

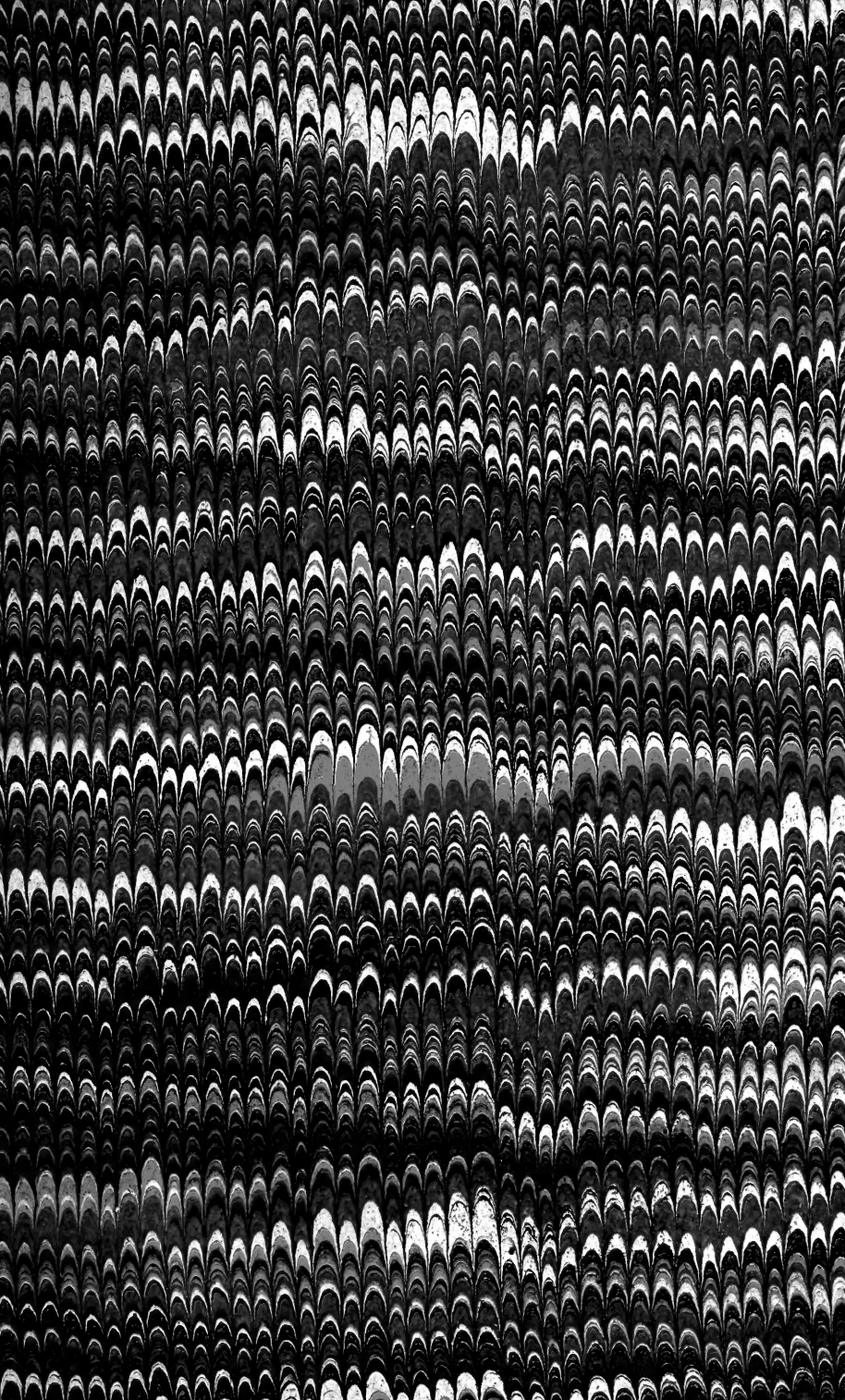
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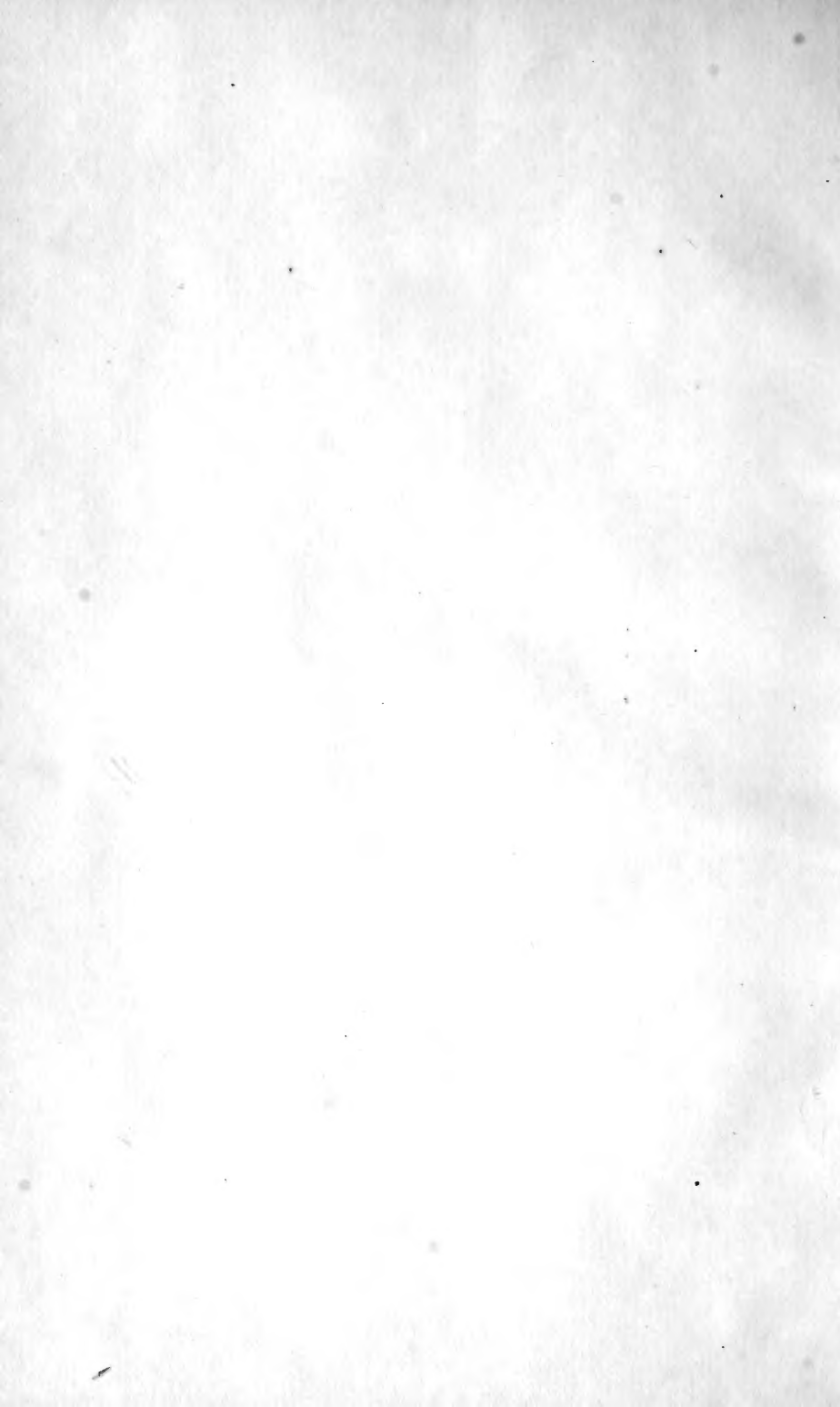
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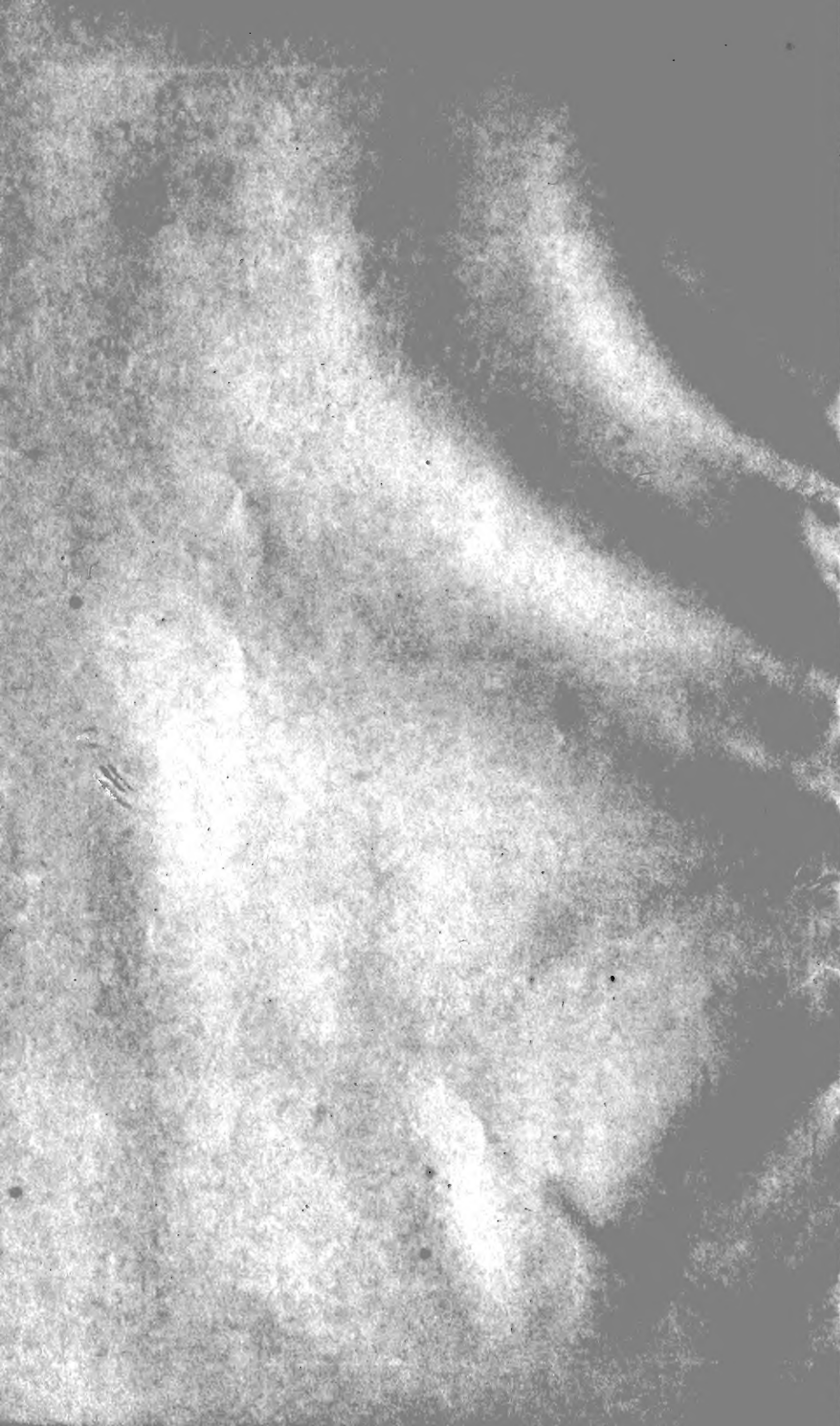












