown" land,
Close wrapped in his cloak of despair;
He wandered along the wave drenched sand,
And, behold, little Love was there!
The arrow that wounded him cured his pain,
And faith, hope, and happiness lived again.

ROSE HARTWICK THORPE.

—*From Demorcest's Magazine for July*

TOO MANY BOOKS.

A friend of ours who had some talent and had done some good things took his verses to a publisher, who agreed to bring them out in book form at the authors expense. "How many copies do you want?" he asked. "About fifteen hundred, I suppose." "Better say a hundred and fifty, for unless you give them away you will get most of them back. When not backed by a known name, poetry is a drug in the market." And so is most prose, too.—"*Talks with the Trade*," *in July Lippincott's.*

Godey's Magazine for June is beautiful in illustration and brilliant in contents. The Baroness Althea Salvador, lady in waiting upon the queen of Holland, contributes a most interesting article on the Paris Salon of 1894 with many illustrations of the artists and their work. The serial is a story of Munich life called Chance, by Leon Mead, and Frederick W. Seward continues his recollections of his father in Seward's West India Cruise. All these are profusely illustrated. The short stories are by John Habberton, Rose Hawthorn Lathrop, Edgar Fawcett, Albert Hardy, Julia Magruder and William A. Ayers. S. Parks Cadman has an essay, Harry Edward Miller a sketch and the poems are by Frank Dempster Sherman, Martha McCulloch Williams, Arthur Chamberlain, Edward Stratton, Emma J. Gompf, Norma Muir, and Coggshall Macy. All the departments are excellent, the famous Godey fashions appearing this month under the taking title of The Passing Show.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

ALBANY, N.Y., June 23, 1894.—The honey market now is very slow and nominal. As it is between seasons there is very little demand for honey.
H. R. WRIGHT, 326 and 328 Broadway.

CINCINNATI, O., June 21, 1894.—The demand for honey is slow. Comb sells at 12@14c per lb. Extracted 4@6c per lb. The demand for beeswax is fair and there is a fair supply. It sells at 23@25c per lb. for good to choice yellow.
CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

BOSTON, MASS., June 21, 1894.—There is a light demand for honey with a fair supply. Price of comb 12@15c. per lb. Extracted 6@7c por lb. The supply of beeswax is light and we are in want of same. Price 27c per lb. E. E. BLAKE & Co.,
57 Chatham St.

KANSAS CITY, Mo., June 21, 1894.—There is no change in the honey and beeswax market from last month. HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY, Mo., June 21, 1894.—There is only a fair demand for honey with a light supply. Price of comb 14@15c per lb. Extracted 4@6c per lb. Good demand for beeswax. Light Supply. Prices 20@22c per lb. There is NO new comb honey in the market and very little old.
CLEMONS, MASON & Co.,
Cor. 4th and Walnut Sts.

THE AMERICAN BEE-KEEPER

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Wax Production, Possibilities of that Industry in Old Mexico.

BY H. E. HILL.

The production of beeswax, it would appear, could be made an extensive and lucrative business in old Mexico, if the statements are reliable of those who have visited this "Egypt of the New World."

My interest in this direction has been awakened not alone by the enchanting tales of the boundless profusion of bee forage with which the Sierra Madres are clad, but from a source deemed throughly reliable, with the assurance that numerous localities are available, in some instances hundreds of miles in extent, where the nectar-secreting vegitation "grows upon the mountains like the wool upon a sheep's back," and by various reports of a strong demand for this product of the bee, which has never been met, owing chiefly to the characteristic indolence of the inhabitants and "incidental cruck methods." The churches and cathedrals of Spanish America being illuminated with candles made of beeswax insures a ready and inexhaustable market, which information has repeatedly been corroborated by those possessing knowledge. On one occasion by a gentleman of evident ability and reputed veracity who had spent several years in harvesting "cat's claw" honey in Texas, who declared that he had sold wax to the Mexicans at forty cents per pound, to which expense was added the import duty exacted by the Mexican government. I am informed that wax gathered from the wild bees of the mountains by the natives has been disposed of during recent years in the Vera Cruz market at one dollar per pound in the "coin of the realm." If these stories of Mexico's natural resources and adaptability to apiculture and the great demand for the wax are true, why is not this an open field for American enterprise worthy of small investment and big effort? In this day of keen competition in all branches of industry, though such would surely follow success in this new departure, to avoid the beaten paths and launch upon an unknown but promising line would afford a degree of relief, not easily obtainable.

The idea of producing wax, as an exclusive business, will not find favorable commendation in the minds of

the majority of Northern bee-keepers, while the tropical honey producer is qualified to view the proposition from an appreciative and comprehensive standpoint, and while wax is the prime object, nobody, perhaps, would object to loading a ship once a year even with the *cheap* honey which might incidentally accumulate We will not question the cost of production of a pound of wax, which is variously stated by acknowledged experts in the honey business, as its application does not become the subject, we know no expert in the production of wax, notwithstanding there is a growing demand for this commodity the world over.

To succeed in producing wax would necessitate inexpensive appliances and thousands of colonies surrounded by abundant forage, a suitable hive could be made of adobe or mud for the walls, which possess the advantages of cheapness and being cool, and to which the bees will not attach the combs, enabling the cover of bark or a cheap board to be easily removed and inverted upon the walls where all combs could be cut away from all sides of the brood and conveyed to the solar extractor, where, with no cocoons to impede its workings, the new white combs would melt like snow beneath the powerful rays of a tropical sun, and the flakes of wax need only to be caked and put into merchantable shape.

With thousands of square miles of floral clad mountains and valleys, which the bee-keeper is priviledged to occupy and utilize, no winter's deadly blast to impede incessant work, why could these earthern hives not be multiplied and apiaries extended indefinitely, a tank feeder cheaply arranged to "feed back" a portion of the accumulated honey during a dearth from natural sources, and the "season" drawn out, and wax secretion proportionately? Ten or twelve thousand colonies with their energies devoted to comb building would not be as difficult to obtain, under favorable conditions, as might be imagined, while the work of caring for that number could be handled by five or six competent men. As to the value of an "average season's" product I will not venture to estimate, though if half a dozen "hustlers" controlled 12,000 wax-producing colonies in Mexico I will venture the assertion they "would have more to show for a season's work than any six honey producers of Southern California can show for 1894.

Titusville, Pa.

The Advantage of Having Queens Clipped.

BY A. G. AMOS.

As I was watching a fine large swarm of bees entering its new hive on the old stand the other day my thoughts wandered back to the time when I commenced bee-keeping with two old box hives filled with black bees, and my first swarm which issued and alighted in a neighboring tree close by the roadside.

Of course you all know the disadvantage of climbing trees and the accidents which will happen while hiving swarms which have unclipped queens, and there are also a great many good swarms left which if they had a clipped queen would be saved.

In the spring as soon as the bees commence to build up good, I go through the apiary and clip all the young queens of the previous year's rearing and see that they are all in shape to build up in good condition for the honey harvest.

HOW TO CLIP THE QUEEN.

There are verious ways of proceeding to clip a queen, my method is this. Open the hive up very careful and give the bees a few puffs of smoke, shove the middle frames aside so as to give room to lift one of them out, if the queen is not on that one set it in the comb rack and look at the next and proceed in this way until you find her. When she is found set the comb which she is on against the hive in such a manner as not to kill any bees. (Then supposing you have the scissors which should be sharp and blunt on the end in readiness.) Pick the queen up by the wings between the right forefinger and thumb, then grasp her gently by the shoulders between the right forefiger and thumb in such a manner as to keep her legs away from the scissors. I usually cut the two right wings off on a slant so as to not cut the vein on the outside rim of the wing any more than I can help. The queen is then liberated again on the comb, the hive closed up and the work is done. Perhaps there are better ways but this is the best way I know of.

When a swarm issues with a clipped queen if you are not present the bees will return to the old hive and issue a few hours later or the next day, but if you are there simply cage the queen and remove the old hive to a new stand and place the new hive on the old stand where the bees will return and enter, let the queen run in with the first of the bees and the new swarm is hived all ready for business.

Removing the old hive to a new stand throws the working force into the new hive and also prevents after swarms to a certain extent.

If any beginner who reads this will try clipping the queen in one hive at first, I am sure the next season they would have all the queens clipped. Anyone can practice clipping the drone's wings at first until they get so they can hold them solid without injuring the bee any.

It takes a very few minutes to hive them and there is no danger of their going to the woods and being lost and there is no use for saws, ladders, ropes, baskets, sheets, and all those things which are used in hiving swarms which have unclipped queens.

Bees are in fair condition considering the wet weather we have had for the last four weeks, although they were in fine shape last season and everything looked promising at this time. Yet we hope for better results this season.

Delhi, N. Y.

Do Bees Transport Eggs ?—Why Queens are not Successfully Introduced.

BY CHAS. H. THIES.

Do bees transport eggs, is a question which is now having its rounds, through the different bee journals of our land. Very good proofs are given that they do not. On the other hand, we have good proof that bees do carry eggs from one cell to another and even from one hive to another, when

they are hopelessly queenless, having no eggs or larvæ from which to produce a queen.

Some 10 or 12 years ago I called on a neighbor bee-keeper of considerable experience. After examining the bees and other fixtures, he told me of a colony he had left queenless, some 6 or 8 weeks since, not for the purpose of testing if bees really did carry or move eggs from one cell to another, but he was experimenting on another line. Remember this bee-keeper was no beginner, he understood his business, and knew when a colony was or was not queenless, or if any eggs or larvæ remained in the hive from which a queen could be reared. We went back to examine this colony, when to his surprise a young queen was found with the bees, just hatched from the cell. This bee-keeper positively stated that nothing remained in the hive from which a queen could be reared, and from the time they had been queenless, and his being always sure before making a statement, I think we might reasonably suppose that the egg used to rear this queen, had been carried from another hive. There are many ways by which a queenless colony might obtain a queen, but as this queen had just emerged from the cell, we were sure she had been hatched in the queenless hive or colony. I will admit that beginners often make mistakes. I have a letter now before me, that indicates very plainly that beginners do make mistakes. The contents are about as follows: "Introduced the two queens which I bought of you at the same time. One of them is doing splendidly, but I do not know what to think of the other, it has been about three weeks and I have looked in the hive four times, every time she runs out and the bees follow her. The first time they went 20 to 25 rods and lit on the ground; I found the queen, clipped her and put her back in the hive. In a few days I looked again when out she came, this they do every time I look at them. When I leave them alone they are all right. I can find no eggs in the combs. The other one commenced laying in a very few days and now has the hive filled with brood." Of course another queen was sent this friend, but from my early experience I am almost sure one of the queens was introduced to a colony that already had a queen, one that was reared from a 6 to 8 day larvæ, and one that never will be any good, perhaps will never mate. Now if my New York friend should read this please remember that I am not making any reflections whatever, but have just given this to guard beginners in introducing queens and to show how easy mistakes are made.

Well do I remember the first real valuable queen I bought; for this queen I paid $10.00 and wanted to be very sure of everything. So the order and the $10.00 were sent and at about the same time a colony was made queenless to which this queen was to be introduced as soon as she arrived, but the queen did not arrive until 8 or 10 days had expired, by this time many queen cells had been started, on arrival of this queen all these queen cells were destroyed but somehow one must have been overlooked which hatched at about the same time or a little before the queen

had been released, and of course my valuable queen was killed. Moral :— Never make a hive queenless until you are sure when your queen will arrive.

Steeleville, Ill

How The Bee-Papers May Prosper.

BY W. T. COLLINS.

Let every one that takes the AMERICAN BEE-KEEPER, write something that relates to Bee-keeping and send it to the editor and give him the privilege to throw it in the waste basket if he does not care to print it, and then don't feel angry if he does not print it ; but try again you will strike something after a while that will be of interest to the readers of the BEE-KEEPER.

Some will say, " I am a poor speller, I cant't write for that paper." What of that? Write just the same, the editor will correct all mistakes. If you should write a piece and make so many mistakes that the editor did not want to correct them let him throw it in the waste basket, you will not be any the worse for writing it, and it will only bother him but a few moments to read it.

I want to ask all of the readers a question How can we expect to have an interesting and thick volume unless its readers help to make it so? Do you expect the editor to do all the writing? I should say no. Then send along your mite, it will all help. Give us your experience in handling bees ; tell how much honey you got last year, and how many colonies you put in winter quarters and how they came out in the spring. If you keep poultry with bees let us know how they work together and what kind you keep ; it may be of interest to some of its readers.

If every reader of the BEE-KEEPER will do this, what a volume we will have at the end of 1894.

Indian Fields, N. Y.

Grand Father's Story.

BY ED JOLLEY.

Light your pipe Grandpa and a story tell, about the time when bears and wolves among these hills did dwell. About the times, Grandpa, when as a lad, you played, and out into the woods you went and far away you strayed. Tell about these fields around, when forests on them stood, and wasn't it lots of work Grandpa to cut them into wood?

Among these hills my boy, when I a lad did gladly roam, the bears and wolves and Indians were pretty much at home. I've heard the redman shout, as he wandered 'long that stream, and often too, in the stilly night the panther I've heard scream, and the bears would come to the hut at night and give our dog a fright.

I will tell you a story now of a time when I was a child, when bears and bees both, in these woods were wild. We just had got our cabin built and settled down for good, and father had to the clearing gone to chop away the wood, when going through the forest wild a curious sound he heard, and could not make out whence it came or whether beast or bird.

Our good old shepherd dog with him that day had went, and soon around a hallow tree to-barkings loud gave vent. Up in a fork there seem-

ed to be a bunch of long black hair, as father looked it moved a bit. and lo, it was a bear. The faithful shephard stayed to watch while father homeward came, to get his gun and then go back and shoot his lofty game.

Bruin was soon lying low beneath the forest trees, and on his paws there honey was and in his hair were bees. As father looked upon these signs the truth to him did come, the bees a home had in the tree for he could hear them hum, and home he brought the bear that day, a monstrous looking thing, and as I stroked his shaggy neck a bee my hand did sting.

A wailing then you bet there was I thought the bear did bite, and as father showed me then the bees I'll ne'er forget the sight. Bruin's hide was carefully tanned and then a robe was made, that very robe up in my room a handsome rug has made. The bees were hived into a skep and then them home did bring, that apiary in the orchard there from that old skep did spring.

Franklin, Pa.

THE NORTH AMERICAN BEE-KEEPERS ASSOCIATION.

The Quarter Centennial meeting of this society will be held at St. Joseph Mo., October 16th, 17th and 18th, 1894. It is the first convention of the North American Association beyond the western bank of the Mississippi, and large delegations from the great west will be present. We hope the east, the north and the south will gather with them.

FRANK BENTON,

Secretary North American Bee-Keepers' Association, U. S. Department of Agriculture, Washington, D.C.

EDITOR AMERICAN BEE-KEEPER,

Dear Sir :—You will remember that I wrote you early in the spring that I had the bee fever, but I did not think the bees would hear of it. However, they have got onto it someway for I had one hive put out five swarms in one week. I did not take out the queen cells as some do, but I had a hive that got the loafing fever and I tried everything to get them to go to work, but the more I worked at them the worse they got, so I took all of them out excepting three frames and put in three other frames filled with comb just started. I am now getting more honey from them than any of the rest.

These loafing bees taught me the best lesson I have had, and that is that I must keep all black clothes out of sight when handling them, and even the hive should not have any black on it. I notice that the instant I raise the cover they pitch at anything that is black. I discovered this on June 22nd at about three p. m., and before I went to bed that night I had painted everything a different color. I had four hives that were painted a very dark color.

Bees have been doing very well here, and I hope it will be a successful year all around. Yours truly,

D. A. CARR,

Long Eddy, N. Y., July 9, 1894.

THE W. T. FALCONER MAN'F'G CO.

Gentlemen :—The goods you sent me

have arrived in good condition and are the best that I have ever had. I put up 1,000 sections and did not break but one. I have taken off some honey; about 180 lbs. I have 24 hives. The bees are doing nicely. Wishing you good success, I remain,

Yours truly,

JOHN E. HAIGHT.

Clyde, N. Y., July 6, 1894.

EDITOR AMERICAN BEE-KEEPER, Dear Sir:—I am glad to notice that you exposed in the July number a couple of queen frauds. We have had a little unpleasantness ourselves with those two parties and can fully corroborate your statements. Would it not be a good rule not to allow any person unknown to you to have space in your journal without satisfactory references? Of all things I hate it is to be gulled by such frauds, and then the disappointment and inconvenience it puts one to is worse than the loss in cash.

Our surplus season of clover and basswood, although we have had but little of the latter, closed about the 15th of July. My bees have not gathered half as much as they did last season, and as it came in slowly it is not nearly as nice and white, nor the sections so chock full. We have now removed the sections from the hive and are sorting them, and some of the dark colored, uneven combs, or combs with bee bread in them we are feeding back to the weaker colonies, and the way we do it is to place from two to four of the combs in a wide frame and hang them in the hive outside of the division board. This keeps them breeding and building up if you add an empty comb to the brood nest from time to time, and these colonies which are weak now will be full of bees by the time the fall flow comes on, and we find they make the very best ones for wintering and profit next year.

We now think we made a big mistake last fall. (It was our first and probably will not be our last) and we judge we have suffered from it this season some, therefore we propose to steer clearer this season. What was it? I think I hear the reader say. We extracted our brood nest pretty closely about this time and then came on a hot dry time from the middle of July to the first of September, and consequently no honey was gathered and scarcely any brood reared, and we had to scrape together all our available surplus and provide winter rations for our bees, and even then some of them did not pull through while others that did survive did so at the expense of brood rearing. Then came on three weeks of cold rainy weather in May when we had to feed so that our surplus boom struck us with no honey in our hives, and the previous shortage had retarded brood rearing so that our stocks had not as many bees as they should have had or would have had had they had plenty of honey on hand during the spring. Now this may be all theory with us, but we now propose to wait until the latter part of August or first of September before we do any extracting from our brood combs in the main body of the hive, and then we propose to leave plenty of honey in the hive this fall so as not to have any scarcity at any time during the spring.

We notice that some are troubled with bees over swarming. Now for

the last ten years we have not experienced the least bit of trouble in this direction. In fact I have to take extra care and make extra preparations to induce swarms to issue in order to get what young queens we need to maintain our quota of hives. This year out of 45 hives only five cast a swarm. Whether or not this is due to my strain of bees I do not know, but I judge not, as the queens I buy from time to time conform to this same habit. We give plenty of room for a queen to lay in during swarming preparation time, some shade to the hive and ventilate by raising front of hive half an inch or more. We also give plenty of surplus room above with sections or full frames for extracting.

We have had considerable trouble this season to get our queen cells to hatch. We drove some three miles to procure a number from a bee-keeper friend. They were cells taken from a hive that had swarmed and combs lifted out and placed in the hive when on the old stand, and remained there for nearly a week. We took great care in removing them and getting them home without jarring, but not more than one third of them ever hatched when placed in neuclei or queen cages. We guessed that the trouble was want of heat in the old hive after the swarm had left and the combs placed in the new hive with but few bees to keep them warm. We think to procure a good queen it requires a high temperature from time of egg to the hatching out of the bee.

Yours truly,

CHESTER BELDING.

Middletown, N. Y., July 10, 1894.

THE BEST SIZE OF HIVES FOR USE IN RAISING COMB HONEY.

I see by the press of late that the old questson of "size of hives" is being revived. Although old, this is yet an important subject and one that the thinking mind will not put carelessly aside, for in this question lies something that touches the financial side of our pursuit to an extent great enough to make it an object for us to spend upon it some thought and experiments.

When I first began to keep bees, like nearly every one else, I adopted the hive used by those around me. This was the ten-frame Langstroth hive. Soon after this I became acquainted with the writings of Elisha Gallup, who figured largely in the bee-keeping literature of twenty-five years ago, and after an experiment of two years, I changed from the Langstroth to the Gallup hive, and am still using the Gallup frame in my home yard. Twenty-five years ago, Quinby, Langstroth, Gallup, and nearly every one else recommended a hive holding from 2,000 to 2,500 cubic inches, and supposing that such size was the best for profit I made my Gallup hives to hold twelve frames, this giving about the same room there was in the Quinby and Langstroth.

Of course it is to be understood that this article is written from a comb honey stand point, for at the time I commenced keeping bees and for some

years after, the extractor was unknown. Working for comb honey and working for extracted honey, are two different things, and it is a noticeable fact that those who clamor most loudly for large hives are among those who work for extracted honey more largely than for comb. I never questioned the advisability of large hives when working for extracted honey; but after using the standard Gallup hives three seasons exclusively for comb honey I began to question their practicability for such purpose, and will here tell the readers of the REVIEW how I decided upon the size of the brood chamber which I have been using for nearly twenty years.

After using the twelve frame Gallup hive for two years, while looking over the bees one spring, I noticed that nearly every hive had from two to four combs of nice white honey unused, and I kept watch of the matter to see if this honey was turned into brood, and the brood from it became bees in time to do work in the honey harvest, as I considered that such changing of honey into bees had much to do with the yield of comb honey I would secure. A careful watching showed that honey was not converted into brood, but on the contrary more honey was added to it during the season. This careful watching also showed that the average queen would not occupy more than 800 square inches of comb with brood for any length of time; hence I began to see that my twelve Gallup frames gave me about 650 square inches of comb to be occupied with honey and pollen nearly all the time, as they gave about 1,450 square inches of comb as a whole. I especially noticed this fact, when hiving new swarms on the whole twelve frames, for they would not enter the sections to any amount until all the brood frames were full, when I had from 500 to 600 square inches of comb filled with the nicest of white honey, which would be from 25 to 30 pounds. This honey was just the honey I wanted in the sections, but with these twelve-frame hives I could not get it there, and must sell it as chunk honey, if I sold it at all.

In talking with a bee-keeper one day on this point he told me that this storing of honey in the brood frames was what he wanted, as it insured the safe wintering of the bees after a poor season, and we far better have some extra honey in the hives than occasinally lose our bees in winter for lack of stores. After he had gone I fell to reasoning and I soon saw that if I held to the twelve frame hives I was using, my bees would be wintering on from 25 to 30 ponnds of the very choicest of honey, which should go into the sections and be turned into cash, and in case of a poor season the bees should be looked after to see if they had honey enough for winter and if not they could be fed sugar syrup to make up the deficiency, said syrup costing less than half what the honey would bring when sold in the market. Again, I found that where the bees commenced storing honey to any amount in the brood nest, and especially is this true with the Italians, that the tendency was for them to keep storing there instead of going into the sections, or boxes as we used and called them then, the result of which was that when fall came I had but

little honey in the surplus apartment, much honey in the body of the hive and few bees for winter, owing to the honey in the brood combs crowding out the brood which gave the bees for winter. Seeing things as I believed in their light, I next began figuring what size hive was best. The queen I found needed 800 square inches of comb during the best of her breeding, and as it was necessary that some room be allowed for pollen and a little honey for present uses, I suppose that one-fourth the room occupied by the queen would be about right for this, so settled that 1,000 square inches of comb would be about right. But as it was impossible to have a certain number of frames figure out an even 1,000, I took the number that gave me the nearest that amount, which was nine. Eight gave 820 square inches, while nine gave 1,035. Not to go too hasty I first made some dummies and reduced the size of the brood chamber with these, using about one-third of the hives I had in use in the experiment. When fall came I found that the hives thus treated gave fully one-fourth more surplus honey than did those still having the 12 frames, while nearly every hive had fully honey enough for winter. The next year I used dummies in three-fourths of the hives I had built, while the new ones built held but nine frames. In striking an average that fall I found that the few hives having twelve frames gave only about two-thirds as much surplus honey as did those having but nine, so I hesitated no longer in deciding that nine Gallup frames gave plenty of room for the best results when working for comb honey. As intimated above I arrived at this conclusion nearly twenty years ago and have seen no reason for reversing the same during all these years, in which time I have experimented with hives holding all the way from seven to sixteen of these frames. When I first began with the small hives my main fear was that the bees would generally lack for stores for winter, but in this I have been happily disappointed, for if my memory serves me right, three falls have been all that the bees have been short of stores during that time.—*Doolittle in Review, (Borodino, N. Y.)*

MANAGING BEES—COMB HONEY AND PREVENTION OF INCREASE BY SWARMING.

As a producer of comb honey, I have been asked to write for publication a description of the way I manage my bees to secure a honey crop without increasing the original number of colonies.