Price Twenty-Five Cents.

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THE
WESTERN
CANE GROWERS' MANUAL,

BY

S. M. WALCHER,

SOMERSET, KANSAS.

(Contents at p. 32)

A TREATISE ON THE GROWTH AND CULTIVATION OF
CANE AND MANUFACTURE OF SYRUP, WITH OTH-
ER VALUABLE INFORMATION,
RECIPES, ETC., ETC.

PAOLA, KANSAS:
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PREFACE.

In offering these few crude pages to the public, I don't expect to weary your patience with flourishes or style. I am simply trying to put together facts of experience which have come under my observation, in order to assist those who wish information; so as to make the cane growing and manufacturing of syrup profitable to all.

Yours &c.,

S. M. WALCHEB.

INTRODUCTION.

The growth of cane in this latitude is no more an experiment. All over the United States, except the extreme North, the sugar cane has proven to be a success and leaves a good profit when properly handled. It is true to some extent that the growth, cultivation and manufacture of this is but very little understood by a great many, but the inventive genius of man in this age seems to be capable for almost anything, and what ever project is put on foot, seldom stops short of perfection.

The introduction of this valuable plant has saved millions of dollars to the American people in the last few

years. Take away this luxury of home production if you please and imagine what the result would be.

We see daily that home made syrup is being used more and more, and as the quality is improved the market will become better, and the cheap adulterated stuff which is shipped here and sold at an enormous profit will cease coming. Every county and state should produce its own wants as near as possible, then you would see prosperity. The farmer should know just as well how to produce a good syrup as a good animal or a good crop of corn. With what practical knowledge every one possesses on this and similar subjects, if they will study these pages carefully, they will undoubtedly be greatly benefitted and success will crown their efforts. I have seen syrup made from Imphee cane, that could not be told from honey only by comparing them. I made last fall a No. 1 article of honey syrup from all the pure Imphee African Cane I manufactured, and if the cane had been produced just right the *quantity* would have been greatly increased. No wonder we see a disposition to run down and discredit the use of home made sorghum (this is the common phrase.) We must produce a No. 1 article, one that will keep away importation, and it can be done to a greater extent than now. By so doing we will add wealth to our community and strengthen the bonds of union.

I look to the future for the promotion of truth and righteousness over the most serious obstacles. Believing firmly these results will be attained, I cheerfully lend my feeble efforts to the public to assist in their advancement.

TREATISE ON CANE.

After years of study and practical experience, I have to some extent been successful in condensing a few facts which I think without a doubt will be found of great value to those who anticipate growing or manufacturing syrup, either for home use or the market.

I have been successful also in inventing a New Pan or Evaporator which is seamless and out of the best metal for that purpose, which will do the work of the most costly, making a honey syrup if directions are properly followed.

Good seed is the first thing. Acclimated seed is the best, providing it is pure. The head must stand erect and close, and show no broom-corn appearance; examine the stalk and see whether it is red inside; if it is, it shows mixture. Next taste and see if it has a good degree of sweetness. It must taste sweet and not watery. Then it should have been grown on red clay, white or up land that is sandy, if possible. Seed from black muck or new sod land, shows a low degree of sweetness, and should be avoided. Find out the quality of syrup it produced the previous year, and the soil it was grown on. Then again, you must get well matured seed. The above facts are the foundation of good syrup, and without it you cannot expect to succeed.

THE BEST VARIETY.

Every one has their opinion on this subject. The most profitable cane for this section of country at present is the Imphee African or Short Red Top, it being a strong

grower and seldom blows down, and if properly grown and handled will produce a fine honey syrup, which can't be beat. The Short Red Top or Imphee African I have known for three years, and am satisfied it is the purest in this section of the country at present. The Agricultural Department would do a great favor, if they would distribute more thoroughly pure seed of the best varieties, every few years, and those who are so lucky as to receive seed, should take good care and keep it pure, so as to furnish his neighbors. The limited quantity of seed which I have, will be distributed to my customers for the spring of 1878. I expect to plant of the same seed.

There are other varieties of cane if they could be found pure, which no doubt produce as much or more in quantity, but not so good in quality. A great many prefer the tall black top. They say it produces more, what if it does? it won't produce as fine a syrup, and it is far the most troublesome to strip, handle and get to the mill, especially if it falls or lodges, which is often the case, and if it should not be ripe when it falls, and the latter part of the summer is wet, and it throws out roots, the crop is as good as lost, for it can't make anything but dark molasses at an extra expense. The above is what many have found to be the result.

THE BEST SOIL.

Never plant cane on black muck or cold heavy wet land, new land just broken up is not good. There should be at least one crop grown on it previous to a cane crop. Old land is always the best. Red white clay or ashey land is good, land which has plenty of sand in is good, providing it is not wet. Black land that is dry, warm and sandy or full of rock is generally good. As a general rule: Plant your thin land in cane, it will produce more dollars than corn. If your thin land is wet, plow it up in narrow lands and get it dry, and it will pay you big in

cane. Fresh manured land won't grow cane that will produce good syrup. White or ashey timber land is good. Almost any land except new, wet or black muck, will produce nine times out of ten a fine syrup, providing you plant Imphee and properly handle it all the way through, and I believe this rule will hold good in almost any state. A great many seem to think that the larger the stalk the better and the more it will produce, but this experience has taught to be an error, a medium size stalk is the best, and if you can grow every stalk exactly the same size all the better. Green and ripe cane mixed will not produce as good a syrup. Hence drilling will be found best, not only for this reason but many others as we advance.

PREPARATION OF SOIL.

Fall plowing is best, plow deep and drain thoroughly. If you have well rotted manure and can plow it in in the fall the effects won't be so bad; but don't as a general rule manure in the spring and expect to produce a fine syrup; as a rule it don't always work on the most of our western lands. Plow your land again in the spring and thoroughly pulverize it, and if there should come a heavy rain and run it together, plow again, and when the weed seed begin to sprout drag and keep clean. The early maturity of cane depends on the condition your land is in when ready to plant.

TIME OF PLANTING.

Early planting is desirable, providing the ground is warm, dry and mellow. The first spell of warm settled weather in May is best I think for this latitude, and should be taken advantage of, and not wait until corn planting

is over, unless you plant corn in April. Then be sure and plant your cane next if the weather is favorable and don't plow your corn over first and neglect your cane. The germ of the cane seed is very delicate when starting, and is easy chilled. One cold drenching rain very often will chill the young shoots if not out of the ground, so they will scarcely recover. In such a case the best way is to plow up and replant at once, and you will save time. All must be governed more or less by circumstances, of which all latitudes and soils vary. North we have later springs, while South as a general rule they are earlier. Again, the different soils in the same locality vary, either from the difference in cultivation or from the previous crops, and certain slopes of the country. The south or east slopes are best, then plant your rows north and south, so as to receive the rays of the sun.

PREPARING THE SEED.

Clean your seed thoroughly and take the amount of seed you can plant in one day and put in a suitable vessel, so the seed is not over two inches deep. If mice, moles or birds are bad, to each quart of seed take one table spoonful of copperas and one of chloride of lime; put them in with the seed, then take boiling water and pour on until all swims, stirring continuously for one minute and no longer; then add cold water at once, until it becomes cooled down to milk warm. Leave in this state thirty minutes, stirring occasionally; then pour off the water, and mix with leached ashes, dirt or plaster which has been found to be a valuable fertilizer for the plant. Seed prepared in this way will come up in less than five days, if the weather is favorable and the ground warm this gives you the advantage of the fine grass just starting; vermin will keep their distance also. Corn prepared the same way (only

use warm water instead of boiling) would be earlier and would not be molested by worms and pests.

DEPTH OF PLANTING, DRILLING, ETC.

Your ground should be newly prepared the same day you are ready to plant, so that every weed or spear of grass started is killed. If your ground has been properly taken care of previous to this, harrowing with a straight tooth harrow so as to cut deep and destroy all the weeds started will be all that is necessary. If your ground could be harrowed three or four times previous to planting, say five to eight days apart, it would bring the weeds up faster, and destroying them would be easy. Now take a corn marker with three runners or slides, put on weight enough to mark two inches deep. Drill the seed with your hand which is the best and surest way, one seed every half inch. This will look rather tedious, but a little practice will give you the art. If you can get a seed drill that will do the work, it would be much faster. Some use the corn planter, but as you want a stalk every two inches or less, it is hard to get the corn planter to work. If you drill by hand, cover as you go so that the seed don't dry too much. Do not cover the seed more than two inches in loose dirt. If your land is clay or heavy one inch is deep enough to cover the seed. I am in favor of drilling for a number of reasons. First, you can grow more than double the amount of cane on the same land. Second, the quality is a great deal better. Third, you can cut it nearer the ground. Fourth, you can blade it a great deal faster, besides it is not half so apt to lodge or blow down, as each stalk is strong and independent. In fact there is economy all the way until you get through handling it. You want a stalk every one and one-half or two inches. I would rather have a stalk every inch than one ever three or four inches; you want your rows four feet apart. Planting in this way you will have a crop of

even and original stalks, which won't be half so likely to throw out succors; cane grown in this way will produce far more syrup to the acre and of a better quality. If you fail to get a good stand, you will more than likely be bothered with succors which should be removed before they are five inches long as they will take the strength of the main stalk and cause the syrup to not be so good, your cane will also be more likely to lodge, and not ripen even.

CULTIVATION.

This should commence as soon as you get part of your crop planted, especially if it looks like raining, if the weather is fair perhaps you can finish. Then take your shovel plow and go around each row, just as close as possible, making a furrow to drain off the water, and to receive the rays of the sun. If you roll an inch of dirt once and a while on the drill of covered seed it won't do any hurt, it only will form a break so the water will go to the furrow. Now watch close, it will be up in a few days then you must lose no time. Take a rake or hoe and go over the rows and kill the young grass, and where the plants are very thick take out a few then plow again, and in eight or ten days go over again, taking out the grass and weeds clean, also thinning to one and one-half inches. This will end the worst part of the cultivation, providing everything has been done right. Plow your cane thoroughly and deep, keep it clean until it begins to joint or is three feet high. Then quit and do no more to it, in the shape of plowing, leaving your ground as near level as possible. Hilling up cane injures it and plowing after it begins to joint is injurious and will spoil the syrup. If you have jimpsion, cockleburs and other large weeds to contend with after you quit plowing, pull them out by hand or cut off with a brush-scythe.

The roots now being no more disturbed can take their course and find the good qualities which the soil possesses, and will produce a No. 1 article of syrup, and 50 per cent. more than any other mode of culture. By strictly adhering to the principles herein layed down, and using your judgment judiciously where circumstances vary, doing everything at the proper time and place, I can't see what is to hinder any farmer from growing a good crop of cane, and the same producing a good quality of syrup if properly manufactured.

HARVESTING.