Before giving the plan in detail, I will say that althogh I do not remember ever having seen it in print, still it may not be entirely new to some; and I will say further, that it was not the absolute prevention of swarming I had in view when I began to experiment along this line some years ago, but to know what to do to accomplish the best results when the bees did swarm, which they are almost sure to do sooner or later regardless of all that has been said and done thus far to prevent it.

Neither do I find that bees of any particular race or color—be it black, yellow or grey—are entirely exempt from swarming, when the colonies are sufficiently strong in numbers, and the honey-flow abundant. It is their nat-

ural way of increase, has been so from the beginning of time, and I never expect to see it overcome in my day; so, after much thought and experiment along the line of prevention, with but little prospect of success, I turned my labors to the other side of the question, and set about devising a course to pursue when swarming did occur.

But bearing in mind that it is honey I am after, and not increase, of course I employ all known rules which tend to prevent—such as giving abundant room in the sections, which should at least be supplied with starters of foundation, and at the commencement of the season, if a sew sections filled with clean, empty comb can be placed in the center of the crate or super, so much the better; this, with room for the queen to lay in the brood-chamber, ample entrance for ventilation, together with shade, etc. these, and perhaps other minor details, may be of some service in securing the end desired.

After observing all these precausions, and perhaps getting the bees nicely started at work in the sections, how provoking to see them drop work and send out a rousing big swarm! It has been recommended under such circumstances to open the hive, remove all queen-cells, and return the swarm to the parent colony; but after thoroughly testing this plan, I find that in very few cases does it amount to anything so far as securing honey is concerned, than to have allowed the swarm to have gone to the woods, and have done with it at once, provided the queen, should she be a valuable one, could be saved, as it is usually a question of from a few hours to a few days when they will again pour out, and while they do stay in they only sulk and accomplish nothing, and, if the above plan is repeated several times, are almost sure to kill the old queen, and again come out with a young one; and even if one does succeed in getting them to remain at home, the colony usually does but little work until a new force of bees hatch and become old enough to carry on the labors of the hive. By this time the harvest is usually over, the season drawing to a close, and but little honey to reward the owner for the promising outlook at the beginning of the season.

Now I want to say that the plan which I am about to give is not patented, neither is it necessary to buy a cent's worth of *traps or fixin's* to put it into successful operation, provided of course, you have an extra hive and a few extra frames on hand.

To begin with, then, let us suppose that the reader has the bees in the dove-tailed hive, or any other style which is capable of being tiered up. They are to be supplied with sections at the beginning of the honey-flow, or sooner if they are strong enough to occupy them. In case the colony should, in due time, cast a swarm first, secure the old queen, which can be accomplished either by having one wing clipped so she cannot fly, or by using a trap on the entrance to the hive. Next, while the swarm is in the air, remove the old brood-chambers, frame and all, from the stand, and replace it with another filled with empty combs, full sheets of foundation, or starters, as you choose, or whichever you are

best supplied with. Now remove the crate of sections from the old hive, and put them in place on the new one, on the old stand, and if the cover to the hive is a flat one, put it on also.

By this time, the bees will in many cases have missed their queen, and without clustering will be returning home. Allow them to enter the hive prepared for them, and if the queen has been caged release her (provided her wing is clipped); but if she is caught in a queen-trap without being clipped, adjust the trap to the new hive, then release the queen, leaving the trap in place until satisfied that the colony has commenced work in earnest, otherwise they might desert and leave for parts unknown.

Then take the hive containing the old combs of brood and honey, together with the bees which were left behind, and set it on top of the new hive, thus making the top of the new hive serve as the bottom for the old one; put a cover on this, and give them an entrance at one end, and the work for the present is done.

Next, keep a record of the date on which this colony swarmed, and if you wish to rear some queens, and the cells left in the old colony are from choice stock, here is your chance. Bore a one-inch hole in each side of the top hive for an entrance, divide the colony into three parts, giving say two combs of brood and honey and one queen-cell to each—this will probably leave sufficient room to insert the extra division boards required to keep each one of these lots of bees separate.

We now have three nucleus colonies, which in due time should furnish a laying queen each (barring accident, of course). I usually divide up the old colony in from four to five days after the swarm issues, as they sometimes "hang fire;" that is, they do not, on account of bad weather or other causes, come out as soon as the first cell is capped, hence if we wait until the seventh or eighth day, we may get either a second swarm or lose all our queen-cells by their being torn open by the first young queen that hatches. With this plan I find that this latter is the most apt to happen, as but few old field-bees remain in the old hive, so there is but little honey coming in, which is as we want it at this time.

If your hive is not large enough to contain all the combs of the old colony with the added division-boards, remove a frame or two and add them to some other colony, if they contain brood.

If you do not wish to rear any queens, destroy all the queen-cells in the old colony, allowing none to hatch, and when the swarm has become fairly established in the new hive (which they will usually do in four or five days, and be working like beavers), the brood in the old hive may be used to build up weak colonies, if one should have any, or, in case they are not needed for that purpose, and the hive was swarmed on old starters, they may be replaced in the under hive, bees and all, and the frames containing starters removed and saved for the next swarm.

By this time, if honey has been coming in freely, a good start will have been made in the sections, which will in most cases now be carried on until completed.

Yet another way is to allow no queen to hatch in the old hive, and allow it to remain until all brood hatches, which will be in about three weeks, and having placed a queen-excluding honey-board between the two hives, which will allow the bees to unite, we extract all honey from the combs, leaving them for future use. I would only recommend this latter plan where empty combs or full sheets of foundation are used to hive the swarm on, as there is often too much drone-comb built to be allowed to remain in the hive where starters only are used and the bees allowed to build their own combs.

The above plan will give fine results if carried out carefully, and I have endeavored to make it so plain that none need to meet with a failure, it would seem to me, and any intelligent person will at once see that it is capable of so many modifications as to be available in almost any emergency that may arise during the swarming season, and only requiring the outlay for a few extra hive-bodies and extra frames for the same, while a few extra combs are always good property for a bee-keeper to have on hand.

I hope that some of the clan who have tried other methods only to be disappointed, will give this a trial, and I fear not but what they will be pleased with it, as it keeps the working force of bees just where we want them, and does away with after-swarms entirely, while we retain the energy and vim usually shown by a new swarm.—*T. L. D. in Am. B. J.(N. Y.)*

We are in need of some good articles for publication. We wish our readers would send in more contributions.

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER,
FALCONER, N. Y.

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EDITORIAL.

We are in receipt of a circular letter from Secretary Frank Benton, addressed to the bee-keepers of North America giving a brief synopsis of the origin and growth of the North American Bee-keepers' Association. The association never was in a more flourishing condition, its membership now numbering more than at any time in its past history. Some of its objects are to develop the bee-keeping industry, join together its scattered forces, advocate and aid legislation favorable to the interests of apiculture, checking the sale of adulterated apiarian products etc. Every bee-keeper should become a member of the association, the annual fees are but $1, and any bee-keeper can become a member by sending one years dues to the treasurer, Geo. W. York, 56 Fifth Ave., Chicago, Ill. Every

member will receive free a copy of the proceedings of the convention free of charge and their name and address will be printed therein. Every bee-keeper should become a member and every member should attend the annual convention.

The *American Bee Journal* is grumbling because we clip articles from its columns occasionally and in crediting them use only the initials *A. B. J.*, taking us to task quite severely for not practicing what we preach, we having some time ago asked editorally that our correspondents and friends in referring to our magazine use the full name and not abreviate, as there were so many papers the initials of whose titles were so nearly alike. We would explain to Editor York that the *American Bee Journal* has been established so long that everyone knows it as the *A. B. J.*, as well as by its full name, and when a reader sees A. B. K. at the end of an article, or A. B. K. referred to in any of the bee journals, he usually credits it to the *A. B. J.* mechanically or he thinks it is an error in print and should be *A. B. J.* As for "the majority of editors who have long since ceased the meaningless 'initializing' of other bee papers" we fail to find them in any great majority.

The *American Apiculturist* was out late last month, the first time in "a dogs' age," but it was accounted for by a change in printing offices. Editor Alley complains of a great scarcity of new subscribers. We haven't said anything but have also noticed that subscriptions have not been coming in as freely as usual for some weeks. Now we regret this for two reasons. We cannot afford to get out so expensive a magazine without a goodly list of subscribers and there is not near the interest developed as when our subscription book is full. Don't fail to renew when your time expires.

We notice with pleasure the enthusiasm of A. I. Root on bicycle matters, and his discriptions of his trips on his wheel interest us very much. We have never mentioned the fact but both members of our firm are enthusiastic wheelmen, the writer being a "century rider." The senior member rides a Victor while the writer now mounts a 22 lb. Rambler. He had a new Monarch stolen from him on the street only a few days ago, and no trace of the thief or wheel can be found. It was a Monarch wheel, No. 8 306 with a new cyclometer on it. By the way Bro. Root by all means put on a cyclometer (if you have not already done so) you will enjoy your riding much more, as you can then measure the distances exactly.

The annual convention of the North American Bee-keepers' Association should be held farther east next year and we believe no better place can be selected than Buffalo. It will be convenient for Canadian members and is easy of access from all parts of the union. Buffalo was proposed last year but St. Joseph was selected instead. Probably the Canadian members will "fight" for Toronto, so it will be well for all members living

this side the line to "pull together" for one place, and as the east is entitled to it, let it be Buffalo.

Editor York, following the lead of *Gleanings* we suppose, has started a department entirely foreign to bee-keeping, a medical department in fact. We regret he has made this "innovation," it don't become the *American Bee Journal* at all. We believe when a bee-keeper pays 50c or $1 for a bee paper he wants that paper to give him all the information possible concerning matters pertaining to bees. Anyone can buy all the medical, agricultural and religious literature they want at much less cost elsewhere. Stick to the bees Brother York.

We are just in receipt of the last issue of *Success in Bee Culture*, which combines the April, May and June numbers. Editor Sage says editorially that it is the last number of his magazine. Lack of support and hard times made it impossible for him to continue its publication. We regret that *Success in Bee Culture* could not have been made to pay its publisher and continued along with the rest of us. All the new ventures in the way of bee papers have now gone out of existence, leaving only the "old ones" again, and thus "history repeats itself."

The wrapper for sections of honey advertised elsewhere by H. R. Wright is a very desirable and cheap article for improving the appearance of honey. It is neatly printed and is made of heavy card board, it costs less than half as much as the regular cartons.

We understand there are several candidates for president of the North American Bee-keepers's Association for the coming year, but we believe the present vice-president, Mr. O. L. Hershiser, is entitled to the office and would do honor to the position.

The honey flow in our immediate locality has been very good but generally speaking there has been only a fair crop through the state.

We are beginning to look for a visit from Editor Hutchinson of the *Review*. He promised to be here in August, but we have not heard that he has yet started on his trip. Dont fail to come W. Z.

Pasteboard cartons are coming into quite general use. They give a very neat appearance to the honey, making it convenient to carry and more salable. They are not very expensive and every honey producer should use them for a part of his product at least. Prices will be found in our catalogue.

At the present time in this locality there is very little honey flow and the bees only get enough to supply their immediate wants and keep up breeding. Now is a good time to introduce new queens. If the honey flow should cease altogether as it sometimes does, bee-keepers will look out for robbers. It is also important to keep all colonies strong which can be done by dividing up the weaker colonies and adding them to others.

LITERARY ITEMS.

THE MERCENARY CHINEE.

CH'IEN, ch'ien, ch'ieu—money, money, money—is the real Chinese God. At home or abroad, the Mongols are a race of shopkeepers. Buying, bartering, exchanging and selling is the order of their every-day life.

Ch'ien is the one subject that their hearts are full of, and rarely enough, among the common people at least does one rise above the sordid greed for gold, or know a higher

ambition than that of money-getting. They are not a race of misers, but of buyers and sellers and gamblers. They gamble in trade, and take chances on every imaginable thing. Talk to the heathen of his soul never so earnestly, you may not distract his mind from his one object in life, the pursuit of ch'ien.

"Where was this bought?" "How much did that cost?" are questions continually in the mouths of the Chinese, no matter where they are. A missionary recently from China tells a characteristic story of the average Mongol's curiosity. "In Hong-Kong," says he, "I was one day in company with our senior pastor in the native streets, looking at the showy things in the booth. In a moment one of our congregation touched my arm, saying, 'Teacher, how much did you give for those boots you have on?' Having told him the cost of the (English) shoes, the word was quickly passed around that they were dear, because they cost 'five precious dollars.'"—*Will Clemens in August Lippincott's.*

Sweet peas, as usually grown, give but few flowers at this season: but it is an easy matter to have these most charming flowers until the coming of very cold weather. To begin with, the seed should be sown early in the season,—in April, if possible,—in trenches six inches deep. Cover the seed to the depth of an inch only, at first. As the plants shoot up, draw soil about them until you have the trench filled. When the first buds appear clip them off, and prevent the plants from flowering any before the latter part of July. It may seem cruel to do this; it may involve some sacrifice on your part, if you are fond of this flower; but what you loose now will be fully made up for later, and I am confident sweet peas in August and September will be more highly appreciated than during the summer, when there are so many other flowers to enjoy. If you do not feel willing to put off the enjoyment of them, have a little patch for early blooming; by picking the blossom constantly, allowing none to go to seed, the blooming season may be greatly prolonged. During the hot, dry, midsummer season, keep the ground about the plants well covered with grass clippings from the lawn. When these decay, dig them into she soil, and spread on fresh ones. In this way the roots of the plant can be kept from getting dry, and this is of the greatest importance. In fact, you cannot grow good sweet peas in a dry soil

When the crop of August flowers begins, go over the plants every day and remove every blossom as it fades. It is very important that no seed be allowed to form. Reserve all the strength and vitality of the plant for the formation of flowers. Sweet peas will be found among the most useful of all flowers for cutting; but never try to "arrange" them. Let them do that for themselves. Gather them with long stems, bunching them loosely in the hand; when you have all you think you need,—do not have so many that they will crowd each other,—simply drop the stems in the vase or bowl and give them a shake, and they will "arrange" themselves in a more satisfactory manner than you could attain if you were to work over them all day.—*From "The Flower Garden in August;" Demorest's Magazine for August.*

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, MO., July 20, 1894.—Demand is slow for all grades and kinds of honey. A few cases of new received. The prices are 4½@6½ for extracted. Fancy white, 1-lb. comb, 15@16c; amber, 12@13; dark, 10. Beeswax, 22.
HAMBLIN & BEARSS, 514 Walnut St.

CHICAGO, ILL. July 22.—Demand for honey at this season of the year restricted. We look for an active demand for new comb honey that is of good qualtiy and put up in desirable packages. We shall hold our first receipts at 16c per lb., unless otherwise instructed. Extracted honey selling, depending upon quality, at 5@6 per lb Beeswax, 25. S. T. FISH & Co., 189 South Water St.

DETROIT, MICH., July 19.—There is no new comb honey offered yet, and the last year's crop is all sold. We think there will be a good demand for the coming crop. Market will probably open at 15c for best white. Extracted, 6@7; some new Southern has sold for 6 Beeswax easier at 25@26.
M. H. HUNT, Bell Branch, Mich.

ALBANY, N.Y., July 20.—A number of producers have written desiring to send us a lot of extracted honey, but as there is scarcely any demand for it before Oct. 1st, it would only be in our way if sent now. We can sell a limited amount of new comb honey in August. Have received none as yet, consequently can give no quotations from actual sales. CHAS. MCCULLOCH,
Albany, N Y.

CINCINNATI, O., July 22, 1894.—Demand in general is slow for all kinds of honey, but we have made large sales lately of choice white comb honey of last year's crop, cleaning out our market. We quote 12@14 for choice white comb honey. There is a slow demand for extracted honey at 4@6. Demand is fair for beeswax at 20@23 for good to choice yellow. CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

BOSTON, MASS., July 21, 1894.—We quote you our market on 1-lb. comb honey at 14@16; extracted honey at 5@6. Demand light. Beeswax wanted; none on hand.
E. E. BLAKE & Co.,
57 Chatham St.

ST. LOUIS, MO, July 19.—There is very little change. Inquiries are few. No change in prices. Prime Beeswax, 25. D. G. TUTT GROCER CO.

KANSAS CITY, MO., July 20, 1894.—Some small shipments of new comb honey on the market, selling at 15 to 16c for No. 1 white comb. Not much demand for extracted yet. Beeswax, 22@25.
CLEMONS, MASON & Co.,
Cor. 4th and Walnut Sts.

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W. T. FALCONER MANG. CO.

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A Few Facts Whittled Down

BY CHAS. H. THIES.

A weak colony of bees does not pay at any season of the year, they can produce no surplus, and are hard to winter. A queen after two or three years old had better be suspended. It will pay, try it and see.

A colony of bees should be fed when they have no honey, and none is coming in. How many small bee-keepers do this, not many I should judge, from observation. Yet when dry weather comes, and the pastures are all dried, these parties know that cows, horses, etc., must be fed, why not the bees. Did you ever try keeping bees and poultry? I have found keeping bees and poultry work well together, both pleasant and profitable. I keep poultry in my bee yards, and have experienced no inconvienience or disadvantage thereby.

Foul-brood I think is not as prevalent as we sometimes suppose, but think it is a good deal like chicken cholera in this respect. When a farmer or a poultry keeper that makes poultry his side issue, gets sickness in his yards, it is sure to be cholera, being a dreaded disease it is always the first thing thought of, so I think it is with foul brood. I am happy however that I have not had either to contend with.

The 5 banded variety of bees have so far given excellent satisfaction, both to myself and customers, they are good honey gatherers and very gentle, then why not have a nice looking bee when they are as good as any. It has often been asked if queens reared in the south are as good as queens that are reared in the north, this I am unable to answer definitely just now, but I am experimenting on this line, and will give the results of my experience later. This I do know that I prefer northern to southren grown seed.

I notice that no more bees or queens will be sent from the "home of the honey bee" this year on account of dead brood. This is the right way to proceed, it may be money out just now, but in the long run it will surely pay to do unto others as you wish to be done by, this I have found by actual experience.

The bee-keepers of southern Illinois have another honey harvest right before them. Some of the best of honey is gathered here in the fall, but if dry weather continues the crop will fall short, as did our white clover.

Steeleville, Ill.

How To Prevent Swarming.

BY MRS. L. HARRISON.

I've learned how to solve this vexed problem, which has been under discussion at so many bee-keepers' conventions and like Banquo's ghost is ever present. It is this, and never fails: Keep your colonies where there is very little nectar to be gathered, and you will not be bothered with swarming.

BEE FEVER.

You do not believe in bee periodicals going into the doctor business, do you? Well! I'll write a prescription for this fever, and if you don't want it just put it into the waste basket, and no harm done. It is this, nurse your bees in the spring, cover them in the winter, taking the best care of them that you know how, and when you have done this for four seasons, and have not obtained any surplus honey, the fever will be entirely eradicated from the system.

KEEPING COMBS FROM MOTHS.

A year ago last spring we put a number of hives containing combs in to the cellar. In a week's time we looked them over carefully, destroying all grubs. The third time we looked them over we failed to find one, not a moth developed in the cellar, and not one entered, as the windows were covered with wire cloth. There has not been increase enough to use those combs this summer, and there has not a grub appeared in any of them.

HONEY SEASON OF 1894.

Previous years of drouth destroyed the white clover, and but few blossoms were seen. There was but little fruit bloom, as the March freeze destroyed the buds. Bees will have plenty of stores for winter, but little surplus.

I've seen one man peddling honey around the streets for twenty cents per section. The honey was not first class; some of it quite dark.

Peoria, Ill.

The North American.

The articles of incorporation of this association (which it would not be bad idea for all the bee papers to publish in full), adopted at Keokuk, say: "This association shall consist of its officers, life members, delegates from affiliated local associations, and ex-presidents." They then set forth the conditions on which bee-keepers may become life and annual members, and say that "delegates from affiliated local associations shall be admitted free." It is further stated that any "state, district, territory or providence in North America may become affiliated upon the annual payment of $5.00, which shall be due on the 1st day of January in each year, in advance." I would like to learn now how many of these "affiliated" associations there are at the present time. I see a list of eight is given in the report of the meeting at Keokuk, but I find nothing in the last annual report to indicate that there were any "affiliated" associations at that time. If not, why not? Then, again, what benefit is to be derived from becoming "affiliated?" These are merely questions thrown out to provoke an expression of opinion, if possible, on the part of our leading bee keepers. It is a truth which no one can gainsay that it is human nature not to remain affiliated very long when no benefit is

to be derived from the affiliation. I can see how every individual who attends the North American can be greatly benefitted, but I confess I do not see where the benefit is to accrue to those who are only "affiliated" and never attend any of the meetings. It seems to me that it ought to be possible to identify the interest of all local societies more closely than they are at present with that of the National. I do not known just how this can be done, but I want to suggest a plan by which I think it could be brought about at our next meeting in October. I should like very much to see this the largest meeting that was ever held in the interests of Apiculture on this Continent. This can be done with very little effort, if we all set about it in the right way. I would suggest, first, that every county in the U. S., where there is a sufficient number of bee-keepers, organize at once a local society. Let each member pay in a fee of 50c, and then proceed to elect a delegate to the North American, and equip him with money to pay his expenses, including the $1 for the annual membership fee. Discuss thoroughly what you would like to have him present to the N. A., and send him out instructed to vote every time for the thing that comes the nearest representing what the local societies desires. As part pay for the benefit this delegate will derive personally from attending the N. A., he should be required to write up fully the entire trip and the doings of the N. A, and present this to the next meeting of the local society. Our Canadian friends should do this in every province in Canada. In this way we could secure a very large attendance and create sufficient enthusiasm to put the N. A. in a way to be a power in the land. What say you? What county or providence will be the first to respond to this proposition?

I am making local arrangements for a big crowd and a good time generally. The commercial club of the city has come to the front and tendered me the use of their rooms in which to hold our meeting, and they are doing all they can to help secure reduced rates on the railroads. Just as soon as the matter of rates is settled, it will be published, but I trust no one will wait for this before making up his or her mind to come. The Commercial Club has one of the finest rooms in the city, centrally located, and near to good hotels which have made me liberal rates for one meeting. We have been promised papers from some of the leading bee-keepers of the world. Mr. Benton is working hard to prepare a good program, one that will be both entertaining and profitable. Dr. Miller and a host of others who are a whole convention in themselves will be here, and the meeting cannot fail to be beneficial to all who may attend. If you have but one colony, come and learn how to care for more.

Friend Stilson has struck the right key in the last Nebraska *Bee-Keeper*. He says, "Let's make up a carload or more and start from Lincoln." That's the way to talk. Come on with your carloads, and this city of the "wild and wooley west" will try and do her part. I have received a number of letters and cards from those who expect to be here, but still there is room

for more. Let them come, and come fast. Every one counts and helps to swell the swarm of bee-keepers that will be buzzing in the air in our fair city, October 16-18, 1894. We will furnish the hive, if the people will only swarm.

EMERSON T. ABBOTT, Pres.

St. Joseph, Mo.

Equalizing Colonies in Early Spring.

BY REV. STEPHEN ROESE.

Since the invention of movable frame hives the art of bee-keeping has made a fast onward move towards perfection, for by their means the bee-keeper can early help a colony which has decreased in some way, dwindled down or is in need of stores for winter, but bee-keepers are greatly mistaken when taking advantage of the modern improvements for the sake of equalizing strength of colonies in early spring. It is true a colony can be saved in early spring when its normal strength has gone down so low that the young brood will perish in the cellar for want of animal heat to keep them alive, but to take frame after frame of hatching brood from a strong colony and build up with it the weak colonies in order to equalize the strength of the different colonies is a mistaken idea. Many frames of hatching brood are sacrificed and go to ruin with the weaker colonies to which they are given, where the colonies from which the brood was taken would have been ten pounds at least better off in honey for the bee-keeper at the time of the honey flow. The strong colony in early spring is the one that will richly reward the bee-keeper for his time and labor spent on them, both in honey and swarms, and a weak colony which has been doctored from early spring until the time of honey flow will just about get strong enough to get ready for swarming and have lots of bees when the honey flow is over, when if left to pull through themselves they would not have swarmed that season, would have gathered some honey and would have been in good shape for wintering. The writer practiced equalizing strength of colonies in early spring for several seasons and got very tired of it. When swarming time came from six to eight swarms would issue at one time on some days, clustering together, and if not properly divided would often prove a total loss and would keep the bee-keeper in hot water from day-light until dark, when on the other hand, if left in early spring as the opening of the season finds them, they would be ready for swarming more apart, and would give the bee-keeper time to hive each one before the other swarm came off. In short, a colony which is not strong enough in early spring to pull through itself is not worth bothering with, and the doubling and tripling is also not advisable, for bees in early spring are old and their time is up, and they lack vigor and strength, but not so with young bees.

"A word to the wise is sufficient."

Bee and Honey Notes.

BY WM. M. EVANS.

Our honey crop is about half the average. We had no Poplar nor Locust bloom, and but little honey was gotten from fruit blossoms because of

frosts. My bees commenced killing drones early in May. Up to the middle of June they had secured no surplus. In July we had a nice run of blue thistle, known in England as Vespers Tongue, its honey being even superior to clover. We also had quite a run of Sour-wood. The honey from it is of white color and of aromatic flavor, similar to the California sage.

One of your late correspondents seems to think that some strains of bees develop the instinct for alighting high in swarming time. The facts are, an old queen will almost always alight on the lowest and nearest favorable place, while a queen just hatched will, if her wings are perfect, fly high.

CLIPPING QUEENS' WINGS.

The principal objection to this is the danger of losing the queen, and finally the swarm, unless a young one hatches, but on the whole I favor clipping. I never catch a queen to clip her wings while she is on the comb. The small sewing machine scissors, with spring to hold them open ready for the pressure of thumb and finger, are the best for wing clipping. There is no danger of hurting the queen, and it can be done quickly and easily if ones nerves are steady. Any person who drinks whisky, or tea that will hold up an iron wedge, might not be able to use them.

THE STYLE AND SIZE OF HIVE.

I find the plain Langstroth style satisfactory for our climate, where there is no trouble in wintering on the summer stands. I find it best to keep both the 8 and 10 frame sizes. I use about one half of each, and change colonies from one to the other according to conditions. I also find it advantageous to use some with two stories and with 20 frames for extracting. Also some with sections in wide frames. I move up one or more frames of brood, giving the queen more room below and keeping the colony strong. I have had only five or six swarms this season in my home apiary of 70 colonies.

Amherst, Va., Aug. 17, 1894.

Wintering and Care of Bees.

BY T. B. DARLINGTON.

After two winters' trial of a plan I have adopted of carrying bees through the winter I am much pleased with the result. The insides of the hives kept dry, bees strong and healthy in single wall hives without any outside protection, excepting on the frames. My plan is as follows: In the fall I see that they have plenty of stores to carry them through until the next honey flow. I have the oil cloth covering well sealed up by the bees and cut a hole in it as a vent for the moisture to escape. Leave a space between the frames one inch to one and one-half inches long along the side of this vent hole. I lay on each side close to it a block an inch square and four or five inches long, then put on several thicknesses of pourous stuff—a piece of old phosphate bag or something similar—cut eight or ten inches square. This lets the moisture through, and on top of this I place several thicknesses of old carpet and fill the super half full or more, and on top of all this I always find the moisture from the bees. When cold weather sets in I contract the en-

trance to dovetailed hives to an inch, and in very cold weather I think one-half inch will be sufficient. I have no doubt but that it would be a great benefit and advantage to the bees, particularly in the spring when the wheather is so changable, to contract and open the entrance to suit the change of temperature, for as late as apple bloom we have cold and chilly spells of windy weather and rain blowing into the entrances of the hives. Alley, of the *Apiculturist*, speaks I think of this regulating of the entrances to suit the change in temperature, and I have no doubt but that it will become a general practice among bee-keepers.

I had 29 hives of bees last fall to winter in my way, as above described, and I have 29 now in good working order with brood chambers full of bees. The inside of the hives kept dry all the time. The heat of the bees drove the moisture up through the vent hole and it was found on top of the packing. Last winter was a mild one here, but the one previous was not. I had some with outside cases on, but those without cases wintered the best and were stronger in the spring, and they were the first to swarm. There was no packing between the outside case and the hive, excepting a lot at the bottom to make it more air tight.

Winchester, Pa., Aug. 14, 1894.

EDITOR AMERICAN BEE-KEEPER,

Dear Sir :—I think that bee-keepers learn a great deal from one another by taking bee papers, and especially the AMERICAN BEE-KEEPER.

I notice in the August number how T. L. D. managed to get the bees to work in the sections. His plan is a good one, but the plan I have followed is as follows :

When a swarm comes off, I hive them right in the upper story of sections, then cut out all queen cells in the old hive and put a flat cover on it. That will answer for a bottom board for the new swarm, which I set right on top of the old swarm, and in about four days I take the bottom board out and let both swarms together. They all start to work in the sections nicely. This does not leave the queen too long above, otherwise she would start brood. I like this plan quite well, although perhaps it is not new to some of your readers.

The honey flow is going to be very large here this season My plan is to feed in the spring for increasing, and to have all swarms strong by the time the clover is in bloom, so as to get as much section honey as possible.

Yours truly, E. H. HUTCHINS.

Westville Centre, N. Y., Aug. 20, '94.

EDITOR AMERICAN BEE KEEPER,

Dear Sir :—A straw in gleanings, page 403, tells us how to loosen supers from the brood next by lifting the

super up and dropping it back in its place again. This reminds me of the worst stinging I ever had, by lifting off a super with a brood frame attached to it by the bees. The brood frame broke loose, and falling to the ground, gave me a lively time in getting it back in its place and the hive covered. It was ten years ago and I was only a beginner. The above will work all right with fixed frames, but there is a host of others from beginners up, using loose hanging frames, and likely they always will be using them, and they might prefer some other method, one of which is as follows: Use a long, slim knife, and cut right through between the super and the brood next, cutting lengthwise of the brood frames so as not to move them. This should be done in the afternoon, and the next day the super can be lifted out without any disturbance. If taken off as soon as cut or broken loose, the bees will fight like tigers.

WINTERING BEES.

The first and all-important thing in wintering bees, is to have stores enough to carry them through and to have plenty of young bees, and during August and September the bees should be filling their brood nests with young bees and honey for winter. And when the hive has been contracted for getting clover and basswood honey, towards the last of July it should be enlarged and filled with comb for foundation, so the bees can get them filled in their own way, and not have to be fed later. I have no trouble in getting the hives filled for winter in this way. At this writing I think my bees are well supplied with stores and are working in supers. They are working hard on buckwheat and fall flowers just now. About the first of November, or when cold enough to put winter cases on, I place absorbents over the brood nests, put on the hive covers, and leave the entrances open all winter the full width of the hive, three-eights inch high. Then set the winter case over the hive, with no filling of any kind between case and hive. This keeps pure and dry air for the bees. In the front of the winter case I cut out an entrance 2x8 inches, then take a thin board 3x10 inches, with a screw hole through one upper corner to fasten it, and an entrance out of the bottom edge ⅜x4 inches, which stands open in the winter. Now, I put this right over the 2x8 inch hole in the case, fastening it with the screw at the corner, leaving the outside entrance ⅜x4 inches, so that whenever a warm day comes, and I wish to have my bees fly more freely, I turn the 3x10 piece up, leaving the entrance 2x8 inches. With this arrangement, with the Falcon or Winter cases, my bees came through last winter without any loss and in good condition. I never had bees winter so well before. It makes very little work to clean house for them in the spring, and there were no dead bees to speak of, excepting in one hive, in which there was a small handful of them.

In conclusion I would say contract the brood nest the first half of the season until the white or light honey is obtained, then enlarge it the latter part so the bees can fill it up for winter in their own good way, with no bother or feeding.

Yours truly,

S. M. KEELER.

Chenango Bridge, N. Y.

THE W. T. FALCONER MAN'F'G CO. Gentlemen :—I am in receipt of the 500 shipping cases, and I thank you for your promptness. As usual they are very nice and cannot fail to give satisfaction. I wish to say here, that for promptness and fair dealing you have always been my ideal. In dealing with you for a period covering more than 10 years I have never had occasion to find the least fault.

The season here has not been one of the best. Raspberries and Basswood did fairly well, but clover was an entire failure. Buckwheat had promised exceedingly well, but for some reason, probably the cold weather, it has never ended in the promise, though the winter stores are all that could be wished. H. J. ROGERS.

Wellsville, N. Y. 1894.

EDITOR AMERICAN BEE-KEEPER, Dear Sir :—I wonder what the large bee-keepers think about watering bees, that is, giving them a little water in the feeder? I keep at present but one swarm, but what a number of experiments one can try with them.

I was in a field not long ago and noticed both black and Italian bees coming there after water. Now there were no bees kept within one half mile, unless there may have been a bee tree, but I lined them and they went toward quite a large apiary. The next day I gave my bees some water. The result was they took up apout half a pint that day. I think this is a saving.

Is not a hive a little cooler with a little water in the top evaporating? I think in such dry times as this it pays. Yours, etc,

GEO. A. BOSTWICK,

Verbank Village, N. Y.

SWARMING AND THE BEE-KEEPER.

What harvesting is to the farmer, what pay-day is to the editor, what Sunday is to the minister, swarming is to the bee-keeper. Proper swarming culminates proper management. By this, profit is made and loss sustained. Swarming, unlike wintering and seasoning, is directly controllable. Increase and surplus honey result from its method of procedure.

If I wish to double the number of colonies, is it that I must sacrifice my amount of surplus honey? No! for the reason that I may early divide the colonies, give laying and clipped queens (prepared in one or two frame nuclei to avoid swarming while mating) to the young colonies, and have them prepared for the flow of honey. If the season proves a failure, double up colonies to winter. The ways of sacrificing honey for increase are numerous, and the majority of bee-keepers have already experienced them.

Again, let us suppose a bee-keeper—amateur or professional—managing an apiary. The proper way for him to proceed would be to have his hives ready and clean, with combs free from worms. He may, however, neglect hives and combs until swarming is already upon him, then with hurry and anger he rushes from point to place, upturning last year's negligence, overturning hives of honey, bee-bread and worms, himself blinded by the cloud of moths issuing from the pile, etc.

The former looks upon swarming with cheer and complacence, the other with dread; the one gladdens its coming, the other fears; the one hives with neatness and correctness, the other with slovenliness and irregularity; the one succeeds, the other fails; the one we honor and follow, the other we shun and despise.

One remarked that by the chips he could tell the workman; so by the condition of the combs we can tell the story of that bee-keeper's life. No matter if he combine any trade or profession with apiculture—the amateur bee-keeper experiments, the professional learns. The amateur becomes the professional when he combines reason with the honey-bee's instinct—when he observes, notes and studies.

Right here I may say no science affords such a field of experience and pleasure as the culture of the Italian honey-bee. No science portrays the character of a man better. We can see men who are painfully economical in the apiary, and we see them fail. Indeed, no profession so combats economy as this. This profession is comparatively new, yet one very old. Progress was never greater nor faster than to-day, and who can see its climax? There are bee-keepers who will take every ounce of honey from a colony and leave them to gather their winter stores from the last of buckwheat or the frost-bitten flowers. What is there seemingly more cruel? Such businesslike little creatures, brimming with animal life, and their wonderful God-given instinct, gathering perhaps five or six fold their own consumption!

The art of bee-keeping is holding out its hand for men who are men, according to Emerson—men fit to tutor a family of intelligent children. Apiculture is becoming a pleasure with its ample gain.—S. C. Markon in Am. B. J'n'l. (N. Y.)

MAKING SUGAR SYRUP FOR FEEDING.

Feeding intelligently is, in my opinion, the key to certain success in honey-production. It now appears certain to me that it is impossible to winter bees with certainty in our Northern country, where they are confined five or six months, unless the hives are well filled with young bees when winter commences. Sometimes the usual fall flow of nectar from flowers fails; and the colonies, especially those that have made a large amount of surplus white honey, will cease to rear brood when their store of surplus is taken away, and I am now certain that such colonies cannot be wintered by any perfection of quarters or preparation, so as to come out in the spring sufficiently strong in bees to breed up strong for the white honeyflow; and without this, profitable bee-keeping, as the conditions and demands of markets now are, is impossible.

The remedy is, to feed the bees in the fall, when the flowers fail from any cause; and I know that, by expending 50 cents to $1.00 for sugar, and making it into suitable syrup, and feeding it intelligently, it will cause a colony to continue brood-rearing, and have the necessary force of young bees that can live until another season begins.

Granulated sugar is the cheapest material to make this syrup of, as a dollar will now buy about 20 pounds

at retail, which will make 30 pounds of syrup—enough to send any colony into the cellar in prime condition. This sugar syrup, however, unless skillfully made, is liable to two serious faults—fermenting and granulating, either of which is fatal to success. I had learned to avoid these difficulties, but at the cost of considerable trouble, and I hailed any simple and certain means of making the syrup as a great boon : and I know that thousands feel as I do ; hence, the queston is one of great importance to bee-keepers in general.

When I read Mr. Tatman's article I decided to go to town at once and get the necessary material for a machine ; but no team being immediately at command, I was compelled to delay. Alice Carey says, in one of her sweet poems—

"We cannot make bargains for blisses,
Nor catch them like fishes in net ;
And ofttimes the thing life misses
Help more than that which we get."

Being dissapointed, I lay down for a restful nap. Here is the time and place where I do my thinking and dreaming. A vision presented itself to my mind. I had one of Bro. Root's uncapping-cans. Why would not this make a capital leach for making syrup? Here is the 12-gallon can below, for holding the syrup when made, with molasses gate all ready to draw it off. The top can will hold at least 150 pounds of sugar, with room for water. But this great weight will be too much, for the wire-cloth bottom will sag and spoil it. I will go at once and plan to overcome this difficulty. O, happy day! Bro. Root has anticipated this very need. He has put this large tin cone in the lower can for this very purpose. I had forgotten it was there. I had often wondered why it was made, as the cappings from combs, when extracting, are very light, and do not need it. It is now plain why it is there. Bro. Root truly sees things from afar off.

Yes, the thing is all ready for a perfect syrup factory, without a cent of expense, or a moment's delay. The flannel filter is the only thing needed. The can is 20 inches in diameter, and a circle was struck on a piece of stiff paper 22 inches in diameter, 2 inches larger than the can. This is to turn up one inch all around against the edge of the can, so the sugar can be pressed tightly against it, and a leak be prevented, and the syrup be compelled to leach through the cloth, for in this lies the secret of perfect syrup.

The paper was laid upon a sound piece of clean old bed-blanket, and three pieces cut out ; and as we were quite certain that we had found the "promised land," and that the thing was not an experiment, we located the can under the shop stairs, upon a neat platform high enough to get a suitable vessel under the honey-gate, to catch the syrup.

The flannels were spread upon the wire bottom, and carefully adjusted around the edge. Then 70 pounds of sugar was scooped from the barrel of granulated, sitting alongside. Two pails of water was poured on, and I lay down for a night of happy dreams.

Was I disappointed in the quality of the syrup? I should say not; and I am happy.

Thousands have these uncapping-

cans, or others similar, and I need not add another word to this rather long story.—B. Taylor, in Gleanings.

(Minn.)

POINTS ON HONEY.

One should be right in the midst of the honey season, and during July and August more honey should be made and gathered than during any other season. The season has been a good one, and more honey will be harvested during 1894 than ever before in this country, for the simple reason that more are engaged in the business, and plants and flowers are more generally cultivated for bees. Quite a number of apiarists are raising plants which are not intended solely for bees, but which supply them with quantities of food. For instance, buckwheat fields give a late fall supply of honey and yield a fair profit also from the garden. In this way apiarists are learning to combine their special work with a little profitable farming, and farmers are adding to their live stock honey bees to take advantage of their clover and buckwheat fields and fruit blossoms.

In gathering honey in August there is considerable trouble from robber bees. Many of the hives are dripping over with gathered honey and the bees are inclined to rest upon their labors until ths cells are partly emptied. They are consequently more fractious than at another time when very busy. In strong colonies a watch is kept out for robber bees, and the first one that appears near the entrance is pounced upon and killed. There is really little danger in a strong colony, but a small, weak colony may sometimes be driven out of their rightful possessions, especially when the hive is opened to take away the honey. The robbers then surround the hive and enter it as soon as the work is finished, and it is impossible to distinguish the robbers from the rightful owners. The queenless colonies are more apt to be robbed than those with a queen, for in the latter case they will fight valiantly for their home.

The honey should be removed on a very quiet, warm day about noon when the bees are all busy in the fields gathering honey. Have everything in readiness before beginning the work, so that it can be done as quickly as possible. The least disturbance that can be given to the bees the better it will be for them. After securing the honey from one hive take it immediately into a dark room to sort it before starting another. If the windows are opened the few bees that still adhere to the comb will soon fly out. When the surplus honey is removed examine the colony immediately to see if they have a laying queen. It is also well to mark the amount of surplus honey that each hive yields, so that you can tell what queens are good ones, and if necessary what ones to supersede. A poor queen cannot be tolerated at this time of the year, and she should be disposed of at once. The very small, weak colonies that do not seem to be able to take care of themselves should be joined. It is quite essential to have the bees in good order the latter part of this month, for pretty soon the bees will hatch that are to be kept through the winter. These want to be in good health and get a fine start.—Anne C. Webster in Am. Cultivator.

BRACE-COMBS, AND THEIR ADVANTAGES.

It has been with much interest that I have read all that has been said *pro* and *con* by way of arguments, experience, desires, wishes, etc., along the line of wide and thick top-bars for the frames, to do away with brace and burr-combs, all, or nearly all, seeming to think that it would be a great advantage to "be rid of such a nuisance," or, at least, most who have written on this subject seem to think that these little bits of combs between the top-bars to the frames, and those between the top bars and the sections, cannot be anything else than a nuisance. I admit that they are often an annoyance in the manipulation of the hive, but instead of considering them nuisance, I consider these same bits of comb a great help, and for years I have allowed them to remain on the top-bars of my frames, just because I considered them of more value than they are an annoyance or disadvantage. Were I working an apiary for extracted honey, I might change my mind a little, perhaps, but for comb honey I would not allow anyone to scrape them off my frames, or substitute thick top-bars in their places for 50 cents per hive.

Years ago, I thought of them as most people do to-day, considering them a nuisance, and not knowing of the thick top-bar project at that time, I scraped them off in the fall when I prepared my bees tor winter; thus doing away with them until the next season, when the sections were on again, and the bees built them in during the surplus flow of honey. This I did until one fall, through an extra amount of other work, I did not get time to go over more than about two-thirds of the apiary in preparing for winter, guessing at the rest, or what amounted to the same thing, weighing the hives to come at the amount of stores they had, instead of inspecting every faame, as I usually do, so that I may know for certain just what each hive contains. Previous to this I had used the Hill device, or something similar, to give the bees a passage-way over the combs during the winter, as is so often recommended to be used under the bee-quilt; but frequent examinations during the winter satisfied me that these brace-combs, which I had heretofore taken so much pains to remove, answered every purpose of such a device, besides being much cheaper, as well as requiring no room in my shop, or lugging back and forth from shop to apiary both spring and fall, which they required when used; while with these brace-combs the frames were never misplaced in putting in and out of the cellar, as was some times the case where I had taken all off as above given.

But their greatest advantage appeared when I came to put on the sections, for the bees seemed to consider them as little ladders on which to climb up into the sections, for it was a very noticeable fact that the bees entered the sections much the sooner where these brace-combs were left than they did those where they had been removed; and, if I correctly remember I so wrote in the American Bee Journal at the time, advising all to remove the brace or burr-combs from the bottom of the supers, but not from the frames.

The next year I tried the same experiment again, and so on for several

years, until at last I became thoroughly convinced that these combs added largely to my crop of comb honey by leading the bees into the sections much sooner than they otherwise would go.

Now, some may say that it is no use getting the bees into the sections as soon as the first honey comes in; but I claim that this has very much to do with our crop of comb honey. It is not that the first three or four pounds of honey stored in the sections could be sold for so much cash that I wish it placed in the sections, although that might be quite an incentive where a person kept 500 colonies, the same amounting to about a ton of honey in that case; but all my past experience teaches me that, for every pound of honey stored in the brood-nest at the commencement of the season, or honey harvest, there will be five pounds less stored in the sections that year. Let the bees once commence to store honey in the brood-nest thus early in the season, and they are loth to enter the sections at all, and, instead of giving us lots of section honey, they will keep crowding the queen from the brood-cells more and more, storing them full of honey, until, when fall comes, we have little honey for market, and our bees in poor shape for the winter.

Then, again, these thick top-bars, which are used to do away with these brace-combs, place a barrier between the brood-combs below and the sections above, instead of forming ladders to lead the bees to the sections. Who has not noticed that where an inch or two of sealed honey intervened between the brood in the hive and the tops of the frames, that the bees were much more loth to go into the sections immediately on the first appearance of honey from the fields, than they were when the brood came up all along the top-bars to the frames? This was one of the claims for the contraction of brood-chambers in the interest of comb honey, that where contraction was used the brood must come close to the bottom of the sections, and, so coming, the bees were in the sections in a twinkling when the honey harvest arrived. I doubt not but what all will be free to admit that an inch of sealed comb honey would be a better leader to the sections than an inch of wood, as is now proposed. When we come to fully understand this fact we shall see that, wherein these brace-combs are the means of having our bees enter the section sooner, just in that proportion are they of value to us.

Try the experiment, brethren, and see if, at the end of such a trial, you will not be willing to put up with the inconvience they cause you, for the sake of their great value. G. M. Doolittle in Am. Bee J'nl. (N. Y.)

HOW TO DESTROY MICE IN A BEE HOUSE.

We do not believe in advocating cruelty to animals, but we are forced from last years experience to advocate most strongly the use of any and every means to rid the hives from mice. It is very important indeed that this should be closely looked after—equal quantities of arsenic, white granulated sugar and flour mixed dry, put on little pieces of paper about the hives or apiary, where it can remain for sometime without being exposed to dampness, is a very sure way of ridding the place of mice, yet in some

instances where they can feed on bees in hives they seem to care little for the poison. Another plan we have adopted, which frequently gave us good satisfaction: Take a tin pail half full of water, scatter a little wheat chaff on the top to make it look like a chaff bin. A board from two to four feet long, with one end on the floor and the other on the side of the pail, in fact better one on each side of the pail, than scatter a little bran, meal or flour, dust it lightly on the board. The mice will run up and look down upon the chaff where you have the meal scattered, they will jump down off the board on the chaff in the pail to get the meal, the chaff will sink around them, and the mice drown. We have caught five or six in a pail in one night this way. We recollect once, that in one of our out apiaries having several deer-mice and a chipmonk, which had gone into the bee-house from a neighboring wood about twenty rods away. They were so anxious to investigate the pail business that they got into it. Perhaps rats might be caught in the same way.—*Ex.*

NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.—CHANGE OF DATE.

In order to let all bee-keepers who can take advantage of the "Harvest Excursion" rates which will be given on October 9th, we have concluded to change the date of the meeting to October 10-12. The rate will be one-half fare plus $2. These rates apply east of the Missouri river only. Ask your R. R. agent about them.

Special rates of one and one-third fare will no doubt be secured in the territory covered by the Western Passenger Association. These will be announced later, if secured.

EMERSON T. ABBOTT, Pres.

St. Joseph: Mo., Aug. 25, 1894.

The American Bee-Keeper,

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THE AMERICAN BEE-KEEPER,
FALCONER, N. Y.

☞Subscribers finding this paragraph marked with a blue cross will know that their subscripiton expires with this number. We hope that you will not delay in sending a renewal.

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EDITORIAL.

The honey flow has been very meager during the past few weeks owing to the unusually dry weather. No rain fell here during the month of August, and many fields have been burned over, and forests destroyed.

Elsewhere we publish an article concerning the North American Bee-Keepers Association by the president Mr. E. T. Abbott. His points in regard to affiliated associations are well taken and the matter is one which should be brought before the association at its next annual meeting.

We are in receipt of a pamplet from Cornell University describing with numerous illustrations the "short course in agriculture," where students are educated free. The course includes poultry-keeping veterinary

science, entomology and the dairy. Copies of this pamphlet will be mailed on application to J. P. Roberts, Director, Ithaca, N. Y.

Ernest Root has during August been making an extensive trip on his bicycle through southern Michigan and northern Illinois going even into Wiconsin.

We would like to have more of our readers contribute something for publication. We are always in need of articles.