To strip cane, take a wooden sword or a narrow forked stick, some use a three tined fork. Then if you can take a day when the wind is blowing hard it is an easy job. Here you will again see the importance in favor of drilling cane, besides it is not likely your cane will be lodged. The blades should be taken off five or ten days previous to cutting up your cane or just when the seed is in last dough state, so that when you come to cut your cane it is thoroughly ripe or at least three-fourths of the stalks should be in a matured state and if all could be, so much the better. By following up the above instructions carefully, you hurry up the maturity just at the right time and get rid of the overplus of bad juice and acid, which is one of the great causes of so much bad syrup. Now when ripe cut it close to the ground and keep it from dropping in the dirt, for here is the first start of filthy syrup after you have a good crop of cane grown. As the stalk dries, it absorbs the dirt, and you can scarcely get rid of it. The last joint below has more good syrup in it, than the three top ones. Never top your cane until you have it cut then top below the first joint and keep it off the ground if possible. The blades answer a good purpose here or anything that is dry. If you could keep your

cane out of the hot sun and rain and at an even temperature all the better for a good syrup. Never work up your cane until it has laid ten days after cutting. If at that time you can't get it worked up and it has to lay six or eight weeks or even till December it should be stood erect as it grew, on boards or in a barn so as to admit the air and keep the water evaporating in its natural channels or it will sour. The sweet never evaporates, if it did we could not use open pans. Here you can protect it from freezing by covering with hay or straw until you can get it worked up. Then haul to the mill as fast as it is worked up and you will be sure of good syrup, superior in taste to that worked up early and half green. By a little care you can work cane in this latitude until December. The producer of cane should know just what it takes to manufacture a good syrup and the manufacturer should know just how to grow or at least know by the looks and taste when cane is grown right. Then he would be able to proceed intelligently and make his part of the work a success and a pleasant paying business. Hence I will say a few words on manufacturing.

MANUFACTURING.

This is the last and most essential point. First you need simple machinery made strong and durable, which will last for years if properly cared for. Then it should cost a reasonable price and be in the reach of all.

CRUSHERS.

On a little inquiry you can find who makes the best crusher nearest home and thereby saving freights. Most of the large cities which have foundries should manufacture a good crusher. I hope to be able by another season

to have an improved crusher on the market which will be cheap, durable and come at much less than some which are offered at present.

EVAPORATORS.

You want the best and most economical. The best pans or evaporators which have been patented, are manufactured East and cost entirely too much. This is what led me to the present discovery of a new system of making pans. I believe that my system has all the advantages of the most costly apparatus and is in the reach of all. I hope the producers of cane will urge on the manufacturers the importance of getting the best improved machinery, so as to make an even grade of syrup. Then both will realize a better profit, and find a steady market for our surplus "sweet."

The way most of the cane juice is reduced to syrup is astonishing; it is done by main strength and awkwardness and not by any intelligent system, and to a great extent the cane has been produced in the same way; by chance or some other miserable accident. That is the cause of so much poor molasses on the market, at ruinous figures. Who would not get discouraged at such results? Nature has fixed laws governing everything and man should study these laws and apply them judiciously and everything would go along smooth and profitably in all branches of trade and business. The bee don't gather honey from thorns or thistles, but from the sweetest flowers. Here is a fathomless depth of reflection on nature's wonderful works.

The cane plant when properly cultivated and manufactured comes nearer producing honey for the human race in abundance, than anything which man can put together. I can guarantee a No. 1 article of honey syrup to almost every one if they will plant the Imphee African cane that is pure, and do their part as layed down herein, which

some may not call very intelligent or gramatical, and admitting the fact, I believe they might learn a valuable lesson after all.

CLEANLINESS.

This is the next in order. To make nice syrup every thing must be kept clean and in order. and when you have syrup ready to put in the barrel, see that the head has been taken out and thoroughly cleaned. Never put molasses in a barrel unless it is cool. The steam that is in it causes a dark color if confined no matter how nice it was before. Thorough filtering previous to boiling is indispensable, if you expect good syrup. My new plan for straining the juice several hundred times while boiling, in connection with my New Evaporating Pan, takes out every particle of foreign substance. Skimming so much while reducing is a bad practice as it breaks the skum and won't gather or get strong enough to hold the heavy particles. Skimming not enough is just as bad. Hence my new plan on skimming I believe will be a great benefit as it will save a great deal of labor and do the work more thoroughly just at the right time. We must get rid of all the green and foreign substance or we can't produce a fine syrup. When I say syrup I mean one which will bring the highest price in the market, and it can be done. The syrup made from cane some say has a peculiar taste; well that is a fact to a great extent and the cause is there has been something done at the wrong time. I have known fine syrup to be produced from cane grown on highly manured land or stock yards, to be so salty that it could not be used. It was simply in the growth, and now when you come to the manufacturing of syrup there is nine chances out of ten to make a bad article if everything is not done just at the right time. For health, there is no sweet made that is better. Ask a chemist and he will tell you that this cane

syrup has an acid in it which is indispensable to the health of man, and the more you use it the more you will like it. While other molasses all have more or less chemicals and impurities which are injurious to the human system and no doubt has been the cause of much dyspepsy and other diseases. Right here I will say another word for the intelligent. The candies to-day that are sold by the million of dollars worth annually, are the most deadly poison dosed out, say what you please scientific men and women; it is a fact and can be proven; besides destroying the teeth it destroys the digestive organs and creates an appetite for irregular meals, which in many cases has been the first step to encourage drunkenness. How often we hear the young man say my teeth are bad and ache and will try smoking and chewing. Then what scores of cases have went step by step to the drunkards grave just from this one starting point. There is scarcely any colored candy but what has poison in it more or less and even the white candy at this day is so adulterated it is scarcely fit to taste, much less to gorge the stomach with. What is the reason so many children have been killed almost instantly if it don't contain poison? but generally speaking it is a slow poison, a penny's worth at a time. It is laying the foundation mite by mite, and you don't realize that you have poisoned your child; such is the case and has been proven time and again. Now give your children all the pure molasses or sugar they can eat at their regular meals and they will not require any other sweets for health. In place of buying candy for your children buy them instructive toys or books which will teach them a lesson for future benefit, and keep a bottle of cough syrup on hand in place of candies for colds.

PROFIT OF CANE GROWING.

Say the average per acre is 100 gallons, that is 50 gallons per acre less than it should be if the rule for

cultivation herein is followed. We will take 100 gallons as an average. Now if a No. 1 article of home made svrup is worth 50 cents per gallon for family use, why not raise it? you are sure then you have it, and know what it costs and it is paid for and you don't have to be buying continually by the gallon at all prices, and get short measure, bad molasses and out part of the time just when you are likely to need it the worst, besides it is a continual drawing on your purse. Now the seed for poultry and hogs and the fodder left on the ground for manure and the sweet skimmings for vinegar, the other waste for the pigs will pay all the extra expense over the growth of corn. Now say you get 100 gallons of svrup half will be yours. You can now count the profit and will find that it is far cheaper to grow your own svrup and have plenty and your family will also require a great deal less sugar which is another saving. There could be volumns more written on this subject but I have said enough to convince any one of its vast importance.

HINTS ON PREPARATION, ETC.

First now in order is a good location, with plenty of fall and water, and a proper house or shed to work in; then see that your furnace is in order, which must be air tight, or it will consume too much fuel, and you can not get the proper degree of heat; your furnace should be thoroughly dry before attempting to commence making molasses or firing heavy, as it will crack, and you can't possibly get the necessary degree of heat. Close up the cracks as fast as they show, no matter how fine. Brick is best for the front part of a furnace, or any rock that will stand fire will do. Back of that any common rock answers. Brick, clay, or white fire-proof clay makes good mortar for this purpose. After your wall is leveled to suit the pan, ashes are best to bed the pan in, for they are always handy.

Keep everything around the furnace sprinkled with water, to keep down dust and the ashes in their proper place along the edge of the pan. Back of the ash-pit you must fill up close to the pan with dirt; say within four or six inches, according to the size of your chimney or the amount of draft required. You can increase the draft by digging a hole under your chimney the size of a bucket or half bushel. The mouth of the furnace should be towards the prevailing winds if possible. You want good furnace doors air tight, so as the draft has to enter under the grates. Here is where you will gain time and some fuel and control a proper degree of heat, which is indispensable in making a good syrup. If you expect to get all the benefit of the heat which is in fuel consumed, keep the cold draft away from your pan and make it enter under the grate. Next, your pans should be made out of the heaviest galvanized iron, of the best quality, and should not have a seam come in contact with the fire, and there should be no wood come in contact with the hot juice or molasses, as it imparts color to the syrup. My pan is seamless and has no wood in connection with the heated juice or syrup.

FILTERING.

A long trough is best, say 12 or 18 feet, pack well with clean prairie hay, other hay or straw will do but not so well. Previous to starting through the filter you should run it through a tub with hay or straw, that will take out the most filth, so that your trough will only need new straw or hay in every morning and a thorough cleaning every night, while your tub will need cleaning two or three times during the day or the heavy dirt taken off. Three pine boards one foot wide make a good filter. You can't be too thorough in filtering, especially if the cane is a little green or has been in the least damaged. If you have nothing but sweet water to contend with,

when once over the fire it is an easy matter to make nice syrup, but if you have all the filth which is on the cane, you stand a poor chance of making a good syrup. The more fall you can get from your crusher to the furnace the better you can filter. Wood is another important item. Your fuel should be thoroughly dry and worked up in shape previous to the working season. It should be dry or part of it at least should be in the dry, so you won't be losing time in bad weather, everything in fact should be in the dry, crusher, cane and all, should the season be wet, it would be a great saving. By using some coal with your wood makes a hotter and more even fire, Where fuel is high and scarce the crushed stalks dried and pressed to some extent make an excellent fuel. My new cooling apparatus will be found of great importance as the steam can escape thoroughly and leaves the syrup lighter colored and prepares it quicker for the barrel.

The essential points which I claim for my Evaporating Pans are :

1st. They have no seams to be burning and coloring the syrup.

2nd. I use dampers and have perfect control of the fire in a second if necessary.

3d. The Pan and furnace is so constructed that the fire is never checked.

4th. I can draw off syrup as thick as candy and not scorch it in the least.

5th. We simply change the course of the fire and don't check it. Hence we get all the heat and lose no time.

6th. I can skim more thoroughly than most of pans, and with less labor.

7th. My pan has more heating surface,

8th. They are easy handled by two persons.

9th. You can use classifiers if necessary when cane is in a bad condition, strong lime water can be used to advantage, by adding a few spoonfuls as the mass is coming to a boiling heat, this is unnecessary if every thing has been

properly done previous. A little care and practice will soon suggest the proper proportions.

10th. My new skimmer and straining apparatus in connection is unsurpassed.

11th. They require less care and do the work perfect. Hence, it is more pleasant.

12th. There is not half the danger of boiling over and if they should there is no loss.

13th. We use less water in finishing up than any pan or evaporator made.

14th. You can take out the syrup as clean as you please with no waste.

15th. You can quit in fifteen minutes, and don't have to use barrels of water to keep everything from burning up. I have made as much as a four days run and don't believe I used four buckets of water to clean the pans during that time, and made as good syrup the last day as the first.

16th. My pans are easier kept clean than any pan made.

17th. They consist of two sections in four departments and are so arranged that they bring the juice at the proper time over the proper heat, which is a great advantage in making good syrup.

18th. Each department is perfectly isolated, so there is no danger of getting the juice of different degrees of sweetness mixed which is another cause of black molasses.

19th. I use the syphen in handling most of the hot juice and molasses.

20th. My pans cost but very little more than a common box pan and last five times as long and you are sure of making a good syrup at less cost. Believing I have a good pan I expect to manufacture some this season for the market. They can be manufactured by almost any tin smith who has the right and proper instructions. Hence there will be a great saving in freights. My prices and instructions will be furnished to those wishing pans, or wishing to learn of their utility so as to manufacture them.

Any information wanted on these subjects will be cheerfully answered on receipt of stamp to prepay postage by addressing the author.

MISCELLANEOUS RECIPES.

I have made up my mind that a few good recipes will not be found amiss and if sent forth in this work may be the means of relieving some poor sufferers or saving dollars of expense to many.

“Earth to earth and dust to dust.”

Every thing it seems has to return to mother earth, and if man is so particular about burying his brother, why not be as particular in burying diseased animals. There should be a strict law to this effect and put in force. The hog cholera almost invariably follows the chicken cholera, and if precaution was taken and remedies used in time, there would be a great deal less loss by contagious diseases. The old saying is an ounce of preventative is worth a pound of cure.

HOG CHOLERA PREVENTATIVE.

Cleanliness is the first thing in order and should consist of a large pasture judiciously arranged in different fields, having blue-grass, clover, artichokes and ground almonds, well set. Land once set with these will grow hogs without much corn or medicine, providing man will learn sense enough to leave the ring out of his pig's noses while growing and give him a chance to grow up in nature's

drugstore. A little corn will then finish him and he will be in a healthy condition for market.

If you can't keep them as above directed, keep plenty of stone coal by them, and once a month rake together the corn cobs and old beds and sprinkle on some sulphur and set fire to the mass. After burning throw on some salt; this makes the best charcoal and ashes for hogs there is. Then here is a few more:

Raise your own hogs and keep them at home until ready for market. Take one part of sulphur, one part of copperas, and four parts of salt, to eight parts of ashes, and feed a small handful once a week to each.

Some one I hear is about to lay in a claim for the \$10,000 which the State of Missouri offered for a preventative for hog cholera, claiming the turnip to be the antidote. I have tried cabbage and found a marked change in health and appetite, and if the common field turnip proves a preventative there are other things of the same family which will do as a substitute in case the turnip is a failure. After all the above, if your hogs get the cholera keep them away from cold water. Give them warm milk, swill or water, when first taken and while they eat and when they get to eating add a teaspoonful of turpentine twice a day to each. Don't try to drench a hog as you will lose him nine times out of ten. The best thing to do is to knock him in the head and bury deep. This will nine times out of ten stop the disease, if you have commenced thoroughly with the turpentine. I have had good success in growing ground almonds and will send by mail one dozen with instructions how to grow on receipt of twenty-five cents. Good for man and beast.

MEASLES—If your hogs get the measles add to the salt and ashes half teaspoonful of saltpetre and the same of madder, washing thoroughly with soap suds and rubbing with kerosen oil.

BLIND STAGGERS—Apply turpentine twice a day between the ears and down the forehead, and keep in the dry. For kidney worms rub the spine thoroughly with turpentine.

CHICKEN CHOLERA.—Keep water and old scraps of iron in a trough. If your chickens have a warm place and are in good order and don't lay, give onions, chalk, egg shells, and heat some lard and stir in some oats, and while warm put in some red pepper chopped fine. Keep plenty of gravel on the yard and a shallow box with dry ashes in it and a few tablespoonfuls of sulphur. Also sprinkle the nest with sulphur, and they won't be troubled with lice, or any disease.