Judging from the complimentary remarks made by certain "Bee Editors" and others concerning each other, it is about time to form a "mutual admiration" society. About the only one "not in it" would be Henry Alley. In some instances it is really quite sickening to the general reader.

A descriptive circular of our thin outside winter case will be mailed on application.

The *American Bee-Journal* has adopted the plan of printing original contributions with the lines extending entirely accross the page. It looks well.

The date of the annual meeting of the North American Bee-Keepers' Association has been changed to October 10-12.

Everyone who can should attend the annual convention of the North American Bee-Reepers' Association. All the great lights of "Beedom" will be there.

See that your bees have plenty of stores to carry them through the winter. Don't rob them of all they have, expecting them to gather enough late in the fall to tide them through. The fall flow may be short, and a good sized colony needs fully 20 lbs. of stores to keep them, til spring.

If your subscription has expired renew it at once.

LITERARY ITEMS.

The complete novel in the September number of Lippincott's is "Captain Molly," by Mary A Denison, and deals with the philanthropic work of the Salvation Army. The heroine, a banker's daughter, leaves a luxurious home to dwell for a time in Paradise Flats, and tries, not without success, to alleviate the miseries of her neighbors there: the hero follows her in disguise, and the tale comes to an orthodox end. The three short stories are of unusual merit. "Josef Helmuth's Goetz," by Frederick R. Burton, is a weird tale of a too imaginative musician and of a violin which imprisoned a human soul. Will N. Harben does his very best work in "The Sale of Uncle Rastus," a slave whose devotion to his master assumed a unique form. Laura A. Smith writes of "Songs of the Battle-Field," and gives specimens of them, music as well as words, from many lands. "How I Found the Baron," by Edward Wakefield, describes a queer piece of semi-political history, including a dangerous expedition through the wilds of New Guinea. In "Head-Lines," W. T. Larned collects and comments on some of the worst liberties of the American press.

"The Evolution of the Heroine" is a pleasant literary essay by Professor H. H. Boyesen. The "Human Horses" treated of by Walter Rogers Furness are the jinrickisha-bearers of Japan. F. K. Henry writes of "Inconsistent Franchises" in the mingling of trusts with insurance. In "Talks with the Trade," the editor discusses "Writers and Typewriters."

PHOSPHORUS AND PHOSPHORESCENCE. It may be naturally supposed by those who have given but little attention to the subject, that the presence of phosphorus in some form is necessary to the exhibition of the phenomena of phosphorescence. This, however, is not the case. The word employed is made up of two Greek terms signifying light-bringer, and was used before the elementary substance phosphorous was discovered. As nearly as can be ascertained, the quality of phosphorescence is closely connected with electrical conditions as yet little understood. In certain cases the atmosphere itself becomes phosphorescent. The writer has seen moon less nights when everything could be clearly seen by a sort of diffused light without apparent origin, and casting no shadows in any definite direction. —From "Submarine Lights;" Demorest's Magazine for September.

In all its history of sixty-four years, Godey's has never made a more radical or more welcome change than it has in its recent reduction in price to ten cents. The cover of the August number shows that clever and artistic innovations are to be made under the new regime. The contents are fully up to the standard. It is all readable and there is nothing too deep for the summer months. The Seward reminiscences are continued and there are finely illustrated articles upon New York Roof Gardens, the Battlefield of Waterloo in 1894, and the Yale-Harvard boat race of 1894. A long list of fiction and the fashion department complete the number.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, Mo., Aug 20, 1894.—Slow demand for honey. Price of white comb 15@16c per lb. Amber 12@15c per lb. Dark 10c per lb. Extracted 5@7c. Price of Beeswax 22c.
HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, MICH., Aug. 20.—There is a fair demand for honey with a limited supply. Price of comb 14@15c per lb. Extracted 6@7 per lb. Slow demand for Beeswax. Fair Supply. Price 24@25c per lb. No old honey in sight.
M. H. HUNT, Bell Branch, Mich.

ALBANY, N. Y., Aug. 31.—The demand for honey is fair for the time of the year. Supply very good. Price of comb 12@16c per lb. Extracted 6@8c per lb. Most of the comb honey received up to this time has a yellow appearance and will not bring highest price. Prospect for a good yield very poor in New York State. CHAS. MCCULLOCH,
Albany, N. Y.

CINCINNATI, O., Aug. 20, 1894.—Slow demand for honey. Good supply. Price of comb 13@16c in a jobbing way. Extracted 4@6c on arrival. Demand is fair for beeswax. Price 20@25c per lb. for good to choice on arrival. CHAS. F. MUTH & SON.
Cor. Freeman and Central Aves.

BOSTON, MASS., Aug. 21, 1894.—Light demand for honey. Fair supply Price of comb 14@16c per lb. Extracted 5@6c per lb. Beeswax is wanted as there is no supply. E. E. BLAKE & CO.,
57 Chatham St.

KANSAS CITY, Mo., Aug. 20, 1894.—Light supply and light demand for honey. Price 12@15c per lb. Extracted 5@7c per lb. Good demand for beeswax. Supply very light. We look for a good demand for honey at good prices.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

ST. LOUIS, MO., Aug. 21.—Light demand and fair supply for honey. Prices of comb 10@14c per lb. Extracted 3½@4c per lb. Good demand for beeswax. Fair supply. Prices 25½@26c per lb.
D. G. TUTT GROCER CO.

ALBANY, N. Y., Sept. 1.—Fair demand and light supply for honey. Moderate crop but lack of money with consumer and we do not look for fancy prices. We quote: White comb 14@15c, mixed comb 12@13c, dark comb 11@12c. white extracted 7@7½c, mixed extracted 6½@7¼c, dark extracted 6c. Beeswax, scarce, 28@30c. Correspondence and consignments solicited. Commission 5 per cent. Promptness a specialty. Cash advanced on consignments.
Established 1865. H. R. WRIGHT.

THE AMERICAN BEE-KEEPER

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For Better Markets.

BY WILBER GRAHAME.

Success in the apiary does not necessarily follow the footprints of the successful management of bees. Edison once said that it takes more ability to make money from an invention that it takes to make the invention. In other words constructive ability is one thing and executive ability quite another. In the same way it may be all very easy (though it seldom is) to manage the apiary up to the preparation of the finished product for the market, and then a little mistake or series of them destroys the profits of the season that are seemingly already in sight. One may control the varying features of his own premises much easier that he can control the shifting conditions of the markets. But there are certain schemes and makeshifts by means of which even the question of markets is to some extent in the hands of the individual.

Two subjects should interest the apiarist; vis: quantity and quality, whereas too often the first alone is recognized. It is possible then for the individual by courting the general neglected item to place his product out of the ordinary market run and manufacture a market of his own as it were for his special brand and at his own scale of rates. In these papers it is proposed to treat upon the production of an article worthy of a better market than the ordinary run of honey, and of the establishment of that market and of better prices.

One thing is of paramount importance in the production of a high grade honey—cleanliness. And I apply the term in a much wider sense than is frequently given it. I assume the hives are sweet and absolutely clean so far as foreign matter is concerned. If they are new so much the better. Hives made of rough or weather-tarnished boards will not do.

When the colonies are first set out in the spring for a new season one should have an extra bottom board in place. Lift the first hive from its own board and set it upon the new one which is, of course, already clean. Remove the dead bees from the one thus exposed, clean thoroughly and set in place to receive colony No 2. In a similar manner prepare the bottom board of No. 2 for No. 3, etc.

High grade honey can only be obtained in its perfection with high grade surroundings. Cleanliness with-

in the apiary itself though essential is not enough; the same trait must prevail throughout the entire range covered by the bees. This may see difficult, in some cases impracticable, but it is far less so than one is apt to imagine. Filth is a necessary accompanyment to very few occupations and surroundings and if the bees compel its removal the extra trouble they become to us is compensated for by their value as sanitary agents. A good many more of the unhealthy spots surrounding us are due to thoughtlessness than to necessity. Perhaps we do not recognize their presence at all or really cannot see how to remove them so long as it is only a matter of health. But once let it become a question of dollars and cents and our observations will be more alert. On small premises and with untidy neighbors the removal of all filth from the range of the bees is of course a much more delicate problem than when the entire matter lies in our own jurisdiction. Occasionally a little missionary work can be done without offence, not always. At best, the reform is very likely to be only partial. When it is found impossible, then, to remove the filth from the bees, it becomes necessary to remove the bees from the filth. This cannot be done wholly, to be sure, hence as favorable a location as possible in this respect should be chosen at the start. But bees may, to a great extent, be kept at home by being fully supplied there with drink, etc., and material upon which to work. They do not fly one or two miles from choice for pasturage, but from necessity, and the keeper of bees will not appreciate the convenience of a near-by pasture as quickly as the bees will themselves. It is possible, then, where objectionable places cannot be removed, to provide good, clean pasture near the hives on one's own premises, that will practically annul the bees tendency to ramble. And right here one may go a step further, and regulate the kind of honey to be produced at the same time the pasturage is being prepared.

Of all the various kinds of honey on the market, probably none is more universally popular or more profitable than pure white clover honey. In preparing pasturage, then, it is well to bear this in mind, at the same time avoiding, as far as possible, all flowering plants apt to be in their honey-producing stage at the time of the white clover season. In this way one is not only able to guarantee the purity of his white clover honey, but the injurious results of a mixture are avoided. I do not think any two kinds, however excellent in themselves, are as satisfactory served together as either one would be by itself. But I will treat this subject more fully in a later article.

The best of honey is ruined as a fancy article if not put up attractively. It is, therefore, essential that the very best sections (I prefer the one-pound size) are used, and that the best foundation only be admitted. This should be as nearly colorless as can be procured, and must be neatly fastened into the sections. Daubs of wax would be fatal to success. Care must be taken, too, to fasten the starter in straight, so that the comb will be smooth and even when finished. Much depends on the appearance of

the section itself. It should be white and spotless, a result that cannot be entirely reached so long as the bees have access to its outer surface in any place. The under surface, in particular, as the section rests in the hive, should be entirely covered by strips of metal. Usually enamelled cloth is sufficient to cover the super if it is weighted tightly upon the sections. Otherwise the bees will glue it to the wood more or less, and leave the marks of their work on the white surface. Bees like tight joints, and unless such are provided, proceed to fill up the cracks themselves.

Even more objectionable than these marks of the bees soldering industry are finger marks on the white sections. Every bee-keeper knows how difficult it is to keep the fingers clean while handling the various sticky articles necessary and a smoker at almost the same time; also, how plainly and persistently the finger marks will then show up on the smooth surface. The danger here increases directly as the sections have thus far been kept clean and spotless. Only one suggestion is necessary here: be careful and don't allow it, even if you have to avoid touching the sections direct entirely. These matters may seem trifling but the results are not, for there is nothing that will give the impression of filth and inferiority more than the marks of dirty fingers on the smooth white boxes. People who buy honey are not as a rule keepers of bees and do not understand the difficulty of avoiding this. In fact they are more than likely to attribute it to unclean personal habits and to regard the honey itself with suspicion.

Tested And Untested.

BY H. E. HILL.

The brace comb question now presents another phase "new and startling," by the assertion of that popular and most successful apiarist, G. M. Doolittle, in *A. B. J.*, that brace-combs are a desirable addition to comb honey arrangements, as they serve as ladders for the bees to climb to the supers, saving much valuable time. If economy of the bees' time is so important, as thus implied, by the tolerance of this nuisance, why not devote the winter season to driving shoe pegs into the top-bars? Save the bees' time in "ladder" building.

—Brother Amos, in the August BEE-KEEPER, correcty notes the advantages of clipped queens in controlling swarms, but it is by no means safe for an absent bee-keeper to depend upon her returning to the hive, as she is very likely to be led away from the hives by the sound of the flying swarm, and lost in the grass. Clipped queens should be closely watched at swarming time.

—Bee-culture, it would appear, does not afford a range sufficiently broad for some of our American "bee papers," and foreign departments are being annexed, medicine, religion, etc. Is fraternal interest abating in bee literature, or have we reached a solution of the knotty problems?

—The *American Bee Journal* has adopted a new style of "make up," removing the column rule and setting the matter 27 ems.

—The boss record of the season comes this year from Florida. A little over 550 pounds from a single colony. This is but about 450 lbs. behind the

champion colony of Dresden, Tex., which was reported to have stored 1,000 lbs. in one season.

—Notwithstanding the extremely dry weather, the honey crop has been above the average in this vicinity, and as a result of the incidental encouragement, marked improvements in appliances are noticable in many small apiaries, odd sizes of hives are being discarded and the bees placed upon uniform frames. This newly-awakened interest craves further knowledge, and some have already subscribed for the BEE-KEEPER and several others avowed their intention of so doing before the advent of long winter evenings.

Titusville, Pa.

Wintering Bees.

BY JNO. F. GATES.

After about 25 years of careful study of the problem of wintering bees, I consider that a well-prepared colony of bees, with right care, is as safely wintered on its summer stand without any protection, as a cow is in a good stable and well fed. This may be called a strong statement, but it is true, for it all depends on care and preparation. Cold never killed a colony of bees, any more than millers or worms have. Any spot on earth where bees can collect sufficient stores, is never too cold to winter them on summer stands. I am convinced that bee-keepers in general do not realize the importance of allowing their bees to have *white* honey for winter stores. When I commenced keeping bees I found but one obstacle to success, and that was the winter problem, and for about a quarter of a century I have studied how to overcome it. The attention I have given the subject ought, as it certainly has, to reward me with success. Many times in my travels about the country I have made inquiry about the loss of bees, and collected ideas of the cause of their loss. I never could gain much knowledge from the bee-keeper's supposed cause of his loss, for each one had an idea of his own, and I could not form a conclusion which would harmonize with their testimonies, but in every case I managed to find out how they did with their bees, and from these facts I draw my own conclusions, and the whole result of all these years, leads me to believe that three-fourths of all the loss of bees in wintering is caused by poor honey, or in other words, the lack of white honey. I will give you an average case. I said to Mr. A. "How many colonies have you?" "19." "How many did you lose last winter?" "36." "What do you think caused those 36 colonies to die?" "Well, Mr. Gates, I don't know, unless it was dysintery; at least that was the only apparent cause of disease. Some starved to death, but most that died had dysintery." "Did those that died of dysintery have much honey? "Yes." "Please let me see some of it." The honey that he showed was dark, perhaps all poor kinds mixed, and is bad for bees to eat in winter when they have to be quiet. "How much honey did you get last season?" "1,800 lbs." Mr. A. can you point out those colonies which gave you the largest yields of honey?" "The 36 that died gave me about all the honey I got." "Why did the 19 that are now alive not give you

honey last year?" "I don't know, they seemed to hold their honey below, and do what I would they would not store it in boxes. That's the worst of it, the best colonies are the ones that died. Eight colonies out of those 19 haven't given me 8 pounds of honey in 8 years. I haven't cared whether they died or not. In fact I don't do much with them. If I put on boxes they don't work in them, so I let them shift for themselves, only I catch their swarms." "Do those 8 swarm early?" "Yes, they swarm so early they leave the boxes before they make a start. Mr. Gates, I see you have been taking notes about my bees. Can you explain the cause of my loss of bees?" "Mr. A., in return for your kindness, I will tell you all I know about it. The 36 colonies that died, instead of being your best were the poorest. They swarmed so late that they got to work in the boxes and put all white honey there, and you took it in the fall. The 36 hives contained mostly worn out bees with poor honey, and you see the result. Your ventilation was not good, but in spite of this fact the 19 colonies have lived and are all in good shape, because the bees were not worn out and had good honey. Those 8 colonies, especially, are in fine shape, and perhaps will swarm by May 20th, and are 8 valuable colonies if worked rightly." "How are they valuable, and how would you handle the 19 colonies?" "I would not handle the 19 in any way but to let them entirely alone. I would handle the new swarms which come from them. I would make 19 new hives about 8 inches high by a foot square, or if of the Langstroth size about 6 or seven inches high. When they swarm, hive the swarm in the small hive, setting it where the old colony stood, moving the old colony to a new location. Put on sections at once with queen excluder. You will get a large yield of honey. After the white honey harvest is nearly over, unite two of those small colonies in one by setting one on top of the other and smoke them. The young bees of both colonies will make it more safe to winter if they have not been robbed of all their white honey. By the way, do you take the AMERICAN BEE-KEEPER?" "No." "Well, I would like your name and 50 cts. to send for it. You will? All right, thank you. There is an article on page 37 of March number which explains my views."

Ovid, Erie Co., Pa.

Brood Rearing in Old Combs.

BY H. E. HILL.

Complying with the request of J. W. Buckman, in the July BEE-KEEPER, would say: Regarding the effect of old brood combs upon the development of larvae, it appears, as yet, an open question. Several years ago I transferred a colony from a box hive, which had served to protect them against the ravages of the elements for sixty years, yet the bees, while very small, were not so diminutive as those which resulted from a previous experiment, by inducing breeding in a twenty-year-old comb. In this case the bees were the smallest specimens of American honey gatherers that I have ever seen, being but a trifle larger, than Apis Flora, of Borneo, the contrast being so marked between those

reared in the old and new combs, the progeny of one mother, that specimens were preserved in alcohol and placed in my collection, but with the intention of submitting the "sample" to editorial inspection, I find that in traveling, the bottle has been broken and the bees destroyed. Specimens of Apis Dorsata, from Java, the stingless bee of South America, and others highly prized, have suffered a like fate, hence I may, instead, record another phase of "failure in bee-keeping." Cause, as usual, *carelessness*. Is it not possible that at about this stage (20 years) the combs became worthless for breeding, and the sidewalls are gnawed away, cocoons removed and new wax added in reconstruction? If not, why were the workers reared in the twenty-year-old comb smaller than those of the venerable colony first referred to?

Titusville, Pa.

Wintering Bees.

BY CHAS. H. THIES.

The best methods of wintering our bees is again before us. While our bees in Southern Illinois require more attention than do bees in California and other warm countries, yet I am glad to say that if bees in Southern Illinois are fairly well protected, and supplied with plenty of good honey we need have no fear or loss. The past winter was a tolerably cold winter here. In March, 1894, I bought the bees of a small apiary that had no attention given them of any kind. They were not only left without any kind of packing, but their hives were full of holes, with lots of upward ventilation. When first seen I was surprised that they lived at all.

Two of the principal requirements for successful wintering are plenty of good honey and a dry hive. There are also other smaller items which require attention to have the best success. Some of them I will here mention. A dry hive is surely needed, but a warm hive is very desirable, one that will not let in cold winds. Also the back of the hive should be raised a little, say two inches, which not only hurries the water off the hive covers, but also tends to drain off any moisture that may collect in the hive. The bees should be covered with some loose, open material. On top of this place an empty super filled with soft forest leaves. I say soft leaves, as I believe them to be warmer. Large, flat leaves will not do, as they will pack down solid and not allow the moisture to escape.

Many claim that only large, strong colonies should be wintered. I have found that small colonies can be successfully wintered, but their hive must be made to suit the size of the colony. A small cluster of bees in a large hive will never do, as the bees on the outside of the cluster will surely chill and consequently starve. What seems to be necessary is that the bees entirely fill the hive; crowd them. To have a goodly number of young bees to go into winter with is also very desirable, not only that I think they winter better, but they live longer in spring when they are most needed.

Just now I am having a splendid honey flow, which is always pretty sure with me, even if no honey is obtained in the spring. Our fall honey is always of a good quality, consequently we always get sufficient good

honey for our bees to winter on. Those that do not have the advantage of a fall flow, or only have a light flow, should now commence feeding for winter, so the bees will be in good shape in time for the cold winter. Here our bees obtain honey until frost, which is usually the last of September. Even after frost we get some honey from asters, etc., but this does not amount to much.

Steeleville, Ill., Sept. 13, 1894.

EDITOR AMERICAN BEE-KEEPER—Dear Sir:—Your catalogue of bee-keeping supplies came to hand some time ago, and I thank you for it.

I admire your new comb guide very much. Had I not already ordered my frames elsewhere would have ordered your new style.

We had warm weather here in March. Thermometer was up to 80° in the shade. The bees were storing large quantities of honey but we had a cold snap which put a sudden end to it. The thermometer went down to within 12° of zero. Pears, apples, and also peaches froze and the bee pasturage was very short.

If bees cannot find flowers from which to gather honey they are apt to steal from each other. Therefore the beginner should be on the lookout. He should contract the entrances according to the strength of the colony. This is mostly sufficient for ordinary robbing, but the beginner will frequently find cases of robbing more difficult to manage. I have had cases of robbing where the colony that was being robbed did not make the least effort to avoid and keep out the robbers, but would let them pass in and out as if they did not know that the robbers were not of their own family This kind of robbing is by far the most difficult of any to stop. I will give my way of treatment of such cases.

Two years ago I had just such a case and I opened the hive that was robbed, took out a few frames of comb, brushed off the bees and set them to one side. Then I opened the robbers hive, took a few frames of comb, bees and all, and put it in the hive that was robbed and replaced the vacancy with the frames taken out of the robbed hive. This completed the job satisfactorily.

Last summer I had a colony whose queen was lost and was attacked by another stronger colony. Before I knew it they had made such headway that in a few hours they would have had the weaker colony cleaned out, had I not found it out just as I did. Just like the above colony I spoke of they did not seem to notice the robbers any more than if they all belonged to the same colony. Now here the beginner might be at a loss, not knowing that there is robbing going on, until one colony is cleaned out, as no fighting can be noticed. The unusual strong flying at such a colony is the first indication of robbing. The next is that bees will be noticed coming out loaded, and they will crawl up the front of the hive, then start off circling apparently, so as to locate the hive so

that they can return to it. With the last named colony I adopted a different plan from the first, as the robbers had made too much headway. When they have made considerable headway no sheet to cover them or wet hay or grass will successfully stop the robbing. A speedy and successful remedy must be adopted. I set the hives of the robbed colony to one side full of robbers filling themselves up with honey. Then I took the robber hive and placed it where the robbed hive set. Then I took the robbed hive and placed it where the robber hive stood, and the job was completed. The robbers as soon as they are filled with honey will pitch off for their home, and finding that they have to return just from where they started they will have to unload themselves into the hive where they got the honey, and all the workers from the hive will come from the field loaded and going to their old stand will enter the robber hive. Things may seem strange, but what will they do? They will have to take up with things as they are, and now the weak robbed colony will be reinforced to take care of themselves. Yours truly,

JOHN SLAUBAUGH.

Eglon, W. Va.

We will send the BEE-KEEPER until January 1896 to new subscribers only for 50c.—15 months.

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HOW BEES SECRETE WAX.

W. F. Clark is of the opinion that the bees build the cells by using the sting as a trowel. This is surely a mistake, but Mr. Clark seems to be right, if he says, that the formic-acid in the honey has much to do with keeping the honey from fermentation. It is very probable, that the bees arbitrarily add this formic-acid before capping the cell. Probably this formic-acid is a preventive against foulbrood too. Dr. Moellenhof and some other bee-keepers believe and have observed that the bees give a drop of formic-acid on the surface of the honey and then cap the cell.

This sting or trowel theory, seems to indicate, that not every American bee-keeper is acquainted with the latest scientific theory in this respect.

To produce wax, the bees eat honey and pollen and change this food to chyle in the true stomach. This chyle goes through the walls of the stomach into the abdomen and then it is blood; out of this blood, wax is secreted. But blood is present in the abdomen all the time, while the secretion of wax is temporary only. This is because wax is secreted, when the true stomach is quite full of chyle; then the walls are contracted powerfully and a great amount of blood is pressed into the abdomen.

I said *pollen* and honey are needed to secrete wax. Wax does not contain nitrogen, so it may seem that wax

can be produced without nitrogenous food; but we see, that wax-secretion requires much muscular exertion and this may consume the nitrogen in the blood very rapidly. Experiments have proven, that bees in a very short time will secrete wax without pollen and then die.

In the "Api." 1888, page 11, I said: may be, they get some (wax) as side-produce by feeding young larvæ, but I can't prove this yet. Now I can further explain this idea.

If the bees prepare the chyle for feeding the young larvæ, the stomach is in condition for secreting wax. To vomit this chyle, the stomach is compressed; the same as is done when wax is secreted. Would it be impossible in warm weather, when the bees breathe in a higher degree, that some of this chyle should pass the walls of the stomach, to be transformed to wax.

HOW THE BEES BUILD COMBS.