TO CURE CROUP.—Take a paper that will cover the child's chest, spread with tallow and sprinkle with ginger or very thin mustard will do but be careful and don't put on enough to blister. Spread on, drawing close up to the lower part of the throat, and keep it on until relieved. Keep pulverized alum and sugar or molasses ready; give a teaspoonful every few minutes until they vomit, then stop unless they get worse. If your children are subject to croup or bad colds, grease their chest on going to bed, and give some good tea. Elder blossom when in full bloom gathered and dried carefully, makes one of the best teas for children. Follow up next morning with a cathartic.

GOOD CURE FOR COMMON COLDS.—Take prickly ash bark and soak in cold water and on going to bed drink freely, and during the night. This is also good for rheumatism.

SURE CURE FOR FROST BITE.—Take a piece of alum and wet it with your tongue, and rub the affected parts every evening thoroughly until cured.

TO MAKE GOOD VINEGAR.—One quart of molasses and three gallons rain water; add your green apple parings and one quart of dried apples well browned. Put in half tea cup of yeast or vinegar plant. Cover with thin muslin and set away in a warm place. The vinegar will be good in two or three weeks. As you take out vinegar add more sweetened water in the same proportion. Dealers can manufacture their own vinegar in this way, and sell without being in danger of poisoning their customers.

TO PREVENT LICE ON STOCK.—Feed half teaspoonful sulphur to each animal with salt and ashes once a week.

TO KEEP SWEET POTATOES THE YEAR ROUND.—As soon as the leaves are killed by frost, take off the vines and dig. Pick up in baskets carefully and don't bruise or break off the roots. Carry to your boxes and lay in as carefully as eggs. Your boxes or barrels should have been prepared previous. Have them air tight. Spread hay or straw in the bottom two inches deep. Your box should be up stairs or in the garret where the heat from below will strike it or the chimney will keep them warm. The larger the pile of potatoes the better, as they will not cool so fast. Leave your boxes open until cold weather, and as the cold advances add old clothing and matting, and when water will begin to freeze out doors connect your box with an opening through the floor, by hanging quilts or something down over the box to the floor. If your box is in a room where there is fire during the day, it don't require so much care. The main thing is to keep the temperature about 50 degrees. Don't move your potatoes after they have become accustomed to this position and latitude. If your potatoes begin to rot you had better get rid of them as they are damaged and will not keep. I have kept sweet potatoes twelve months which were as sound and good as they were when put up. If they begin to shrivel or take the dry rot, sprinkle with tepid water every few days. Sweet potatoes must have air and more so than any other vegetable and that through one opening at the top of the box. As the cold advances they need less air. When spring comes give them more air and shut off the heat from below and spread them out but be careful and not let them chill at night. Don't put sand or dirt with potatoes. They must have air.

FRUIT TREE CULTIVATION.—All varieties generally require a deep, loose, well drained, rich soil, followed up with thorough cultivation. Train the top of your trees close to the ground, so they will shade the trunk and ground which will greatly prevent insects, besides they

stand the storms better and the fruit is much easier gathered without injuring the tree or fruit.

The following remedies will be found effectual against borers, rabbits and other insects.

Take one quart soft soap and one pint coal oil, mix thoroughly, and add one ounce of alces well dissolved, mix the whole with ten gallons of water. Sprinkle the tops of your trees thoroughly or any other plants effected with insects. Apply once a day in the evening, until their depredations are checked. Then once a week will answer.

SPECIAL MIXTURE FOR RABBITS AND BORERS.—Soft soap, one gallon; assafoetida, one ounce; turpentine, half pint. Paint the body of your trees two or three times a year. Take away the dirt around the tree and dig out the borers, and paint thoroughly with the wash, then replace the dirt. This comes from good authority and in my mind believe it will be found effectual.

Sulphur has been recommended for blight and rust in apples. Take one ounce and sprinkle round the body of the tree three or four feet and rake it in good, early in the spring each year.

BLIGHT IN PEAR TREES A SURE CURE.—Remove the earth from the body and main roots of the trees two or three feet. Take old scraps of cast iron and pound up to the size of marbles. Put in a pail and pour on vinegar, and put one handful along the roots and around the body and replace the dirt. This will be found effectual for all trees diseased for want of iron, which I believe is the cause of fruit failing more than anything else.

TO DESTROY CATERPILLARS.—Smoke your trees with a sulphur torch, which is a sure death to the caterpillars, and I believe will be found a sure remedy against blight in small fruit.

TO MAKE CABBAGE HEAD.—Take a stick the size of a lead pencil and sharpen to a point, and run it through the stalk just above the ground, give a twist and draw out. Try this and you will be convinced.

TO DRESS FURRED GAME.—Dip the animal in water until the fur is wet and you can remove it without sticking to the flesh.

Don't feed a dog turpentine, if you do fits will be the result.

TO KILL RATS, MICE, ROACHES, ETC.—Learn them to eat out of a small box half covered containing one part sugar; eight parts meal; and four parts flour or shorts. Let them eat at this a day or two, allowing them a scanty meal, then add four parts of the finest plaster paris, which can be obtained at any drugstore and the work will be done. It will become solid in their stomachs and death will follow.

FIRE KINDLER.—Take an oyster can and cut a hole large enough to receive a corn cob, put a half pint of coal oil in the can and fit a lid or cork and set away where it will be handy and have a cob with it. When you want to kindle a fire dip the cob in the can in the oil, and hold a second or two over the can to drain, then lay in the stove near the draft and put your fine coal, wood or chips and light with a match. This is the cheapest and best fire kindler in existence.

CARE OF HORSES, ETC.—Feed, water, work and salt regular. Give your horses all the ashes and salt they will eat at leisure and a teaspoonful of sulphur once a week, especially if your stock have lice. If your horse gets the colic and you have no good remedy at hand, take hen manure and make a strong tea and drench with it. Brown salt makes a good drench. Feed your horses once a month plenty of green elm brush or bark, it is better than any medicine. Assafoetida is a good preventative of diseases, tie on the bits and keep in trough.

WATER PROOF BLACKING.—Beeswax, half pound; rosin, quarter pound; tallow, two pounds; castor oil, half pint; lamp black, half ounce; put the whole together and bring slowly to a boiling heat, stirring continually until all is dissolved. This costs but very little and will save more

than five dollars worth of leather a year. Put on warm not hot, and rub in thoroughly, and when your boots begin to soak water dry and give them a good coat of blacking and you will never be troubled with wet feet.

FOR LOCK JAW.—Tobacco wet and laid on the pit of stomach, when it sickened remove, replace if necessary.

AS A REMEDY for all kind of malarious and old diseases where the system has been worn out by mineral and other medicine the following can't be beat. Take equal parts of slippery elm, wild cherry bark, wahoo and sarsaparilla root, half part prickly ash bark, one-fourth part peruvian bark, cover with water, and stew down half and strain off good. Add sugar or home made syrup, enough to make double the quantity. One tablespoonful twice a day is a dose. Add to each dose enough rhubarb to regulate the bowels and don't neglect it, you will be surprised at the effect and the improvement of your system. To keep this from freezing or souring, add one-fourth alcohol, or keep in a cool place.