The building of cells is done in the following way: The wax-scales are taken by the claws and carried between the two jaws, here they are kneaded, mixed with saliva and formed into small globules. These globules are pressed by the bees in place, by the jaws, and by the labrum. So globule to globule is added to a circle if the bees commence to build the sidewalls of a cell and to a flat if they build the middle wall or bottoms of the comb.

So the cells are commenced in a circular form and now the question arises as to how these cells become hexagonal?

It is no question, that this transformation is done in a mechanical way and that this form so many times praised as the best, and saving the most material comes out necessarily by the way the bees do the building.

To understand this way, the well-known experiment with peat made by Buffon I do not need to talk about. Some years ago Dr. Moellenhof published a new theory. He said that the bees pressed the wax by their heads; so six bees must necessarily press against one point in the same time and with the same power. This theory is a mistake, because:

1. The form of the bee-head is not adapted to this purpose, it is probable that the eyes, antennæ and fine hairs of the bees would soon be destroyed by so doing.

2. A single paper-wasp builds hexagonal cells.

3. The bees build cells of different size.

4. Small starters of hexagonal form are built outside of the queen-cells, where no other bees can press from inside.

5. Many times we find eggs in just-started cells with very shallow round walls, and these eggs would not stand that pressing business.

Now we look at a bee building comb we see that he lowers his head —so it may seem the bee presses the head against the wax. The circular cell-wall just started is very much thicker usually. The bee now catches by its claws the sides of this wall and pulls the wax in horizontal direction —*i. e.* in the direction from the middle wall. The jaws are especially adapted here for being broad and having fine teeth, so they are used like a pair of tongs or a nipper.

To explain this further we can

make an experimentation. If we form seven paper cylinders and set six of them around the seventh, press the walls of every three cylinders forming a three cornered piece together, so the seventh middle cylinder will get the hexagonal form. In the same way, the cell is pulled to the hexagonal form and by this pulling the bottom of the cell, at first flat, will get the well-known pyramidal form.

If a part of a cell is built in a rough manner the bees make it smooth by wetting the wax with saliva, which easily dissolves the wax. The tongue is the brush and the tongue-bone the trowel.

The queen-cells are circular and remain so, because no neighboring cells are there. These queen-cells are extremely strong and more wax is added outside of the cell; this outside wax is fastened in circular form again, and we can call them cell-starters. If some of them touch others, they are pressed together in the way described and we find again the hexagonal and pyramidal form.

The cappings of the honey cells are of pure wax and as Schoenfield says, it is easy to understand how they are made. But I find in another bee-paper quoted from Mr. Cheshire's book the following idea.

"The horizontal position of the cell prevents their being perfectly filled first and covered afterwards; but the bees when the cell is approaching fullness, cap its lower part, then add honey and increase the cover placing shred upon shred after the manner a turf wall is built until the process is complete."

This is at least inaccurate. The horizontal position of the cells does never premit their being perfectly filled. I have many times observed uncapped honey-combs, quite full; if we look along such a comb from the side we can see that the honey in the cell reaches even farther outside than the sidewalks of the cell. This is possible by adhesion in the same way the surface of the mercury in a barometer forms sometimes a hemisphere. So the cells can be *more* than full of honey.

Further we will see, that the walls of the cell to be capped are thicker on the border and more round than hexagonal on the extreme sides. Here is the wax laid down, which will form the cappings.

The bees act quite the same as in comb building; they clasp this side by the jaws and pull the wax against the centre of the cell. A last a small hole is left in the centre and this is closed with wax shreds. Cells not quite capped surely every practical bee-keeper has observed, but I doubt if he ever saw a cell with, say half a capping on the lower part of the cell.

The cappings of the brood look quite different and some affirm that these brood-cappings are built of wax and pollen. New examinations of von Planta have proven that these cappings contain much pollen and more pollen grains; but it is not probable that the bees use freshly gathered pollen to build the brood-cappings. The color of them is against this idea.

The fact is that the bees use for the brood-cappings nothing else but the wax of the combs. This wax contains more or less pollen and so do the cap-

pings. The darker the combs the darker the cappings. But now we ask how the bees do get this wax from the combs? If we lay an old comb in the sun, we can separate the different cells easily without destroying their form. We shall then see, that between the pyramids of the cell-bottoms all the wax is there, but this wax of the cell-walls has disappeared. This is explained in the following way :

The egg is on the bottom of the cells, and here the larvæ grows. Certainly at that time the wax is warm and soft enough, so the pressure acted by the larvæ against the wall, will bring the wax by and by to the end of this wall and here the bees will dissolve tt with saliva and use it for the cappings.

How this pollen and cuticula are mixed with the wax, I have explained in another article.

This theory of comb-building is of practical value too.

We can understand now why the bees sometimes do not thin out the middle wall of the comb foundation, while the side walls are properly thinned. Foundation with round side walls are built out to hexagonal cells, and very thin flat-bottomed foundation will get the pyramidal form of the bottom.—L. S. in Am. Api.

Selma, Texas.

FEEDING FOR WINTER STORES.

Unfortunately for many bee-keepers feeding bees for winter stores has to be resorted to. In this locality, there is generally little or no honey gathered after the basswood has ceased to yield her sweets. I say generally because during my fifteen years experience with bees, there was one year when the white clover continued to bloom into September, and as the queen gradually withdrew to the inner frames to deposit her eggs, the outer combs were filled with honey, so that when she ceased laying, there were few cells that were empty. We always weigh our colonies, deducting one and one-half pounds for each frame (size, $12\frac{1}{2}$x$10\frac{1}{2}$) and bees. The weight of the hive is added to this and the balance is the estimated amount of honey. This should be done as early in September as possible, and then if you want to make a sure thing of it, again in October. Unless you have made an allowance for the brood, they will probably hive, and especially where colonies have young queens, you are apt to come short. There are three advantages in feeding early in September. One is the weather is more favorable for the bees properly caring for the stores given them. Another benefit is the queen is encouraged to lay, or rather the bees are encouraged to care for the eggs laid, for I have had many examples of where the queen has continued laying long after the bees would cease to care for the eggs I suppose she would finally become discouraged and wait, possibly to begin again in October, but oftener the following spring. Feeding early encourages breeding in September that will hatch early in October, the best month, I believe for wintering in the northern latitude. Still another advantage is, the center combs being occupied with brood, the bees are prevented from storing the feed in them. These combs when emptied of their

brood afford a fitting place for the bees to clustər on or in, for it must be rememberd that it is much more difficult for a colony of bees to retain the necessary warmth in full frames of stores. We can readily understand this if we remember that the bees go in head first into the cells, the case of which is only between them and those on the opposite side. Now as to the feed. I will not say anything in this article for or against making it by percolation, as I have had no experience except in a small way in connection with the wing business. The way I have made it for years, and have had no trouble from candying, souring, or anything else, is as follows: I take the best granulated sugar (I prefer Redpath's. Some makes contain blueing) and for every two pounds of sugar, I use one pound of water. I proceed as follows: I have a large can with a tap to it,—an extractor will do. I take a boiler (size used for washing purposes) and fill it about one-third with spring water. It is then weighed, deducting the weight of the boiler, and when it is nearly to the boiling point, I drop in double the weight of sugar and stir occasionally till it comes to a boil, when it is taken off and poured into the large can, and I proceed again, always keeping plenty ahead which is a decided advantage as I have some always to mix with the hot so as to render both the right temperature for feeding. I think "blood heat" is about right unless the weather is cold and the feeders will cool it much. Of all the feeders, I prefer a box about one and one-half inches high, the size of the top of the hive. By making it with a double side, and a space between for the bees to come up you have a feeder that, when covered, not only retains the warmth in the hive, but which facilitates rapid feeding. I then cut the desired length I prefer to any other as a float, to enable the bees to have ready access to the feed. Have a smaller can with a top to it, with which to take the feed when ready to the apiary. When placed on a wheelbarrow or other vehicle, you are in a position to do quick work. The allowance for each colony is 30 lbs, less the amount they have. Since making up to 30 lbs for winter stores I have not lost a colony from starvation, and have my mind at ease even though the winter should linger "in the lap of spring" and I should be unable to remove "my pets" from their winter quarters. Care should be used in having colonies snug and warm during and after feeding If weighed again during the latter part of October I would consider twenty pounds of stores sufficent to carry them over till spring and of course in many cases it would be twice too much, but I would not feel safe with less.—G. A. Deadman, in C. B. J.

Brussels, Ont.

NON-SWARMING—MIGRATORY BEE-KEEPING.

In persuing the columns of our several bee-papers as they come to hand, it occurs to me the question of non-swarming has taken posession of the minds of many bee-keepers in the northern part of this continent. Many are the devices and plans recommended. No doubt some of the plans will be of great service to many. The devices—what I have seen of them—referring to the Langdon device—is good for smothering bees, and preventing large surplus yields; possibly it may be improved, and be a success.

Considering the depressed condition of our honey markets, and condition of the industry in general, I think the present a very inopportune time to invest in nostrums and unless appendages which may be seen rotting and wasting in every bee-yard you visit. The

rule with the writer has always been to run the bees with as few traps as possible. The simpler the method with the least handling of bees at any season of the year, will bring the best results.

From the valuable articles that are appearing from time to time, I think it possible that something may be gleaned that will solve the problem of non-swarming. It is something like the introducing of queens—no definite rule can be laid down, governing the question. As far as my experience goes, swarming gives me no trouble, and has not in the last 15 years, being quite within the mark when I say that 15 swarms would be the limit in that number of years. Many are the bee keepers who ask the question, "How on earth do you prevent them?"

No doubt many reading the above statement will ask the same question, and look for an answer, which will be given in a few words.

If it will be of any service to my fellow bee-keepers, the observations and experiences of the writer will be freely given: the dimensions of hives in use, and the rules that govern proceedings.

In considering the question of non-swarming, I would say that after 15 years of close observation and practice, there is no reason why any bee-keeper should not be able to control swarming without the aid of non-swarming devices, or cutting out queen-cells, or quarrying in the brood-chamber. Simply a brood-chamber of proper capacity, studying the flora of the locality, observing closely the working forces of each colony, and being able to read your apiary from external observation, as you would a book.

The hive or brood chamber—what shall the dimensions be? There is no given rule, and cannot be, because localities are so varied. Also the productiveness of queens, like a farmer building a barn, or a artisan a house—the barn is built according to the size of the farm and products thereof, and the house according to the size of lot and the means to build and maintain it. Every bee-keeper must therefore be a rule unto himself, according to conditions and surroundings.

The hive I use for extracted honey is the old Jones hive, inside dimensions measuring 3,240 cubic inches. For my locality and surroundings it is non-swarming, also labor saving, because it contains sufficient stores in the brood-chamber to winter any colony at all times, which is considerable if the apiary is extensive. What a comfort to know your bees won't swarm! And when the season closes, feel assured your bees have sufficient to winter! These are two great items in bee-keeping.

Many of these hives in the heat of the honey-flow will have four and five supers on top of the brood chamber, the super being the same as the brood-chamber of the hive in use for comb honey, measuring 2,592 cubic inches, and now report the same success with comb honey—no swarms, with an average of 84 pounds per colony for several seasons.

Considering the productiveness of queens, some cannot do more than keep an 8-frame Langstroth hive filled with eggs and brood. A poor locality or season is sometimes the cause of this, while some queens will fill two 8-frame hives. Then study the queen's egg-capacity, and accomodate her accordingly. Weed out all bad queens. Sometimes a queen dosen't come to her best until the second season. Having on several occasions determined to destroy such, I repented, and found them extra the second year.

Have drones flying from colonies that do the best, selecting such colonies for queen-rearing, and you will soon breed them up to the standard of excellence.

In many localities, after fruit-bloom there is a period of ten or more days that there is no secretion of nectar or bloom of any kind to be found.

At this period the bees become fat and lazy; the young bees having nothing to do, often ball their queens, and start queen-cells. The queen not being so abundantly fed, eases off in laying, and before clover comes in bloom the bees have the swarming-fever; their usefulness is gone until a swarm issues. In such localities, feeding may be resorted to with good effect. Where there is a perpetual flow right along until the end of the season, swarming is more easily controlled. Put on supers for surplus as soon as they begin to show signs of new comb on top of the frames of the brood-chamber; double up all weak or middling colonies, if it is honey you want; for in unity there is strength—two will always accomplish more than one; trying always to have all, or as many as possible, in condition for the first harvest, which, in this locality, is from maple, willow, dandelion and fruit-bloom; securing a surplus from this source means a very large surplus at the end of the season. For as backward as the season was last year, my first comb honey was put on the market on June 10th. To accomplish this, means bees of proper age, and plenty of them. To secure this, means good queens, and well-wintered bees, with great spring care, shelter and packing—especially top-packing. A super filled with cork or cedar sawdust, is the best with air-tight dummies; contracting the brood-chamber to the extent of the bees and brood then in the hive, letting well enough alone until you see evidence of crowding at the entrance of the hive, when you may add one or more frames to suit the requirements of the colony. There is nothing that will encourage early breeding in spring equal to new pollen.

Let the above rules guide you whether for comb or extracted honey—depend upon it, your efforts will be crowned with success.—Jno. McArthur in *Am. Bee Journal.*

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THE AMERICAN BEE-KEEPER,

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EDITORIAL.

The Canadian Bee Journal thinks Canada ought to have the next convention of the North American Bee-keepers Association. Well, we don't object seriously. In fact Toronto is a beautifnl city and convenient of access. There is where it should be if anywhere in Canada.

We had a pleasant call a few days ago from Harry E. Hill of Titusville, Pa. Mr. Hill is an enthusiastic bee man, and is to go to Florida in a few days to operate a large apiary.

Our customers will please note

that until December 1st, we allow a discount of 5 per cent. on all prices in our catalogue excepting only shipping cases and honey jars.

"Somnambulist," who writes for the *Progressive Bee-Keeper* under the caption "Wayside Fragments," keeps his identity concealed very successfully. But whoever he may be, some very bright ideas flow from his pen.

The *Practical Bee-Keeper* has not put in an appearance for two months. Wonder if it has succumbed to the hard times also?

While in Toronto, attending the Industrial Fair we had the pleasure of meeting Editor Holterman of the Canadian Bee Journal, who had charge of the exhibit of The Gould, Shapley & Muir Co. We found Mr. H. to be a very pleasant, liberal minded and well posted bee-man. The exhibit of supplies and honey made by Gould, Shapely & Muir was very extensive and on a larger scale than any individual exhibit of the kind at the World's Fair.

Do not let your subscription expire without renewing at once.

Every bee-keeper who can spare the time and money should go to St. Joseph and attend the annual convention of the North American Bee-Keepers Association. It will be a very profitable experience for anyone. The railroad fares are very low and this is the pleasantest time of the year to travel.

25TH ANNUAL CONVENTION OF THE NORTH AMERICAN BEE-KEEPERS' ASSOCIATION, ST. JOSEPH, MO., OCTOBER 10TH, 11TH, and 12TH, 1894.—REDUCED RAILWAY FARES.

The Central Traffic association grants *one and one-third rates* on the same conditions as those named in my earlier circular and which were also published in full in the *American Bee-Journal* of September 13th. The territory of the Central Traffic association extends from Lakes Michigan and Huron to the Ohio river, and from Toronto, Buffalo and Pittsburg westward to Chicago and the Mississippi, and includes, therefore, Michigan, south peninsula, Southern Ontario, Western New York, Western Pennsylvania, Ohio, Indiana, and Illinois, except northwest part.

The Western Passenger association includes the following railroads: Burlington, Cedar Rapids & Nor. Railway; Chicago & Alton; Chicago & Northwestern; Chicago, Burlington & Northern; Chicago, Burlington & Quincy; Chicago Great Western; Chicago, Milwaukee & St. Paul; Chicago, Rock Island & Pacific; Chicago, St. Paul, Minn., & Omaha; Hannibal & St. Joseph; Kansas City, St. Joseph & Council Bluffs; St. Louis, Keokuk & Northwestern; Illinois Central; Iowa Central; Minneapolis & St. Louis; Missouri Pacific; Rock Island & Peoria; Sioux City & Pacific; Wabash; Wisconsin Central lines

Very Important.—Certificates must be obtained from local agents when purchasing *going* tickets, and must be presented at the Convention to be countersigned by the Secretary or no reduction can be obtained on return ticket. The rate is not secured unless 100 certificates are presented, *therefore do not fail to secure a certificate when you purchase your ticket*, whether single or round-trip, and no matter whether you intend to take advantage of the reduced fare or not. Tickets valid October 6th to 15th, inclusive.

Change of Date.—Note the change, as announced by President Abbott, in the date of the meeting from the middle of the month to October 10th, 11th, and 12th.

FRANK BENTON,
Secretary N. American Bee-Keepers' Association, U. S. Dept. Agriculture, Washington, D. C.

LITERARY ITEMS.

THE CLOSE RELATION OF CAPITAL AND LABOR.

Labor and capital are so closely allied in their mutual demands and interests, that the proper respect and protection of both require the most astute reasoning, and often necessitate judicial tests to show their true relations to each other and their just claim on our humane sympathies, as both have their relative rights.

When it is remembered that all wealth is the savings of labor, and that nine tents, in fact, ninety-nine hundredths, of the people are wealth owners in the truest sense, that they are all more or less in the posession of the result of their labor, requiring protection and security, it will be seen that any attempt to destroy respect for the product of labor is the most disintegrating element of selfish greed, without right or just cause for antagonism, even when the wealth of the country is very unevenly divided.

As well might a civilized community instigate a war between the sexes, or children and parents come to battle against each other, as to incite war between the rights of capital and the claims of labor; and it is very evident that society could not exist without due respect for both.—*From "Labor and Capital;" Demorest's Magazine for October.*

LOCALIZED VIRTUE.

Gabriel Garcia in his history of San Domingo, states that the Creoles of the West Indies were often prevented by circumstances from observing the rites of the church, but "never missed an opportunity to fulfill the duties of hospitality and active charity to the full extent of their resorces." Yet those same charitable colonists massacred two million five hundred thousands Indians in forty years, worked hundreds of thousands to death, and pursued the fugitives with trained blood-hounds. At the mere rumor of a shipwreck they would travel dozens of miles to assist the distressed mariners, whether of Spanish or English birth, and then take them to their homes, or refit or replenish their vessel; but the idea of relieving a famine in a district of unconverted aborigines would have been considered too absued for serious discussion. Their theory and practice of active charity were limited to the Caucasian race.—*Felix L. Oswald, in October Lippincott's.*

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, Mo., Sept. 19, 1894.—Good demand for honey. Price of No. 1 white comb 16c. Amber 14c; dark 12c. Extracted, white 7c; amber 6c; dark, 4½@5c per lb. Price of beeswax 22c per lb.
HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, MICH., Sept. 23, 1894.—Fair demand for honey. Supply about equal to demand. Price of comb 14@15c per lb. Extracted 6@7c per lb. Moderate demand for beeswax. Good supply. Prices 23@24c. Fruit takes the attention of the buyers at present. Honey market will be better later on. M. H. HUNT, Bell Branch, Mich.

ALBANY, N. Y., Sept. 27, 1894.—Trade in honey is opening up nicely and we have sold about 500 cases already at prices ranging from 10@15c, according to style and quality. Not much demand for extracted in bulk. Quite a little selling in small glass jars. CHAS. MCCULLOCH & CO.

CINCINNATI, O., Sept. 17, 1894.—Demand is fair for honey Supply good. Price of comb 14@16c per lb. Extracted 4@6c per lb. Good demand for beeswax. Scant supply. Price 22@26c for good to choice yellow. CHAS. F. MUTH & SON,
Cor. Freeman and Central Aves.

BOSTON, MASS., Sept. 17, 1894.—Fair demand for honey. Good supply. Price of comb 14@16c per lb. Extracted 5@6c per lb. Fair demand for beeswax. No supply on hand. Price 27c per lb.
E. E. BLAKE & CO.,
57 Chatham St.

ALBANY, N. Y., Sept. 22, 1894.—The demand for honey is improving. Moderate supply as yet. Prices of comb 11@16c per lb. Extracted 5½@7c per lb. Steady demand for beeswax. Light supply. Honey market is improving now and think for a month to come will be best time to sell. Consignments solicited. Commission 5 per cent.
H. R. WRIGHT.

CHICAGO, Sept. 21, 1894.—We have sold thus far this season over 1,000 cases of comb honey, ranging in price fram 15 to 16c in a small way, while we wholesale it at 14c. We can dispose of all our receipts promptly, and advise shipments to market early. We will make liberal advances on consignments. Extracted honey selling at 6c per lb. We are trying hard to crowd the market to 7c for new crop of clover and basswood. Beeswax 28c.
S. T. FISH & CO.

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Queen Rearing Hives.

BY CHAS. H. THIES.

This topic may look a little out of the season, but now is the time to prepare for next season's work among the bees. A suitable hive for the rearing of queen bees was for a long time a problem for me, and may be today for some, hence these remarks; and while I have found a hive for the purpose that just suits me, I do not say that they will please you, but at any rate I think it would pay you to give them a trial. The small 3 and 4 frame hives made for that purpose are all right in some respects, but they do not please me at all in other respects.

First, it takes but a very little wind to blow them over, if the wind just comes right, particularly when they are not heavy with honey which they usually are not. These small hives will need to be fastened down some way, or every light wind will have them over on one side, often killing a lot of bees, and sometimes a queen by the combs coming together. Again there is quite a lot of work in uniting these small colonies for winter. The hive I use for this purpose is the regular 8 frame Langstroth or Simplicity hive, with three saw kerfs sawed on the inside of each end about $\frac{1}{4}$ inches; one I saw right straight down through the center; the other two about 2 inches from each side wall. Now I have thin boards as deep as the hive and just thick and long enough to slide down in these kerfs easily. One of these boards is slid down in the center kerf, which divides the hive in two nice 3 frame Nuclei hive. Entrances should be made on opposite ends. This I do by nailing $\frac{3}{8}$ inch strips all around the hive, except where the entrance is to be; these strips need only be tacked on, so they can be easily removed when the hive is wanted for usual purposes. These thin division boards serve another purpose in cold weather: these two nuclei help to keep each other warm, each nucleus having only one side exposed to the outside temperature. Then again when you wish to unite just simply draw out the division board, (but better first take out one of the queens) now take two of these thin boards, slide one down in each kerf next to the side walls, and you have a double walled hive at least on each side, close one entrance and you have your uniting done. If your nuclei are very strong

and you wish to winter them, this thin division board again is of advantage, as they have only one side exposed to the cold. These hives always stand up to all the wind we have in southern Ill. Try these hives and report, or if you have something you think better let us have it.

Steeleville, Ill.

A Fortnight's Experience with Bees.

BY J. F. ILLICK.

Hold your hat ye bee enthusiasts—dry our aprons if you happen to be the milder gender—while I divulge into you some bee lore. It is exactly twenty-nine and one-half days ago at this writing that I became interested in bee-keeping and little less than half that many days since I am an owner of bees. And Presto! I know (?) it all, and am willing to disseminate at so much per "know."

As this is written gratis the reader can easily comprehend the scope of the writer's knowledge of bee-keeping, it also being gratis—nothing.

My capital stock consists of two colonies of hybrids, which were brought a distance of five miles in a wagon, during the early evening and placed on the stands prepared to receive them and the entrances opened. Early next morning the bees were flying and carrying pollen as if nothing had happened. Here is where the experience begins; curiosity got the better of me—to my sorrow. I was anxious to see whether the jolting of the wagon had not shifted the frames. Not then possessing a smoker and having been told that thick woolen gloves were just the thing to handle bees with, I donned a nice heavy pair and a veil, and thus armored I made the onslaught. Being in a hurry and "green" I went about matters rather roughly but got through with the first and weakest colony all right.

This made me bolder and more careless. I had no more than raised the enameled cloth on the second hive when out popped one of its splinter tailed inhabitants and demonstrated and proved to me that woolen gloves were just a little worse than no gloves at all. Till I got the hive closed I had a sum total of about ten stings in hands, fingers and wrists.

Having had little experience with stings, I thought after the smarting pain stopped a few minutes later that all was lovely. Twelve hours after I knew better. The injured members began to swell and itch. The more they itched, the more I scratched; and the more I rubbed and scratched the more they swelled. I got up several times during the night and soaked the affected parts in water and was somewhat relieved. I applied ammonia, alcohol, vinegar and numerous other lotions and "remedies." I got the most comfort by immersing in water as hot as bearable. The swelling lasted about thirty-six hours.

You can well imagine that I was heartily sick of bee-keeping; as the heated reception I got somewhat cooled my ardor.

Nor has this been all my experience within a fortnight. One sting in the wrist caused my arm to swell to twice its natural size as far as the elbow and lasted for three days. In this case I tried an application of salt, vinegar and baking soda applied warm

and it done about as much good as emptying a bucket of water in a river to cause a freshet.

Another sting in the hand made that member look like a toad. This time I tried to suck out the poison after being stung, but the swelling lasted two days all the same. I kept it from itching at night by wetting one end of a towel in cold water and wrapping and tying it tightly about the sting. During the day I avoided the itching by immersing in hot water occasionally or by holding up closely to a hot fire. The last named remedy applied for about half a minute lasted for several hours.

I now say *au revoir* and if any reader has a good remedy for bee stings let us (the bees and I) know soon if not sooner.

Chain Dam, Pa.

Bee Feeders.

BY T. J. DARLINGTON.

Ever since 1840 I have been using a tin pan with perpendicular sides with a wooden float on the honey or syrup with $\frac{1}{4}$ inch holes. This feeder I use on the outside of the hive in a box with a lid. In the float was inserted a tin tube which extended up through the lid of the box. On this tube was a mark to tell when the feeder was empty, also one to tell when full. A stopper on top of the tube prevented all robbing. The side of the box next to the hive was left longer than the other three sides to admit of securing it to the hive. Under the lid was a hole in the side of the box and a corresponding one in the side of the hive. This was before I knew of such a thing as a frame hive, but it can be attached to a frame hive or any other. Since I have been using the Dovetailed hive I set a tin feeder with float in a super with a hole through the enamel cover of brood frames. By feeding in the super with this feeder you can have it of any size to suit your fancy.

I saw in the Pennsylvania Agricultural Reports of 1889 that William Yoder of Lewisburg has made an improvement on this style of feeder so that it can be used in quite cool weather. He has a tube in the bottom of the feeder to extend within $\frac{1}{4}$ inch of the top, so that with the cover on the feeder the bees can come up through the tube on to the float. The hole in the feeder of course is set exactly over the hole in the covering of frames. The advantage of this is that you can pack the super over the feeder to keep in the heat, while the warmth of the bees through the tube will enable them to feed when otherwise they could not. I believe this feeder to be the best, at least, it is the best of which I have any knowledge.

Westchester, Pa.

A Review of the Season.

BY JOE C. MOORE.

In most localities the past season has been very poor and it seems as if it was very general all over the country from the reports in *Gleanings*. The correspondent from North Carolina says "poorest known."

The principal cause for such a bad season was thatwe secured scarcely any surplus at all from poplar and coming as it does at the beginning of the honey harvest it causes the bees to fill the hives both with bees and honey.

But at the writing of my other letter the bees worked a lot on poplar but it didn't last long, and after this the bees gathered a large supply from some unknown source, but alas we found this white honey to be poison. No one can tell just by looking whether it is poison or not, but by its taste, as it is very bitter. It seems that none can tell from what source the bees make this. Could not some reader of this paper throw some light on this subject?

The bees stored some honey from basswood, locust and persimmon. Sourwood was the richest this year than for many seasons past. Some even say that the honey was sweeter also. The bees worked a great deal on astors and goldenrod and other fall flowers. The most honey ever stored by one colony in a single season in this part of the country, was made this year by a colony of blacks belonging to Mr. M. G. Shearer which was 75 lbs. comb honey. So we didn't have exactly a failure, although poplar and poison honey had a tendency to discourage us.

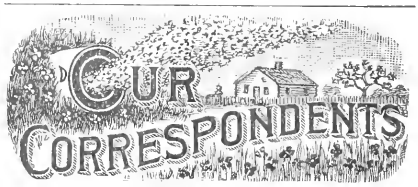
Another remarkable thing was that the bees in this secton didn't swarm as usual. Several who have large numbers of bees secured no swarms, while an apiarist with about 25 colonies had too many both for the prosperity of himself and bees. His bees must have had the swarming fever as they would swarm although they had plenty of room.

Well, as Jack Frost has been to see us we begin to make plans for winter.

I intend to try Mr. Chas. H. Thies's plan as described in Oct. number of the "Am. Bee Keeper." It doesn't look as if we should need anything besides a dove-tailed singled walled hive. But experience will tell.

So for fear of taking too much space in your valuable paper, I will close.

Globe, N. C., Oct. 25, 1894.



W. T. Falconer Manf'g Co.—Dear Sirs:—I wish to give my experience with my bees this year. In the fall I built a bee shed for them and back of and between the hives I packed with straw. A door was hinged to the front of the shed to drop down over the front of the hives leaving only the entrance exposed. In the spring the bees came out lively on the first bright day. The winter before they did not have the same care and I lost quite a large number. So it goes to prove that with good care bees will do well. One man I have talked with says he does not believe in this "fussing" with bees, that "bee-keepers did not used to do so," and "the bees done well enough." Why should not bee-keeping be improved upon as well as everything else? I have tried it and I know that by making use of the different implements now in use for handling and taking care of bees the bee-keeper is well repaid. I have nine swarms. Three new ones. And although some complain of this season not having been good for honey, yet I have taken off 334 lbs. of salable honey. 144 lbs. was clover honey which I sold for

15 cts. per pound; 190 lbs. was buckwheat which was sold for 13 cts. I have often been asked the question, "does bee-keeping pay? *Yes*, if you do well with the bees they will do well by you. Do not think all you have to do is to buy your bees, place them in any part of your grounds most convenient for yourself, not thinking they like the warm sunshine as well as you do. Do not think 'it is all foolishness to cut the grass away from the front of the hives they will find their way in some way." The first you know your bees will "hie them away" to find more pleasing quarters and then you will surely think bee-keeping does *not* pay. Do not be afraid to buy implements necessary to make bee-keeping easy and you will find it a pleasure to handle bees and they will give you of their sweets in return. Anyone wishing to get supplies cannot do better than to send to you. They give entire satisfaction in every respect. Yours, &c.,

C. A. BILLINGS.

Clyde, N. Y.

EDITOR AMERICAN BEE-KEEPER—Dear Sir:—This year has been a very poor one for all kinds of honey. White clover honey was very nearly a failure. I started out last spring with 13 colonies and they increased to 23. The first colony came out the 6th of June and the last July 4th. Have taken off 712 pounds of section honey. 346 pounds were clover and basswood and 366 pounds was buckwheat.

I have not had any trouble in wintering my bees since I began bee-keeping. I lay a rack on top of the brood frames and cover it with three thicknesses of burlap. Then I have a chaff cushion the size of the super that I lay on the burlap. Then I set my hives in a shed facing the east with a barn on the north and a shed on the west. I set the hives under this shed about 8 inches apart and about 8 inches from the back of the shed. Then I packed straw all around them, except in front. During cold and stormy days I close the front of the shed up by means of large doors, and when I wish the bees to take a flight I lay the doors down flat and the sun shines in on the front of the hives, the doors making a sort of an alighting board. I have not had a single colony die yet and this is the 4th year. I do not think there is any use in allowing bees to die in the winter if they are taken proper care of.

I do not know very much about bees, but I do know that I started off well. Four year ago the coming spring I bought one colony and the first year it did not swarm. In the fall of that year I bought 9 more colonies in box hives, sold one, and transferred and united some of them. The second year they increased to nine colonies and the third year to 13 colonies. The fourth year they increased 23 colonies, and each year they have furnished more than enough honey to pay for all the bees and supplies, and if I should have a year or two of poor luck I should not be discouraged but would keep right on.

I like very much to handle bees and work with them. I have used the Porter Bee Escapes this year and they are very satisfactory.

I have almost all of my boxes and

racks cleaned up and stored for winter. My bees are all packed and in good condition. Wishing you success, I remain, Yours truly,

JOHN E. HAIGHT.

Clyde, N. Y., Oct. 11, 1894.

PURE BLOOD, MIXED BLOOD AND IN-BREEDING.

In the management of an apiary, the question of breeding is one of vital importance, as much so as in the management of our domestic animals, poultry, etc. On this one point depends to a great extent our success or failure; and while the people are becoming alive to the importance of this matter in regard to their horses, cattle, hogs, etc., the great majority of bee-keepers seem to pay no attention to it so far as it relates to the apiary, but allow their bees to breed, hit or miss, go as you please year after year, until the evil effects are becoming so plainly visible that a blind man ought to be able to see them.

Take the reports from all over the country of new deseases breaking out everywhere; bees doing no good; no surplus gathered; while the old time bee-keeper will tell you he has no luck with bees like he had years ago. Now there is no luck about it; but there is a cause that produces these things, what is it? *Inbreeding*, nothing more or less.

But here comes the query, how is it that bee-keepers thirty or forty years ago had none of these troubles under precisely the same conditions? Here I think is the key to the whole matter.

At that time there were practically no bees in this country but the black bee, which was then in its purity and being so was capable of inbreeding while time should last, just like all other pure-blooded creatures from the elephant to the ant.

What we mean by purity is a creature just as it comes from the hand of the Creator. In all such inbreeding is Nature's plan. All such creatures keep their purity and have since the creation, and will to the end of time. The different species of the same generie never mix while in a state of nature, only when domesticated and governed by the hand of man are crosses made and new breeds produced.

Now this mixing of blood, no difference what grand results we may obtain by it, is a violation of nature's law and the penalty that of perpetual outbreeding and crossing must be paid, because the product of our cross is not a creation of nature, but to a great extent a creature of man's ingenuity, and can never return with its mixed blood to nature's way of breeding, but must be perpetuated in much the same artificial manner in which it was produced, for if allowed to inbreed without limit, it rapidly degenerates until it finally becomes extinct, while a very limited amount of inbreeding soon shows the evil effects of such a course, such as sterility, blindness, loss of size, health and vigor.

Now as I have said before, thirty or forty years ago we had nothing but the black bee it its purity. Then came the importation of foreign bees

to cross on and improve them, and the improvement was so great in every way that the rage for yellow-banded bees soon became general all over the country; those who were able to pay the price sent direct to the queen breeders for queens, while those who were not able procured queens from their more fortunate neighbors; until the black bee was hybridized from ocean to ocean. Now while this was all right, the people expected too much from them, they made the cross and then expected it to drop back and inbreed, like the blacks had done, and still retain its good qualities. Fatal mistake, they failed to do it, they never will and never can do it, and the result is empty hives at almost every farm home all over the country where there were once prosperous little apiaries. Now what is the remedy? Simply this: we must give the same attention to breeding in the apiary that we do in our stock yards. It is easily done and with little expense. By the use of the drone-trap, mating be controlled almost to a certainty; then by purchasing queens to breed from of some *reliable* breeder, and using the same common sense we do in other matters, we will not only *keep* our bees up to the point of profit, but make them better and better as the years go by.—A. G. Mitchell. *in Am. Api.* (*Ill.*)

ADVICE TO BEGINNERS.

As soon as practicable—that is as soon as your cellar is cool enough—move in your bees. A handy arrangement for moving is made as follows: Rip from a board one inch thick, two pieces two and one half inches wide and five feet long. On these two strips, set up edgewise, build a platform about two feet wide and two feet six inches long. This will leave fifteen inches of the strips or handles sticking out each end. Place a hive on the platform. Let the man who is helping you go in front and you take the handles at the back. In this manner a hive can be carried with great ease if you are careful to keep step with the man in front. If you have many hives to carry it would be we to have strips of canvas, say two inches made to go over the shoulders. One end is made fast to one of the handles and the other has a loop which can de slipped over the remaining handle. A still better plan is to have an iron hook or loop on each end of the yoke. While one adjusts his yoke the other keeps the platform straight. No work that I know of is so mean as carrying out hives without such an arrangement; you know there is nothing to hold on to. The man in front has the hive banging against his back and the man behind gets his vest covered with old paint, and if it is a two-story hive he has to hold his head as if he were wearing a check rein. Of course going up or down stairs the hive carrier I have spoken of must be dispensed with. When you place the hive on the platform be careful to place the combs lengthwise of the same, so that the fore and aft motion when walking will not disarrange the combs. Where the cellar is dry and the temperature can be kept at about 45°, the hives can be placed one upon the other so as to nearly fill the space allotted to them. Last year I had very fair suc-

cess wintering in a cellar with a furnace in it. I built two rooms of ordinary building paper—one with a window in it to use as a root and meat cellar and the other only divided from it by the paper, for the bees; this latter had a window blind as a ventilator, or more properly speaking, temperature regulator opening into the main cellar. Between the window in the roof room and this window blind I could keep the bees at almost the exact temperature. If you winter out of doors, pack your bees the first warm day, slide up your division board and fill in with chaff, saw dust or cut hay. Make a cushion of the same three or four inches thick and put on top. Place the hives in a sheltered spot and either face them to the north or place a board over the entrance in such a way that the bees can get out, but the sun cannot shine in. This is done to prevent them from thinking it is a warm day when it is not. When they fly out chilly days they soon are benumbed and fall to the ground to rise no more. See that the entrances are of such size as to prevent the entry of mice. A poor, hungry mouse, lean and bony, squeezes into the entrance and has a feast on honey, and becomes compulsory tenant—he is too fat to get out. —B. K. M.

HOW HONEY BEES BREATHE.

Bees require a breathing aparatus, quite as well as ourselves, and I think it will astonish you when I tell you how complicated it is. In the first place bees have no lungs like a horse or bird. They do not depend upon one organ to supply the oxygen necessary to enable the several parts to perform their functions. Before going further let me explain that the air we breathe is composed of three gases, one of which, oxygen, is the element that sustains *life*, as well as the fire which burns in the grate. Life may be called a burning process.

In ourselves, our blood comes in contact with oxygen within the lungs snd then travels by the most delicate channels to every part of our body. In the bee there is a blood pump like our heart. It is called the "dorsal vessel," and resembles somewhat an injector such as is found on every locomotive, but depends on the opening and shutting of valves, for its successful operation. It leads the blood received, through the several openings in it, to the head, whence it oozes back through the whole body.

Instead of lungs, bees have what is called a tracheal system—a trachea is merely an air tube—and these air tubes travel in every conceivable direction within the body. They receive the outside air through openings in the body, called spiracles. Adult bees have fourteen of these openings. The spiracles open into large sacs, from which branch out the air tubes before spoken of. As I before said the blood does not receive the oxygen from lungs, and hence these air tubes must perform this life-giving function. Every part, every member, however small, however delicate, must be reached by these breathing tubes. Bees breathe with a regular motion, but instead of an expanding and contracting of the chest, it is a lengthening and shorten-

ing of the abdomen. Watch a tired bee stop at the entrance before going in, and you will see him pant away like a tired horse.

You know if a rubber tube is bent short it will "kink." To prevent this kinking in the suction hose of a fire engine, a spiral wire is run between the outside and inside coatings Man may invent, but he will find often that his inventions are very old in God's patent office. Here in the bee we find tubes just like your engine suction-hose. Each trachea is formed of threads wound close together. When the bee twists and turns its body, how important it is that the air tubes shall not kink, hence the beautiful spiral construction. Could anything be more wonderful? In man the tracheal system is not so elaborate as I before said, and the blood in his case, performs the functions of the multitudinous minute air tubes which permeate or traverse every portion of the bee's anatomy.

Take a good sized pill box and fill it half full of wax. Catch a worker, and kill it with ether, chloroform, or alcohol, and permit the killing fluid to evaporate. With a hair-pin heated over a lamp, make a little bath of melted wax in a convenient spot in the pill-box, and having clipped off the wings and legs of the bee, drop it on its back in the little bath aforesaid. The bee should not be more than half immersed in the wax, which is then allowed to cool. When cold, which will be in about a minute, pour water over the bee until it is covered.

In a good light—say sunlight—with a needle,knife,(made by heating the point of a coarse sewing needle until red hot hammering it with a tack hammer, on the face of a flat iron, and after tempering by heating cherry red and plunging in water, sharppend on a hone, and inserted in a match, for a handle), and a fine needle inserted in another match, go to work and cut away the under part of the rings of the abdomen, and carefully lift them off. If you have good eyesight or if not, by aid of a cheap lense (magnifying glass) of good construction you will be astonished at the sight before you. There lie the honey sack, digesting stomach, bile tubes, and intestines. Running in all diretions, but starting from the sides, you will note fine, white tubes branching out into smaller, and these organs into still smaller, until lost to sight. These are the air tubes I have been talking about, and you will note that they not only encircle the digesting stomach, but are wound around the other parts in sight. If your lense be strong enough, and you have not ruptured it in your dissection, you may find the nerve system, which lies just under, or when the bee is right side up, just over the wax producing portion of the abdomen and which runs the whole length of the bee from tail to brain.

You will find it composed of two "cords" almost transparent, with occasional bulgings in which the two "cords" are joined. In and about this very nerve system you will find the fine breathing tubes before spoken of. Up into the compound eye, with its thousands of lenses, run other breathing tubes, every lense being supplied with oxygen in this manner,

so that its functions may be performed.

Cheshire tells us that some of the trachea, or breathing tubes, are so small that a quarter of a million bundled together would hardly be larger than a human hair!—Old Exchange.

MANAGEMENT OF WEAK COLONIES.

As early in the spring as the bees can be looked over, all of the weaker colonies I shut on as few combs as they have brood, in using a division-board for contracting the hive. They are now left until warm weather comes, being sure that all have stores enough where they can conveniently get at them to carry them until this period. They are now built up as rapidly as possible by reversing the brood, etc., so that by June 1st the best of them will have five frames of brood, others four, and so on down to one, for the very weakest. As soon as the best has its five frames filled with brood down to the very bottom corners (and none are allowed more combs until they have them thus filled), a frame of hatching brood is given to one having but four frames, and an empty comb put in its place. In taking a frame of hatching brood in this way I generally take all the bees there is on it right along, only being sure that I do not get the queen, so that all the young bees on this comb helps to give strength to the next weaker.

In a few days a frame of brood and bees is taken from each of these two five-framed colonies and given to the one having but three frames, and so keep taking until all have five frames each. Do not make the mistake and try to strengthen the very weakest first, as we are often told to do, for by so doing from $\frac{1}{2}$ to $\frac{2}{3}$ of the brood will perish from cold. By the above plan we are always safe, and advancing warm weather is in our favor also.

In a few days, after all have five frames of brood, we are ready to unite, and if all has been done as it should be, the uniting will be done about the time white clover begins to yield honey nicely.

To unite, look the frames over of No. 1 until the queen is found, when this frame having the queen on is put outside the hive. Now spread the frames apart of No. 2, when the four frames of brood, bees and all from No. 1, are carried and placed in each alternate space between the frames of No, 2. closing the hive. Return the frame having the queen on to No. 1, placing beside it an empty comb; adjust the division-board and the work is done.

In two or three days put the sections on hive No. 2, or tier up for extracting, and see what a "pile of honey they will roll up." At the same time place an empty frame between the two filled ones in No. 1, and in a few days you will have a frame filled with as nice worker-comb as you ever saw. Nearly all the old bees carried to No. 2 will have returned by this time, so that No. 1 is a splendid strong nucleus, just right for building nice, straight worker-comb

As soon as the first frame is full of comb, insert two more empty frames between the three full ones, and thus keep on until the brood-chamber is

filled. If at any time they should start to building drone-comb, then use frames filled with foundation, for his is the time foundation can be used profitably. By fall this colony will be in good condition for winter, while No. 2 will have given three times the honey the two would have done if left to themselves, or had they been united in early spring.—G. M. D. in *Am. Bee Journal.*

Borodino, N. Y.

THE USE OF A DIARY IN APICULTURE.

I am of the opinion that there are few bee-keepers who recieve the benefits from a diary that they could. Too many are apt to associate a diary with past events, whereas the most practical and valuable uses of it is the record of the future. It will not be the object of this article to show the advantages arising from a well kept record of the past, but rather to illustrate its value when emloyed as a help for the future. Various ways have been recommended to remind the apiarist of duties to be performed in the apiary, duties that if neglected at the proper time must result in loss and trouble. There is nothing to my mind like a diary for relieving one's memory in the management of an apiary either large or small. It need not be a printed one, one to cover the whole year, but an ordinary blank-book with 100 or more pages is what is required. The best book is one that is large enough to contain a record of the colonies and then the latter part can be used for the diary proper. Have a page for a day or more if necessary. There is no one who has kept bees to any extent but knows that each day there will arise work that should be attended to later on. For example about ten days ago I had occasion to place a few frames of unsealed brood behind a division board in an ordinary colony. I neglected to record this to be attended to to-day. The consequence was, several young queens were reared and hatched, the colony swarmed, the old queen was killed, and a large apple tree had to be ascended to secure them. When a colony swarms, I make a note of it in my diary to be attended to in the way of destroying unneeded queen cells seven days later. In strengthening weak colonies after it is not desirable to increase the laying capacity of the queen, I usually place the brood behind the division board. Now these should be examined for cells ten days later and a note made of it, for that day a young queen is hatched. Make a memo of it for ten days later to see if laying. You may notice a colony that will soon require more room. Mark it down on the day it should be attended to. You deprive a colony of their queen, this fact should be recorded so as to look after their cells nine or ten days after. In fact, every work to be attended to at a specific time should be recorded. In beginning the day's work you simply look at your diary for the day. You can see at once the work that must be done and then the regular duties of the day will follow. In queen rearing I have found it very valuable. I formerly made a note of all such needs consecutively, but a page for each day's requirements is much better and will be found superior to the various devices recommended for this purpose. —G. A. Deadman, *in C. B. J.*

Brussels, Ont.

ONE-POUND OR TWO-POUND SECTIONS.

The query was lately in the American Bee Journal: "Which colony will store the more surplus honey, the one provided with one-pound sections, or the one having two-pound sections?

The answers to this query were almost unanimously in favor of the two-pound sections, although everybody agreed that when it came to selling the honey, it was much better to have it in one-pound sections.

To the farmer who keeps but a few colonies, and who wishes to produce honey, especially for his private family use, the question of sale is but secondary, and he desires, above all things to get as much products as possible from the few colonies of bees that he keeps. It is, therefore, important for him to know whether there is really an advantage in using large honey-sections. It is my intention, in this article, to explain why bees prefer large receptacles.

Bees, in a state of nature, lodge themselves in the hollow of trees, principally. They store honey in provision of future needs, especially for food during the cold season. Their instinct leads them to place the honey at the upper part of their hive above the brood, and far from the entrance, so that the cluster of bees being placed between their stores and the entrance, they can better defend these against intruders. They also want the honey in a place easily accessible during cold weather, and therefore as near the brood-nest as possible.

When we give our bees an empty box above their breeding room, we act according to their requirements, but when the box is cut up into small compartments they readily preceive that some parts of this surplus room may become of difficult access to them during the cold weather, and they work in them much more reluctantly.

The first step taken for the securing of surplus honey, after the invention of the movable-frame hive, was the invention of a small box, glassed on four sides, and holding about four pounds of honey. The bees had access to this small box through only one hole about an inch in diameter. It was soon preceived that there was less honey harvested in this style of box than formerly in the old wooden bucket plan, laid bottomside up on the top of the box-hive.

We used these boxes for a short time, but after the invention of the extractor in 1867, we tried surplus cases of full size with open frames right over the brood-combs, and without any partition or honey-board. These frames were used for extracting. The result was so much in favor of the large frames that we soon discarded the glass boxes altogether.

A little later on, the honey-section, holding about a pound, was invented, and found just the thing for the comb-honey market. We tried these sections, in broad frames to hold them in the supers, and we used them side by side with the long extracting frames. The result was by far in favor of the latter, and were it not that the city trade demands honey in small packages, we dare the assertion that no one would think of using anything else.

To show how evidently the bees prefer a long, open frame to a small

section, we will say that we tried both the long frames and the frames containing four sections each, side by side in hives, placing the small sections in the center over the broodnest. In every instance, the bees filled the large open frame first, although they were placed in a less favorable place. In some instances they even sealed the honey in the open frames on both sides before filling the center sections. In a comparative test between large and small sections, the result was similar, although the difference was not so plainly marked.

This shows without doubt that it is best to use long open frames, or large sections, in the supers, when the intention of the bee-keeper is to produce honey especially or exclusively for his family's use. But, if honey for market is wanted, one must either use the one-pound sections which are the only comb-honey package of marketable value, or he must use the long, open frames with the honey-extractor.—Chas. Dadant in *Prairie Farmer.*

PRACTICAL NOTES.