INK THAT WILL NEVER FADE.—Take one tablespoonful iron filings from the blacksmith shop and wash off with vinegar then put in an oyster can and add half pint rain water, and set so as the sun can shine on the surface of the water when black, bottle leaving in the iron. Add one tablespoonful of molasses to make it flow even.

FOR RHEUMATISM.—Bathe and rub the spine with turpentine.

TO CURE POISON.—If any one should get an over dose of morphine or opium, make strong coffee and drink freely.

FOR OTHER POISONS.—Vomit at once, give a teaspoonful of ground mustard in half teacupful of warm water repeat if necessary, then go for the doctor.

SNAKE BITES.—A simple remedy without a second's delay must be applied, apply water and mud continuously. Kill the snake and split open and bind on or if you have any kind of game handy split open and apply at once

keeping on 'till dry, then remove. The entrails is best. Any one traveling should carry a bottle of spirits ammonia and bathe thoroughly.

FOR BEE AND OTHER STINGS.—Ammonia is good if applied immediately.

MAD DOG BITE.—Keep a piece of lunar caustic at hand, cut out the part bitten if possible and apply the caustic, and send for medical aid. There is little use for a physician after a disease is set. The time to begin is when the accident happens.

TO CURE DRUNKENNESS.—Taste not, handle not and chew some bitter roots.

A GOOD SALVE FOR CUTS, BRUISES, ETC.—Rosin, ten parts; mutton tallow, one part; beeswax, one part; melt together and work well.

A GOOD COUGH SYRUP.—Take equal parts of the following: slippery elm, thoroughwort, flax seed. Stew in water until the strength is thoroughly extracted and strain, add one part licorice, and one part sugar, molasses or honey to make a good syrup. Cover the herbs with water and stew down one half. Take a table spoonful when the cough is troublesome. This is good for throat and lung affections. Consumption has been cured by the following remedy when all others failed. Take equal parts of apple vinegar, honey and grated horse-radish. Mix cold and use freely. The longer it stands the better it is.

REMEDY FOR EAR ACHE.—When caused from cold or exposure, take a mouthful of tobacco smoke and blow through a pipe stem into the ear and close with cotton, put cotton round the end of the stem so as to fit the opening of the ear. When caused from foreign matter, bugs, dirt or any other cause, take one teaspoonful of butter prepared for the table, warm so as it will run freely, pour in the ear and close with cotton. This is the best and surest remedy known, and will do no injury.

CÆSAR'S CURE FOR SNAKE BITES.—Take roots of plantain and hoarhound, equal parts, extract the juice as strong as possible by boiling, giving the patient at a dose the amount which a small handful or one ounce will produce, give once or twice a day, as the case may be, also applying the other outward remedies. Cæsar received his freedom by this discovery and South Carolina gave him a reward of \$485. There is no doubt but this is good, and if a bottle of it was prepared, and one fourth the bulk of alcohol added to keep it for cases of emergencies there would be many valuable lives saved.

THE WORLD RENOWNED CHOLERA CURE.—Take equal parts tincture of opium, red pepper, rhubarb, peppermint and camphor. For children with common bowel complaint give three to five drops, and properly diet them and you would save a doctor bill and probably your child. For cholera there is nothing equal to this and you should never be without a vial of it. Dose for adult ten to thirty drops in water.

DYSPEPSIA REMEDY.—Have a variety of food of easy digestion, changing as often as it disagrees with you. Plenty out door exercise and eat three times a day at regular hours, drink as little as possible, butter milk and soft water may be drank and most of that before meal if they disagree with you eat your meals dry, and don't eat too harty and don't drink until your meal has digested and then very little, one morsel too much or the least thing indigestable is what spoils your meal and continues to irritate the stomach. Butter milk is the best drink when dyspepsia has set in providing the stomach will bear it, and if children could have plenty of this in place of coffee, tea and candies, they would grow up with healthy stomachs and be prepared to enjoy life. I know these to be facts from personal experience. I would give a cure for dyspepsia if the afflicted could get it prepared at a reasonable price out of unadulterated drugs, but the amount of patent humbugs on the market for a sure cure for this and a hundred other diseases, and the trouble you would have

in getting pure drugs, in small quantities at reasonable prices. I deem it best to buy at wholesale prices and send the medicine already prepared by mail and it will be much cheaper and give entire satisfaction, as I have seen it thoroughly tested for more than eight years and know that a cure can be effected, and if it don't cure it won't cost near as much as the patent humbugs sent out. It is pleasant to take and won't injure the most feeble male or female. It is composed of harmless ingrediencies and will be sent in quantities desired by mail for 25 cts. 50 cts. and \$100 per package. One 25 cent package will satisfy you of its utility and cheapness, as I expect to charge but very little over the cost of the material so as to bring it in the reach of all.

TO DRESS FURS, SKINS, ETC.—Soak your skins in water until they become soft and take off the flesh. Take equal parts of the following: alum, salt petre, salt, and borax. Pulverize and spread on the flesh side nicely, then lay the flesh sides together. roll up and keep in a cool place twenty-four hours, then work a while and repeat the dose. Work dry, which will finish it.

WORMS IN CHILDREN.—Give them slippery elm bark to eat and give them a few drops of turpentine on sugar once or twice a day.

TO CURE SORE THROAT.—Holyhock flowers made into strong tea sweetened with sugar and gargle thooagously, The flowers can be dried for winter use. Sugar and camphor makes a good gargle. Sulphur has been reccommened as a sure remedy to gargle with. swallowing some at the same time. Muriate tincture of iron, thirty drops, in a half teacup of water, with a teaspoonful of chloride of potash and sugar added makes a splendid gargle. Swallow half teaspoonful twice or three times a day.

DRIED CORN.—This is an excellent dish for winter use and simply requires soaking for the table. There is no patent on this and should be prepared at home and not import it from the East. Take corn on the cob and boil, adding salt to season, and lay in the sun to dry, when thoroughly dry it will shell easy or you can shell with a

corn sheller; after shelled put into a barrel and take a board eight inches square and groove the bottom, nail to the end of a piece of scantling, which should be the length of your barrel, then nail a handle on the other end and your machine is perfected. This will by turning back and forth grind of the chaff. It is also good for shelling other seeds and preparing them for market.

TO MEASURE CORN IN THE CRIB.—This rule will apply to a crib of any size or kind. Two cubic feet of good sound, dry corn in the ear will make a bushel of shelled corn. To get, then, the quantity of shelled corn in the ear, measure the length, breadth and height of the crib inside of the rail; multiply the length by the breadth, and the product by the height; then divide the product by two and you have the number of bushels of shelled corn in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together; and this product by 8, and point off one figure in the product for decimals.

TO KEEP BUTTER SWEET.—Butter can be kept sweet for twelve months by packing in jars and cover with strong salt brine.

BED BUG POISON.—Take camphor prepared for use, turpentine, and coal oil equal parts which is sure death to them.

RING WORM CURE.—A solution of corrosive sublimate in collodion, and rub on the place occasionally.

STIFF JOINTS.—Skunk oil applied three times a day is the best in the world.

BURNS.—Pulverized salt petre and sweet oil is good

CHARCOAL will remove the smell of anything while boiling, by adding a small piece.

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THE GREATEST INVENTION OF THE AGE.