Be prompt in anything requiring to be done in the apiary, whether it be feeding, or cleaning hives, or uniting preparatory to packing for winter. Roofs, if leaky, should be seen to at once.

Now that we have got through the season we can take a retrospect, and deal with the many items of interest our practical work in the apiary has taught us. One of the first that comes to mind is the difference there is between colonies standing side by side in the apiary—one, perhaps, has gathered fully as much again as the other, yet both apparently were equally strong in the spring. Both hives were equal, and supered on the same day, queens the same age, and of the same strain. Especially is this the case this season with swarms. Swarms that came off in May have not given such good results as swarms that came off in June. This we can account for by the break in the weather, which retarded work for a few days, and the "go" of the new swarm was gone before they could begin work. But who can account for the difference between established stocks?

To those who are new in our ranks I would say, if you have to feed your bees use the best crystallised cane-sugar, "pure Dem." the grocers call it. It is rather dearer than some kinds, but contains more bee-food per pound than the cheaper beet sugars, therefore is as cheap.

Packing for winter is more simple than it was a few years back, practice having proved that bees if kept dry will winter all right in this country in any kind of hive, provided they have a good supply of suitable food, and also in single-walled hives as in those with double walls several inches thick. I remember how imperative we considered it was to cut holes in each comb for winter passages. Now two or three little strips of wood $\frac{3}{8}$ or $\frac{1}{2}$ in. thick laid across the middle part of the frames answers every purpose, gives bees access to the food, and allows a circulation over the frames not only of the life-giving pure air from the outside, but also of the natural warmth of the bees in cluster.

Making the best of a poor season :—In this part of the country our takes of honey are not large, and among the cottagers, who still stick to the straw skeps, many of their "casts" have had scarcely a pound of honey in them, while the very early swarms died from starvation. Then a change for a fortnight, and most of the swarms that came off at the beginning of the settled whether are fairly heavy, but many of the old stock-hives simply swarmed themselves to death or, at least, swarmed themselves queenless,which eventually means death to the colony. I would advise readers who still use the straw skeps to have them made a good size ; some I have handled this season contained good lumps of honey, but even in a good season the bees cannot store the sweetest sweet of nature if they have no room in which to store it. The query is: What is the price of honey this year? To which I am forced to reply, "About the usual price." I believe that bee-keepers could get a better price for honey if there was more unity amongst them, and were not so ready to compete with each other in trying to cut down the price to secure the order.

Then another item bearing on the price of honey this season in the short supply in California and other honey-producing countries, though what quantities our colonies at the antipodes may have to send us of their eucalyptus honey I have no data, so that considering the produce is short, generally speaking, I think we ought to be able to secure an advance on last year's prices, and thus help somewhat in adjusting the balance on the right side when footing up the account of the years's work.—W. Woodley, *in Bee Keepers' Record, (England).*

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EDITORIAL.

The North American Bee-Keepers' Association held its Twenty-Fifth Annual Convention in St Joseph, Mo., on October 10th as advertised, and as the BEE-KEEPER was not represented we have no detailed report to offer but from the rather meager reports that have thus far been published by those papers which were represented there, we cannot but conclude that in point of attendance and general enthusiasm it was not an unqualified success. There were only about seventy members present and very few of them were bee-keepers of any prominence. The Convention was more thoroughly advertised and more elaborate preparations were made for it than any previous convention and it was certainly not through any fault of the officers of the association that it was not a great success. The only explanation we can arrive at for the small attendance is that the Convention was held too far from that section of the country

where are found the greatest number of bee-keepers and especially those of greatest prominence. This section as everybody knows lies east of the Mississippi river and north of the Ohio. Some changes were made in the Constitution and a bait was held out for new members in the way of a gratuitous subscription to anyone of the current bee periodicals, and certain journals named some rediculously low rates as a bid for patronage. This, in our judgement, is a very poor expedient for increasing membership inasmuch as but small revenue can be derived and the members so acquired will generally be but poor sticks. We note that the press was abundantly honored. Every representative of a bee paper present excepting Editor York who held the office of treasurer last year, was elected to some office. Toronto was chosen as the place for holding the next Convention and the time will be during the Toronto Industrial Fair early in September, no better place could have been decided upon.

The *Bee Keepers' Quarterly* has changed its name after its first issue, or rather its place is now filled by the "Bee-Keepers edition" of the *Dowagiac Times* of which Mr. Heddon is publisher. The reason of the change was because the *Quarterly* was not admitted to the mails at newspaper rates. The issue is filled with some excellent articles all from the prolific pen of Editor Heddon, he writes too with a very sharp pen as certain editors can testify.

We notice in the English bee papers that the honey season has been an unusually poor one in that country. The same may be said of many localities on this side but our country is so large we must expect such occurances. If our whole country should have an abundant honey harvest for one season we would flood the markets of the world.

Next month we will include a complete index of the present volume of the BEE-KEEPER.

A good deal of importance is placed by some papers on the probability of greatly reduced rates of railroad fare to Toronto next year, for those attending the North American Bee-Keepers' Convention on account of its being held during the Industrial Fair. Possibly a small amount can be saved in that way by those who are willing to put up with the inconveniences of travelling in second class coaches on excursion trains but all this will be more than offset by the extra high rates of board which are always charged at that time. The writer visited the fair last September and his experience in that direction was anything but pleasant. We arrived at 8 o'clock in the evening and could find nothing better than a cot in the hallway at any of the numerous hotels. Finally we were directed to a private house where we were informed good accommodations could be procured. On reaching the house we were so pleased to find a place to sleep that the price of lodging was not mentioned. We staid there two nights and on enquiring the amount of charges when we were ready to leave, we were confounded by the information that "$2 a night was the charge but that they had been offered $3 just after we arrived." From our own experience we unhesitatingly assert that Chicago World Fair prices were "not in it" with Toronto. It is always best to bargain for your board at Toronto before you get it.

A most unfortunant occurrence happened a few days ago near us. The 18 months old son of John Berg a former employer of ours, crept to a hive near the house and stirred up the bees which alighted on its hands and face and stung it in a terrible manner. Medical assistance was called and although the childs system was thoroughly filled with the poison and at first its life was dispaired of, the effect of the poison was finally overcome and the child has recovered

LITERARY ITEMS.

"THE UGLY DUCKLING."

Unfeeling people are apt to speak as if plain or deformed ones were responsible for their own defects, and sensitive

children are often made to suffer in this way. While it is wrong to try to depreciate the true value of beauty, it is barbarous to give any child reason to think that she is less an object of love and tenderness because she lacks that gift. To the true mother "the ugly duckling" is as precious as any of the brood. A most fascinating but plain woman told me that when she was a child a relative whom she had never seen came to make the acquaintance of the family, and she hid herself under the nursery bed because she thought he would dislike her for her ugliness.

I was walking one day with a child, little more than a baby, on the high bank of a river. I warned her that she was too near the edge. She drew closer to me, and as she did so she raised her face and said, most pathetically:

"It wouldn't be right for me to make myself fall over, but it might be a good thing if my foot should slip, because after people die they are made over again, and perhaps I might be made prettier. You see I'm very ugly, and it's such a disappointment to mamma."

That was her idea of the resurrection. A like thought has come to older minds. Near the end of his life, I heard a man, who had been loyal and devoted to the homely woman whom he loved, repeating to himself a verse—his own, I think—which told of his belief that she would rise in beauty, the true enshrinement of her angelic spirit.—*From "Beauty and Ugliness;" Demorest's Magazine for November.*

ST. CRISPIN.

A pleasant story is told of the Emperor Charles the Fifth. One night he strolled into a cobler's shop to get his boot mended. It happened to be the festival of St. Crispin. The cobbler was making merry with his friends, and declared that no work could be done on that day for any man, even though he were Charles himself, but the stranger was cordially invited to join in the merrymaking. He did as he was bidden. "Here's to the health of Charles the Fifth; said the cobbler. "Do you love him?" asked the Emperor. "Love him?" said the cobbler, "I do. I love his long-nose-ship well enough, but I should love him more if he taxed us less." They finished St. Crispin's day very pleasantly.

Upon the morrow the Emperor sent for the cobbler to the palace, and greatly surprised him by thanking him for his hospitality of the previous evening, asking him what reward he would like best. The amazed cobblet asked for a night to think of it. The next day he appeared before the Emperor and requested that the cobblers of Flanders might bear for their coat of arms a boot with a crown upon it.—*W. S. Walsh, in November*, LIPPINCOTT'S.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, MO., Oct. 20, 1894.—Good demand for honey. Large supply. Price of white comb 15c. per lb.; Amber 12c per lb.; Extracted, white 7c per lb.; amber 5@6c per lb. Market is well stocked with fine white comb honey and will sell low.

HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, MICH., Oct. 21, 1894.—There is a fair demand for honey. Supply not large. Price of comb 14@15c per lb. Extracted 6½@7c per lb. Demand for beeswax is not good. Supply small. Prices 23@25c per lb. Our sales of honey were never more satisfactory.

M. H. HUNT, Bell Branch, Mich.

ALBANY, N. Y., Oct. 21, 1894.—Good demand for honey and supply increasing. Price of comb 9@14c per lb. Extracted 5@7c per lb. Steady demand for beeswax at 27@28c per pound. Moderate supply. The prices on honey are not quite so firm as they were a few weeks ago as receipts are more plenty. Choice white comb honey is not plenty.

H. R. WRIGHT.

ALBANY, N. Y., Oct. 20, 1894.—Good demand for honey. Supply ample. Price of comb 10@15c. Extracted 5@7c. The season is now at its height while receipts and sales are about equal.

CHAS. MCCULLOCH & CO.

BOSTON, MASS., Oct. 20, 1894.—Good supply of honey. Fair demand. Price of comb 14@15c. Extracted 5@6c. No supply of beeswax. Prices 27@28c per lb.

E. E. BLAKE & CO.,
57 Chatham St.

CINCINNATI, O., Oct. 20, 1894.—The demand is very good for choice white comb honey as well as for extracted. Good supply. Price of comb 14@15c per lb. Very good demand for beeswax. Prices 22@27c for good to choice yellow. Comb honey brings best prices now because it is something new yet and comparatively scarce.

CHAS. F. MUTH & SON,
Cor. Freeman and Central Aves.

Clubbing List.

We will send the AMERICAN BEE-KEEPER with the—

	PUB. PRCE.	BOTH.
American Bee Journal,	($1 00)	$1 35
American Apiculturist,	(75)	1 15
Bee-Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(1 00)	1 25
Gleanings in Bee Culture,	(1 00)	1 35

THE AMERICAN BEE-KEEPER

PUBLISHED MONTHLY BY THE W T FALCONER MANFG CO

VOL. IV. DECEMBER, 1894. NO. 12.

From November To May.

BY G. M. DOOLITTLE.

November should be the month for commencing a new season of work with every practical apiarist. It is a fallacy to suppose that a bee-keeper has nothing to do during the cold months of the year, as many seem to. Tell me how a bee-keeper spends his time from November to May, inclusive, and I will tell you whether he is a success in bee-keeping or not. Then we will suppose that you have your honey all disposed of, and your bees all prepared for winter on October 31st, and are ready to go to work for the next season, whan shall we do. Our first work is to get our surplus arrangements and section boxes, which have been in use the past season, in readiness for next harvest. Get them around, and scrape off all the propolis or bits of comb which may be adhering to them or the separators. All bits of comb should be saved, and the best way to save them is to have your wax extractor or some suitable vessel close at hand, and all waste pieces of comb put into it during the whole season. Bits of comb laying around wasting, or breeding moths, shows, that the one allowing such a thing is not up to the high privilege an apiarist should attain unto. As often as is required render these bits of comb into wax and you will be surprised to see what they amount to during the year. All sections which are partly filled with honey should have the honey extracted from them, and all combs in frames containing honey also, (unless you think you will need it to feed in the spring), as the honey will not correspond in color or quality which the bees will put in to finish out the same with the next summer. To extract such honey nicely, I fix a shelf close to the ceiling of my room, put the honey thereon, and keep the room so warm the mercury will stand at 90 to 100° for five hours before I commence to extract. By placing the honey near the ceiling, it does not require near the fire to heat it that it would require if placed on the floor or a bench. By thus warming the the honey is as easily extracted as in summer and our surplus combs put in good shape to be used as "bait sections" to entice the bees to enter the surplus arrangements early in the honey harvest, during 1895. Whatever form of surplus arrangement you use, the center tier of sections

should be those filled with comb from which you have now, or before, or afterward emptied of honey, either by feeding or extracting, and where our part filled sections are thus used as "baits" to entice the bees to an early entering of the section, or surplus apartment, they are of more value to us than money in the bank, of a like amount. Fill out the rest of the surplus arrangement with empty sections, each having a starter of thin foundation in it, or the sections may be filled with very thin foundation, as you prefer. Supposing that you have your surplus arrangements filled as directed, you are to pack them snugly away, where no mice or dust can get to them, so that they will be ready for use at a moment's notice next June. Our next work is to get our material for sections, hives, etc., by purchase or otherwise, which we think we shall need during 1895. To arrive at the number of sections we wish, I allow 125 one pound sections to each old colony in the spring, and find the estimation not far out of the way after many years of experience. Having the material on hand it is to be made up and furnished with starters, completed and packed nicely away, as was done with that which had been in use the previous season. Don't let any one fool you into putting this off till the honey harvest arrives, on the plea that fresh made foundation should be used in the sections, for years of experience has proven to me, (and R. L. Taylor's experiments conducted at the Michigan Experiment Station proved the same thing) that the comb foundation two or three years old is as readily worked by the bees as that fresh made. Next we make all needed hives, bottom boards, covers, etc., which we expect to want during the swarming season, so that not a moments delay is caused on account of unmade material during the busy season of storing of honey and issuing of swarms.. If we have further time the material for our shipping cases is made up and carefully stored away, putting the same in a darkened room, so that the light shall not turn our nice white lumber to a dingy yellow, thus injuring the sale of our product. In procuring material and making supplies for the apiary it is always well to remember that if you have a few too many there is no harm done, save the little interest there may be on the cash investment of any surplus material; but if we lack during a large yield of honey, the inconvenience is great, and often results in a serious loss. To sum up, in short, the work from November to May, I would say get everything ready you wish to use during the busy season, and have it snugly packed away so that you can put your hand on it at a moments notice. See the bees often, and if they are in the cellar, keep the temperature at from 40 to 45° if possible, and do not let the dead bees accumulate on the floor to get mashed and mouldy there. If the mercury rises to 45 or 50° in the shade, with little or no wind and the sun shining nicely, let your bees which are out-doors have a flight, no matter if the ground is covered with snow. Bees can rise as safely off the snow as from any other material providing the temperature of the air is warm enough, as above. Do not let any colony starve or die from lack of attention on your part, neither be so

crazy as to kill them from rough handling or over attention, when disturbing the hive can do no good. In fact, do things at the right time and in a proper manner, leaving nothing undone that will contribute to your success. Do not forget to post yourself up in bee literature, carefully reading the American bee-keeper and other bee papers and books, that you may arrive in all ways to the full stature of an apiarist.

Borodino, N. Y.

When to Prepare Bees for a Honey Crop.

BY CHAS. H. THIES.

The above question may be answered in many different ways, according to climate, etc., but as a usual thing it is safe to say, commence preparing your bees for a honey crop as soon as you have had your honey harvest. By this I do not mean to say that you should feed your bees to induce them to raise brood out of season, but have them in good shape for winter, plenty of honey where they will get at it, well covered, and above all be sure mice will not be able to get into the hive when bees are unable to fly. Of course bees can be fed in winter if necessary, but it is by far best and safest to have them well supplied before cold weather. The less you disturb bees in winter the better for them and you also. Knowing that your bees are well supplied and in good shape gives a bee keeper lots of satisfaction in cold winter, but even after your bees are put aside in the fall with lots of honey there will surely be some colonies that run out long before more can be gathered; this certainly wants to be looked after. This, however, will not occur until well into the spring, at which time it would be well to take advantage of some nice warm day and look them over. It will only be necessary to raise the cloth and peep in. It is not necessary to take off all the covering and take out frames, for if honey is on hand it can be seen from above. If this hive has lots of honey, enough to do them until more can be gathered, mark it "No. 1." Should the next hive have less honey and you doubt that they will have sufficient to do them mark it "No. 2." The next hive you examine we will suppose has but little honey and you are almost sure they will need feeding—mark this hive "No. 3." The same should be done with all the colonies you have. You will now see you have your bees divided into three classes which will greatly diminish your future work. "No. 1" will need no particular attention until spring. "No. 2" may possibly need to be fed. "No. 3" will surely need to be fed, but of "No. 3" you should have but few, if your bees were in proper condition in the fall. You may have 200 or more colonies and out of these 200 colonies have only 10 to 15 that will require any particular attention until warm weather. This is far out-door wintering. I have had no experience with cellar wintering, but think I would manage somewhat similar. In order to supply colonies that need feed before spring it is always best to store away a few hundred frames well filled with honey for this purpose. Better too many than too few, as this is the best, safest and most convenient way of feeding in cold weather.

Steeleville, Ill.

Bee Notes.

BY S. M. KEELER.

Dr. Miller, in *Gleanings*, page 786, wants to know what is best to use in making inside corners of a feeder water tight. Let him try red lead and linseed oil. It dries quick and hard, is also good to mend your leaky tinware by mixing into a thick paste and it will stand fire and water.

Charles Norman in his article on "Foul Brood," page 789, *Gleanings*, gives the size of his frames $23\frac{1}{2}$x$23\frac{1}{2}$ and calls them *small*. I wonder what he calls a *large* frame?

G. M. Doolittle is not alone in the bridge comb question. Some would try to make it out a great deal of trouble to an apiarist, but that depends on how they look at it. The bees want them and make use of them in going up. Who has not seen the little cone-shaped knobs of wax built up on the bottom of the hive to enable them to reach the bottom bar of the brood frame, and thus save traveling clear to one side so as to go up the side of the hive? They are almost no trouble at all. Let them alone; they are much cheaper than "shoe pegs."

The Clasps worn by wheelmen to save their trousers from being soiled by their wheels may be worn to keep the bees from running up inside your trousers, and thus save some uncomfortable stings.

Now is the time to read everything new and old these long evenings and take notes that we may be prepared for our work when the bees fly in the spring.

With plenty of good honey bees need not starve, especially if the hives are protected with winter cases from piercing winds and freezing storms, which disturb the bees very much more than many degrees below zero. Then with a dry brood nest and pure air to breathe, their condition for winter is about as good as it can be. Mr. J. F. Gates says, "Cold never kills a colony of bees," and I think his head is about level on that point. Too much protection I am satisfied has killed lots of bees. Where hives are packed with saw-dust, leaves or hay, the packing is very liable to get wet or gather moisture, and soon is mouldy, rotten and musty, which is enough to kill bees or anything else confined in such a place.

Chenango Bridge, N. Y.

EDITOR AMERICAN BEE KEEPER.—Dear Sir: Please answer the following questions through the columns of your journal or leave it open for discussion:

1. What is the best way to Italianize an apiary of 50 colonies?

2. What is the cheapest way to do so and when?

3. Are Italians any better than Hybrids for comb honey?

Yours Truly, F. J. C.

[As the questions are on subjects on which there is considerable diversity of opinion we prefer to have our readers answer them, and shall be glad to receive some short articles on the subject of Italianizing with answers to the questions asked.—ED.]

W. T. FALCONER M'F'G CO.—Gents.—We herewith hand you Money Order for eleven dollars and seventy cents in payment of bill of Oct. 15th, 1884. The goods were

very fine indeed. We think no finer made. If you send as good goods to every one who orders from you as you did to us, I see no reason why you should not ho'd them as permanent customers. We expect to increase our apiary next spring, and our orders in the future will probably be larger than in the past. Wishing you success, we remain, Yours very respectfully,

McWILLIAMS & MILLER.

Prattsville, Nov. 12, 1894.

EDITOR AMERICAN BEE KEEPER.—Sir: What is the furthest distance you have on record of sending bees and queens by mail? This last mail I received by post a shipment of six Albino queens from your country, but they were all dead. The transit occupied 30 days, but as the box was marked "Received in bad condition, San Francisco," I take it they were dead (or had been tampered with) before reaching that point. I have only had one loss in queens from Australia, but nearly all the queens received from America by New Zealanders and Australians do not survive. Mrs. Jennie Atchley sent out a heavy shipment to Australia, some in cages by post, and some in nuclei, but I believe not one arrived alive.

I notice some American breeders guarantee safe arrival to any part of the world, and as far as I can hear several have arrived safely (from Root and Doolittle), but they were "few and far between." I know one person who ordered eighteen and only got one alive.

The cages for hot weather should be larger than for colder—the Benton being the best. American breeders would do well to test long distance cages, and one thing I would like them to try, i. e., send queens by post towards the end of your season, say Nov. or Dec., and they will arrive here almost in the height of the honey season, which is later than yours. Yours, &c.,

W. J. MAY.

Parawai School, Thames, N. Z., Oct. 27, 1894.

[As we do not deal in queens our experience in shipping them long distances is very limited and in most instances has not been very successful. Mr. Root and others have had more or less success in delivering queens safely in Australia and New Zealand, but it is a long distance and only a comparatively small proportion of queens have arrived alive. We believe there is yet considerable to learn in long distance shipping.—ED.]

(From the Progressive Bee Keeper).

Wayside Fragments.

BY SOMNAMBULIST.

Did you know there had been a meeting of the busy bee keepers of North America up on the "Big Muddy"? They swarmed out from their homes and struck a bee line for St. Joe——seph. (You see I have at least learned one thing, that it is for a Dr. Miller to leave off that last syllable, for no matter how much the St. Joe inadvertently slipped out alone the *"seph"* was immediately forthcoming, and why should I care to take a risk which that cautious Doctor declines. And if by any stretch of the imagination Bro. Abbott can possibly feel that the curtailing of the name of St. Joseph detracts in any degree from its greatness, then we, one and all, without exception, will join in adding syllables thereto, rather than eliminating therefrom.

The clerk of the weather, as though cognizant of the fact that Missouri, and more especially St. Joseph, was to be put on exhibit, furnished a sample of our most delightful fall weather all through the session.

Could any part of North America have excelled? The landscape,

"Russet lawns and fallows gray,
Where the nibbling flocks do stray."

green wheat and golden cornfields begirt by the distant forest-capped hills, just now changing from green to gold, was never lovelier. The sight of the happy homes along the route served but to endear those we call our own, and the people going about their daily duties reminded us that we were not alone in this great struggle for existence. Arrived at St. Joseph, the electric line took us direct to the building in which is the large and handsomely furnished "Commercial Club Room," which at the very first glance promised solid comfort. And many a weary bee-keeper who had for the last few weeks been hustling around to get his pets safely quartered for the winter in time to be off for the expected feast, found rest in the ample and richly upholstered easy-chairs so abundantly furnished.

And what language is equal to the description of that rest? Surrouded by the faces of earnest, well-tried and faithful veterans in the cause, if there were among that company any who were on the verge of growing faint-hearted, they surely then and there absorbed sufficient antidote to thoroughly eradicate such symptoms. Think you to find lukewarm, disinterested persons in such assemblies? Ah! no. Each face was all eager attention, lest perchance the owner thereof might fail to catch that which was being offered. Enthusiasm ran so high and the persistent buzzing was so loud as to attract many who made but little or no pretence of being bee-keepers.

After an exchange of extremely warm greetings and a *very* short season of chatting, the convention was called to order and opened by Dr. Miller leading in prayer.

Then followed a sort of class meeting exercise, during which the members were called upon to give the number of colonies, place of residence and their business other than bee-keeping, if any. Beginning with Frank Benton, the secretary, it continued until time for adjourning. As this might prove interesting to the absent, I herewith give all that I was enabled to get:

Frank Benton, Washington, D. C., government employe; 140 colonies.

Ralph Benton, Washington, D. C., school boy; one hive.

M. Arnold, Burlington, Kan., general farmer; thirty colonies. Raised both queens and honey.

J. C. Mold, railroad engineer, started with two; increased to six or eight this season; made increase by feeding sugar syrup.

R. F. Holtermann, Canada, editor Canadian Bee Journal, made forty-three pounds per colony. 100 colonies.

Dr. J. Conroy, Florence, Kan., pill vender, made 1500 pounds. 100 colonies.

H. C. Nichols, farmer, 150 colonies.

E. C. L. Larch, Savannah, farmer, 5000 pounds, 125 colonies.

J. Vandusen, Sprout Brook, N. Y., manufacturer of flat bottom foundation; 165 colonies; were transferred to Capt. Hetherington on account of death of son in the Battle Creek (Mich.) railroad wreck a year ago. Realized about one-third of the usual crop.

F. H. Richards, Laclede, Mo., farmer; nineteen colonies.

W. Q. Hull, ten pounds per colony; rears queens; fifty colonies.

E. F. Quigley, Unionville, Mo., rears and sells queens.

C. C. Miller, Marengo, Ill., two-thirds of an ounce per colony. 200 colonies.

C. F. Thomas, Hardeman, Mo. twenty-two pounds per colony; six colonies.

J. Shumaker, farmer and horticulturist; 4000 pounds; 156 colonies.

J. Grimm, (brother of the noted Adam Grimm,)member of legislature for a term of near thirty years; 3000 pounds; 200 colonies.

J. T. Calvert, Medina, Ohio.

A. I. Root, Medina, Ohio, bicycle expert; 200 colonies.

Right here our little class meeting was broken up, its untimely enb being most probably due to the clamoring of the inner man.

A committee of five was appointed to revise the constitution and by-laws; also a reception committee of five.

President Abbott announced that C. Muth, of Cincinnati, was detained at home on account of a serious accident to his son, he having been run over by a team.

Friend York, of the American Bee Journal, delivered a message from Bro. Newman, saying he desired to be remembered and expressing regrets that he was unable to attend.

Doolittle also sent regrets, and—oh yes he did do more. With those regrets he sent a question to be discussed, the sum and substance of which was, "Resolved that more depends on the condition of the colony during the honey flow than on any *race* of bees." He wished the question debated in regular old-fashioned district school style, but want of time forbade, and the convention adjourned to meet at 1:30.

WEDNESDAY AFTERNOON

Called to order at 1:30 sharp. Letters of congratulation from France and Australia were read. Then followed the report of the treasurer.

Next was a paper, which can be found in full in the official report to be published in the American Bee Journal, written by J. W. Rouse, Mexico, Mo., on "Profits in Bee Keeping."

J. Grimm thought bee keeping not as profitable as when Adam, his brother, amassed his fortune in the business. *Then*, he said, it was easy to sell a good colony of bees for $15 to $20. Comb honey for 25 to 30 cents and extracted for 18 to 20 cents. Still he was not discouraged.

A. I. Root thought we needed more faith in bees, more faith in God, etc., while some thought *faith* had but little to do with securing a paying crop of honey, and others felt that they had already a "leedle" *too much* faith in bees. From this subject very naturally sprang the discussion of several side issues, which rendered the debating of Friend Doolittle's question uncalled for, and which was assigned by our president as his reason for dropping the same. The first of these was Stimulative Feeding.

R. F. Holterman, of Brantford, Ont., editor of the Canadian Bee Journal, had experimented with it to a considerable extent and thought it not practicable.

A. I. Root stated that R. H. Board-

man had secured a good crop by stimulative feeding.

Secretary Benton, Washington, D. C., was positive stimulative feeding was at the bottom of all bee keeping.

Then came for consideration the races.

President Abbott thought yellow bees sports. Some who had yellow and other bees in the same apiary claimed superiority for the former, declaring the supers could be readily distinguished by their weight. It was generally conceded there was no such thing as lazy bees.

Following the discussion of this paper was an address of welcome from Major Hardwick, president of the commercial club, which had so generously opened the doors of their commodious apartments to us. While he seemed delighted to welcome the bee keepers to the free use of their elegant rooms, it was evident that he took especial pride in the city of his apoption and its business. He stated that St. Joe sold more goods than Kansas City and Omaha combined, and employed from 2,000 to 2,500 girls in the manufacture of overalls alone. Dr. Miller, in his cheery pleasant manner, responded in behalf of the members of the convention.

Next we listened to a paper on "Bee Keeping in Germany," by C. J. H. Gravenhorst, Wilsnack, Prussia, (translated by Frank Benton). His hive, instead of having the movable frames, had movable combs, or combs attached to top bars only. Secretary Benton claimed that the Greeks many years ago used movable *combs* (not frames) without any knowledge of what the remainder of Europe was doing, indicating that the idea must have originated with them. He thought we should carefully distinguish between the yellow sports and yellow Cyprians.

President Abbott then read a letter from G. B. Lewis, Watertown, Wis., offering congratulations and good wishes, and expressing regret of inability to be present; also a message from Mrs. Sherman of Salado, Tex., sending greeting, desiring a pleasant and profitable meeting, and of course regretting her absence. Hon. Mr. Hambaugh of Illinois, also sent a communication to the effect that he wished to dispose of his apiarian interests, and C. P. Dadant explained that Mr. Hambaugh intended going to California, which was greatly to be regretted, as thereby Illinois would lose one of her most earnest workers.

Adjourned to 7:30 p. m.

WEDNESDAY EVENING.

Wednesday evening exercises opened by the singing of the sacred song, "Lead me to the Rock that is higher than I," by Dr. Miller, which was followed by a recitation by George W. York, recounting the troubles of a young man afflicted by the sneezing habit. Then appeared Dr. Miller in his inimitable "Sockery," after which we were treated to an address of welcome from Mayor Sheppard. Response on the part of the members of the United States by George W. York of Chicago, and on the part of the Canadian members by R. F. Holterman, Brantford, Ont. Then came a song, "Away off in the West," by Mr. Hardeman of St. Joseph, which was followed by "Found a Peanut," in response to an encore. Miss Gregg then favored us with two choice selections in song, the rendition of which

was highly creditable, as she certainly proved herself mistress of the situation.

President Abbott now introduced to the audience Hon. J. R. Rippey, secretary of state board of agriculture, who made a befitting little speech, and then we were carried almost to the "seventh heaven" by the charming strains of two violin solos by Prof. Bartholdt, at the conclusion of which we felt there was nought in the violin he could not bring out.

T. B. Terry of Ohio, well known as "Potato Terry," and also dubbed the "clover crank," was next presented, and gave us a short but pointed lecture on the fertilizing of land by the use of clover. Nearly twice as much clover as timothy could be raised, worth one-third more money, beside bringing up the land one-third faster. Between potatoes planted on clover enriched land and those planted on highly manured land, the two lots lying side by side, both otherwise treated the same, the former came out $50 per acre ahead. What under like conditions made ten bushels more on the clovered land?

Dr. Miller next related his experience in amusing a neighbor's little boy by telling him the story of "George Washington and His Little Hatchet," which however great a failure it proved in the case of the boy, was a grand success with the grown-up girls and boys who had the privilege of hearing him on this occasion. This closed the exercises of the never-to-be-forgotten evening.

THURSDAY MORNING.

Thursday morning's exercises were begun by the taking up of the question box, and "The Disposition of our Honey Crops" was discussed in quite a lively manner by several members, George W. York leading out. Said honey must be of good quality and in suitable packages for either home or distant market. Recommended the home market, as overcrowded commission men could not always give the necessary attention to each lot received, and some being held over was finally sold at much reduced prices. Knew of one lot of twelve pounds sold on Water street, Chicago, for $5, and another lot consigned to a firm on the same street, which on investigation proved a myth, as no such firm ever existed in that place or vicinity.

All were united in building up the home markets. Supply and demand govern the price of all things, and should all the honey be thrown on the city markets, perhaps deluging them, the supply being so much greater than the demand, down goes the price.

Reputation enabled President Abbott to sell extracted honey for 15c, and he recommended that bee-keepers never allow themselves to get out of honey with which to supply the wants of their customers. If they failed to have of their own, better buy of those who had a good article.

F. H. Richards seemed to think selling another's product in lieu of your own, would be lying without speaking, whereupon Dr. Peiro (Yes, there's something else I learned—that name is pronounced as if spelled *Paro*) wanted to know how that "fine-haired thing" was done, as they of Chicago had use of all the different methods (patented or otherwise I presume he meant) of lying, and as Dr. Peiro is one of those very earnest

jokers, he must be seen to be appreciated

Mr. Whitcomb of Nebraska, thought it not desirable to force honey on the market.

The reports of the honey crop published by A. I. Root in *Gleanings* were calculated to serve as pointers in regard to supplies of honey' and consequently prices which might be expected.

Dadant advised sending to *good* commission men and directing the same to sell at a certain price or make no sale.

Honey packages were next taken up.

F. H Richards, Laclede, Mo., used sloping tin vessels. His customers would not buy in glass, being possessed of the idea that all such honey came from second hands, and was consequently adulterated.

Editor Stilson of York, Nebraska, used all glass. Believed in turning on the light showing exact condition of honey. California sage and other honey would not granulate for years, while alfalfa granulated very readily.

Mrs. Strawbridge, Ottawa, Kas., president Kansas State Association used Mason fruit jars.

Bee paralysis was the next subject taken up. No positive cure known.

Editor Holterman never saw a case.

Mr. Whitcomb of Nebraska, found "fly poison" almost always at the bottom of bee paralysis, often put out purposely for the dertruction of the bees.

A. I. Root said it was a criminal act to poison anything anywhere within the United States.

F. H. Richards thought the bees were poisoned by the indiscriminate use of spraying liquids.

Mr. Carrington of Maryville, did not believe the poison theory, as *all* would be affected. Had tried the salt cure, fumes of sulphur, change of queen, each with but little or no success.

W. L. Porter, Denver, Colo., thought perhaps fumes from the smelters the cause of paralysis.

Dadant ascribes the trouble to constipation.

Secretary Benton suggested that it might be owing to a potassium compound in cherry and other blossoms, as the ravages of the disease were most perceptible during the time of their blooming.

Mrs. Whitcomb used dry salt placed at the entrance as a remedy.

Editor Stilson thought burning the best plan.

President Abbott recommended placing a cake of sugar over the brood frames, leaving between a one-half inch bee space. Never lost a colony so treated. Used it both in cellar and outdoor wintering. No matter how much honey on hand, put the sugar on also.

Mrs. Strawbridge found one dead which had been supplied with the cake of sugar.

Spring Dwindling next come up for consideration.

President Abbott.—That cake of sugar is an excellent remedy.

Mr. Whitcomb attributed spring dwindling to loss of bees while in search of water. Bees were the same as other stock and during brood rearing needed large supplies of water. Illustrated his method of watering, which was to invert ordinary fruit cans filled with water over blocks having slight grooves cut in them, said grooves

ending before reaching the end of the block.

Foul brood was very lightly touched upon.

Mr. Calvert called the attention of the convention to the exorbitant freight rates exacted on bees and apiarian supplies. Freight rates are fixed according to value, weight and bulk. He thought something should be done, if possible, to relieve us from the present burdensome exactions.

THURSDAY AFTERNOON.

Thursday afternoon was principally consumed in the selection of the place for the next meeting and election of officers. The contest for the former lay chiefly between Toronto, Ont., and Lincoln, Neb., the former coming off victorious, not because of the western men showing any signs of weakness, but mainly that it has long been an established custom that the North American shall not convene in the same section of country for two succeeding years,and, too, that at the Columbian meeting the Canadians were promised they should be remembered at this time should they yield in favor of St. Joseph for '94, and the Nebraska people have a similar promise for '96. Never was there a warmer or more pressing invitation received than tnat given by Nebraska through Bro. Stilson. He was armed with a separate invitation from the state association, Lincoln's commercial club, city council and mayor, and the governor of the state. He stated that Lincoln had 65,000 inhabitants, 200 miles of electric railway, etc. All right, Bro. Stilson, some of us expect to get there some time in the future. Vice-president Hershiser sent a warm invitation to come to Buffalo, and Denver, Colo., extended a similar request by telegraph.

A paper on "Bee Keeping in Canada" by R. McKnight, Owen Sound, Ont., was read, and between times, the question box was taken up and the following questions considered;

"How late in the fall is it desirable to rear brood?" Some thought it desirable to have brood at all times of the year.

"Will it pay to extract and feed back?" Granulation a drawback; loss of honey too great; don't pay.

"Is it desirable to have supply dealers, who are not bee keepers, present at conventions?" By all means.

"Is it advisable to remove honey in brood nest and supply sugar syrup instead?" That depends on the quality of honey, and price of sugar as well as of honey.

"Is paper a good packing material?" Good unless left too long.

"In what way can we tell robber bees?" By appearance.

"Adel queens—what are they?" The name has its origin in Europe; means noble queens; choice, selected queens belonging to any race.

THURSDAY EVENING'S SESSION.

Paper on "Honey Recources of the Future," by S. E. Miller, Blufftown, Mo. Greatly favored the planting of alsike clover, and on this point was warmly seconded by all who had experience in the matter. It was claimed to be longer lived, more prolific in honey, and the seed higher priced than other clovers.

"What shall we Plant for Honey?" a paper written and read by Secretary Benton. Quite comprehensive, and consequently lengthy, but was listen-

ed to with rapt attention. The following synopsis will give a general idea of this valuable paper:

No plant sufficiently profitable to plant for honey alone. Each one should understand the flora of his immediate locality, so as to know when the gaps in the honey producing blossoms occur, and plant so as to fill up said gaps. Divided the honey plants into three classes: 1st, Those for fruit and honey. 2nd, Ornimental and honey plants. 3rd, Those which might be planted for experimental purposes.

In the first class would put fruit bloom of all kinds, and especially mentioned raspberry. All the clovers, Japanese or bush clover, can be raised much farther north than is generally supposed. Flat pea, European chestnut, filbert or European hazelnut, chicory, crimson cloves, mustard, for seed and honey; rape, for bird seed, oil and honey; melons, cucumbers, squashes, gourds, etc.; onions, cotton, corn, okra, vetch, a renovator of the soil as well as forage plant; lupine, of which the same may be stated; hemp, sweet clover, Fuller's teasel, and would put parsnip in the front ranks.

In the ornimental class would place mignonette, hawthorn, cleome, black helleborne, red bud, for pollen particularly; poplar, maple, wisteria, tulip tree, linden, locust, rosemary, matrimony vine, crocuses, buckthorn, catalpa, honeysuckle and sourwood.

In the experimental class, catnip, hoarhound, motherwort, peppermint, licorice, Alpine clover and ozier willow.

As the mayor of the city had invited us to attend in a body the museum for that evening, the exercises closed after the appointment of several committees, so as to enable us to accept this kindness, and all repaired to the museum, where they heard the talking seal and otherwise enjoyed the remainder of the evening.

FRIDAY MORNING.

Friday morning we heard the president's address, which was very able. He advised selling for cash, and cash only, and on the home market, as freight and express rates eat up profits. Educate the people to the use of honey. Each should make all he can out of his opportunities. But as all may see the papers when published in the American Bee Journal, I'll stop right here.

During this morning we were favored with two songs, sung by Dr. Miller and written by Eugene Secor, one of Iowa's honored bee keepers, namely, "Dot Happy Bee Man," and "The Bee Keepers' Reunion." Reports from the various committees received, the last of which was the one on exhibits, and here is the list:

Leahy Mf'g. Co. displayed the Higginsville Hive Cover, which is flat beneath the gable on top with cleated ends; also their double gable cover with cleated ends, the special features of these covers being a gable cover that will tier up one upon the other like a flat cover.

The Bingham smoker [the old reliable] in four sizes—the Little Wonder, the Large, the Conqueror, and the Doctor—surely as complete an assortment as the most fastidious could demand.

P. Roby, of Chanute, Kansas, sent his timber feeder made to hang in the hive, the same as a brood frame, and

having much the same dimensions except in depth, the bottom having small perforations for the food to pass through.

J. C. Knoll, Glenwood Park, Neb., combined section press and foundation fastener.

J. Van Deusen, Sprout Brook, N. Y., samples of the well known flat-bottom foundation.

The St. Joe Hive—metal spaces at each end for frames to rest in, and wooden ones across the center of the bottom. Bottom formed of several light boards crossways of hive held in position by grooved cleats.

One crate of sections from G. B. Lewis.

Wild bees and honey from Australia; also three samples of beeswax.

Introducing queen cage, wooden, used in Carniola, Austria.

Buckwheat and Smartweet honey, Mr. Steadwell.

Alfalfa honey, W. L. Porter, Denver.

White clover honey. F. H. Richards, Laclede, Mo.

Snow on the Mountain—a varietv of milkweed—honey from Kansas.

A most beautiful form of waxflowers, water lilies, garden lilies, phlox, ivy leaves, etc., made and exhibited by Mrs. Whitcomb, of Nebraska.

Last, but far from being least, was the display of Editor Stilson of the Nebraska Bee Keeper, consisting of nearly seventy samples of honey, all different varities except six duplicate samples; twelve samples of foreign honey, the whole put up in the very neatest style in metal-capped glass jars, which were equally spaced and held in position by being placed in perforated white paste board. Friend Stilson certainly deserves great credit for bringing such a display. But as this article is already too long and I must stop somewhere, I will do so at once. Adieu until next time.

Naptown, Dreamland.

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THE AMERICAN BEE-KEEPER,

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EDITORIAL.

Elsewhere will be found a complete index of Volume IV of the BEE-KEEPER. The year now closing has been one of great financial stringency, and business has been at a very low stage during a greater part of the time. The bee industry has suffered fully as much as any other in all its branches. Several bee-papers have been "started" and—that is all. Many dealers and manufacturers of supplies have closed their business. Queen breeders are scarcer than ever and the honey market is not very encouraging. But everything certainly looks brighter for 1895, and the supply business is far better now than it was last year at this time.

Owing to the brief and concise way in which it is written, we have taken the liberty of copying from the *Progressive Bee-Keeper* the excellent discription of the proceedings of the North American Bee-Keepers Convention by "Somnambulist."

There has been a change made in the firm at Medina, Ohio. A. I. Root who has for so many years conducted the bee supply business and gained for himself a world wide reputation, has retired from active business and the firm name has been changed to "The A. I. Root Co.," which we understand includes Ernest Root and J. C. Calvert. These two have practically conducted the business for a long time past and we are glad they are in a position to reap more fully the benefits of their exertions.

We are now furnishing the Higginsville Hive Covers having arranged with the inventors to manufacture them.

GREAT OFFER! We have made arrangements by which we will furnish a copy of the latest edition of A. B. C. of BEE CULTURE (paper cover) with *Gleanings* and the AMERICAN BEE-KEEPER one year for only $1.75, or the *A. B. C.* and BEE-KEEPER for 90 cents. If cloth binding is wanted, same will be furnished for 25c extra. THIS OFFER IS ONLY GOOD UNTIL JAN. 1ST.

We wish all our readers a "Merry Christmas and a Happy New Year.

The *trade discount* on orders until Jan. 1st, is 4 per cent.

VERMONT.—The next annual convention of the Vermont Bee-Keepers' Association will be held in Middlebury, Vt., on Jan. 30 and 31, 1895. Programs will be prepared and mailed later. Let every Vermont bee-keeper begin NOW to prepare to attend, and all those who can reach Middlebury, whether you live in Vermont or not, we want you to come. Barre, Vt. H. W. SCOTT. Sec.

LITERARY ITEMS.

A FRENCH PEASANT.

She judges a picture with both hands on her hips, and when disapproval appears in her eye, one trembles for the picture. When she is actually bored, she strides across the floor to an open window, puts her elbows on its balcony rail, lays her leathery chin on her leathery hands, crosses her sturdy legs, and in this street-loafer attitude refreshes her mind. Her fist is capable of a sledge-hammer blow. Her husband (yeoman though he is) would hardly be a match for her. He knows it and is visibly proud of it. I have seen Whitechapel hags rouse their shrivelled or bloated selves to fight like fiends, but she, if once she were roused, would fight like a god. In fact, she is a modern type of the ploughwoman of mythology. If Joan of Arc had been a peasant of this type, there would have been no mystery about her military prowess. She is a masculine woman, in the best sense, and there is as vital a difference between her masculinity and the masculinity of the fast women of the period as there is between her husband and the *boulevardier*.—*Alvan F. Sanborn, in December Lippincott's.*

A PEN PICTURE OF THE EMPRESS DOWAGER OF CHINA.

The empress dowager, as a Chinese mandarin describes her, is very fine looking. She is well formed and dignified, and she has an imperial look. She is quite tall, and she sits up straight as a poker as she rides along in her chair. Her features are those of a Tartar, the cheekbones being high, much like those of our Indians. Her face is long and narrow, and she has fully three inches of forehead. Her eyebrows are pulled out so that they form the willow-leaf arch, which is the most beautiful curve to the artistic Chinese, and her eyes are bright, black, and piercing. Notwithstanding she is threescore years old, her hair is still black, and she combs it after the style of the high Tartar ladies, over a bar a foot long at the back of her head, so that it stands out for six inches on each side. Her complexion is yellow, verging on the bloom of a ripe Jersey peach, but it is usually overlaid with rouge and paste. I understand that she is very vain of her looks. She primps and powders and uses every art to detract from her age. She dresses in silks, and her shoes are of satin with heavy wood soles It will surprise you that this greatest woman of China has feet of the average size. She wears, I venture, a number

four shoe. There are no squeezed feet in the emperor's palaces; and Manchu women who are the noblest women in China today, do not compress their feet.—*From "The Empress Dowager of China," in Demorest's Magazine for December.*

BIGGLE BERRY BOOK

is number two of the Biggle Farm Library, published by Wilmer Atkinson Co., Philadelphia. It is edited by Judge Jacob Biggle, a practical berry grower and berry lover, who has arranged in a systematic and attractive way not only what he has to say himself, but also the valuable advice and experience of many leading berry experts of the country who have contributed to its pages. The book is condensed and practical, as valuable for the villager with his 10x12 handkerchief berry patch as it is for the commercial berry grower with his twenty-acre field. Perhaps the most unique and attractive feature is the series of colored plates, containing over sixty berries true to size, shape and color, reproduced from nature at a cost of considerably over $1,000 for the first edition alone. This is something which has never before been attempted on such a scale in any fruit or berry book. In addition to these colored plates there are sixty-eight illustrations in black and white, including thirty-three portraits of leading berry growers. The whole contains 144 pages, neatly bound in cloth, price 50 cents. No berry grower can afford to be without it.

WILMER ATKINSON Co. Publishers.

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Index to Contributors.

Honey and Beeswax Market Report.

Below we give the latest and most authentic report of the Honey and Beeswax market in different trade centers:

KANSAS CITY, MO., Nov. 20, 1894.—Good demand for honey. Large supply. Price of white comb 15c. per lb.; Amber 12c per lb; Extracted, white 7c per lb.; amber 5@6c per lb. Market is well stocked with fine white comb honey and will sell low.

HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, MICH., Nov. 21, 1894.—Fair demand for honey. Supply better than expected. Price of comb 14@15c per lb. Extracted 6@7c per lb. Slow demand for beeswax. Good supply. Price 24@25c per lb. There seems to be more honey than was looked for and the market is well supplied.

M. H. HUNT, Bell Branch, Mich.

ALBANY, N. Y., Nov. 21, 1894.—Steady demand for honey. Good supply. Price of comb 9@14c per lb. Extracted 5@6½@7c per lb. Good demand for beeswax at 28@30c per pound. Light supply. Owing to the warm weather the honey demand has been good, and think it will continue so until after the holidays.

H. R. WRIGHT.

ALBANY, N. Y., Nov. 20, 1894.—Fair demand for honey. Ample supply. Price of comb 10@14c. per lb. Extracted 5½@7c per lb. Demand very good. Supply light. Prices of beeswax 26c to 28c per lb. Light supply. The trade is now quite generally supplied with honey and the demand not so great.

CHAS. MCCULLOCH & CO.

BOSTON, MASS., Nov. 20, 1894.—Fair demand for honey. Good supply. Price of comb 14c per lb. Extracted 5 to 6c per lb.

E. E. BLAKE & CO.,
57 Chatham St.

CINCINNATI, O., Nov. 20, 1894.—Fair demand for honey. Fair supply. Price of comb 14 to 16c per lb for best white. Extracted 4 to 7c per lb.

CHAS. F. MUTH & SON,
Cor. Freeman and Central Aves.

Clubbing List.

We will send the AMERICAN BEE KEEPER with the—

	PUB. PRCE.	BOTH.
American Bee Journal,	($1 00)	$1 35
American Apiculturist,	(75)	1 15
Bee Keeper's Review,	(1 00)	1 35
Canadian Bee Journal,	(1 00)	1 25
Gleanings in Bee Culture,	(1 00)	1 35