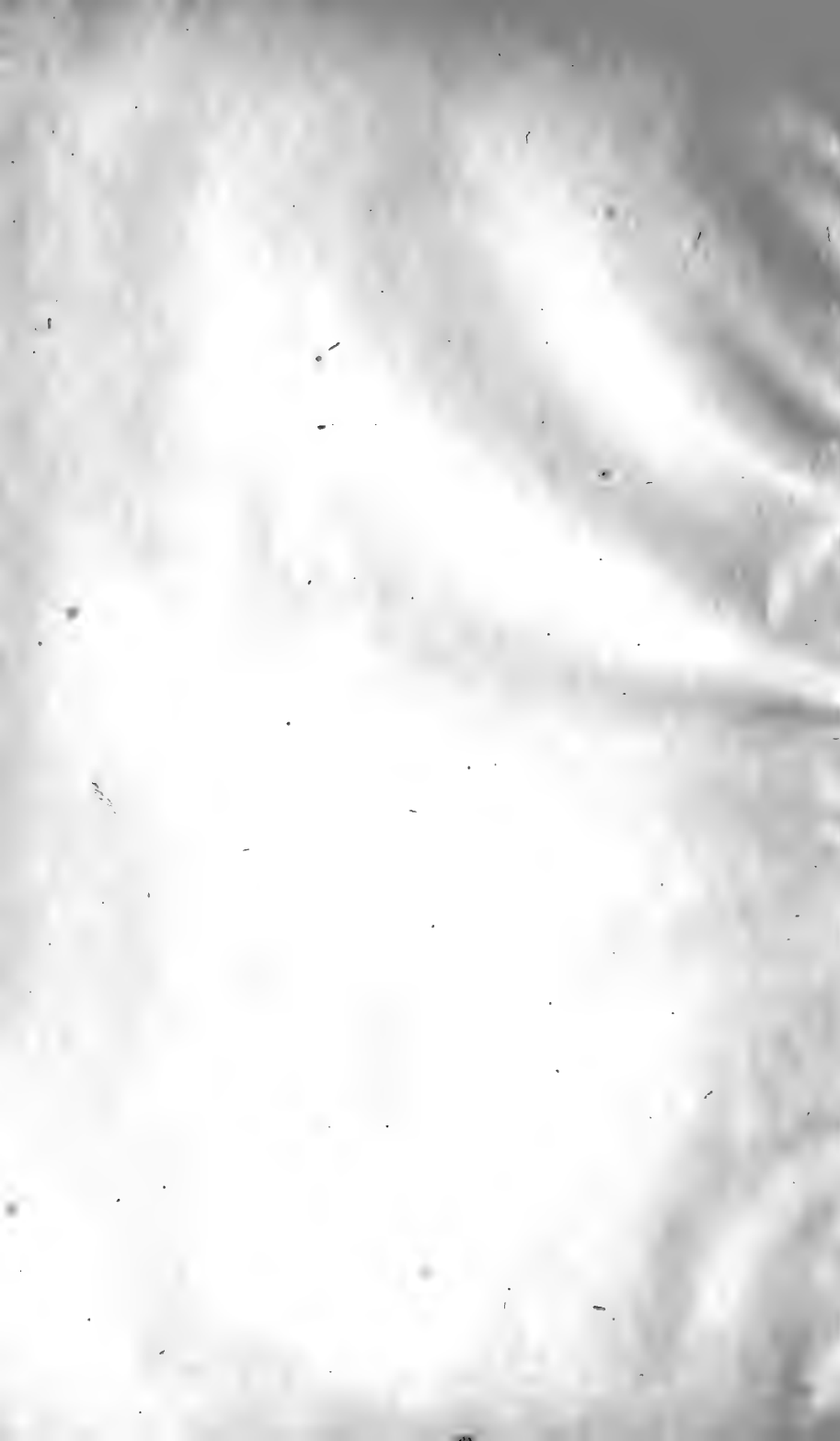
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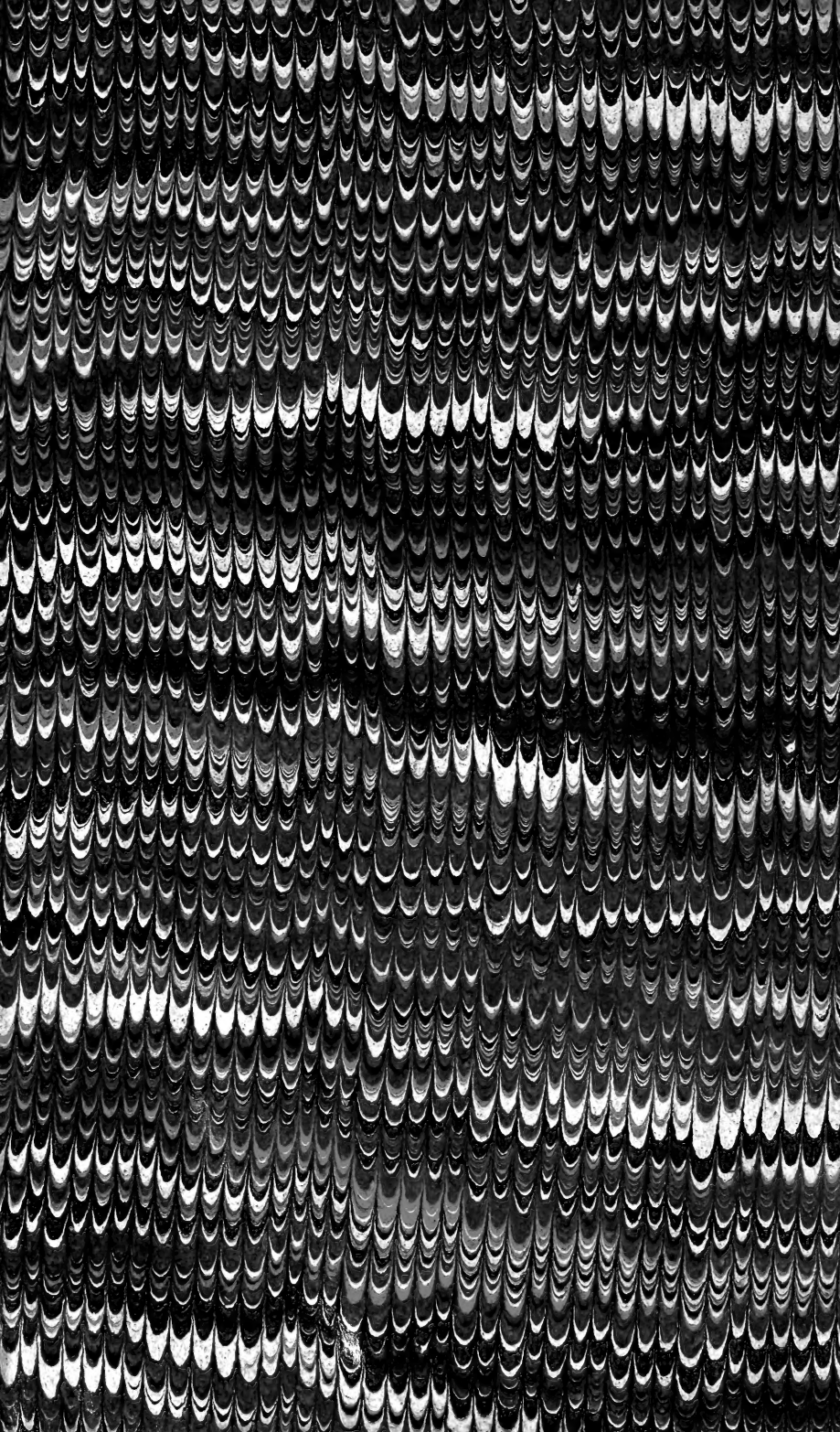
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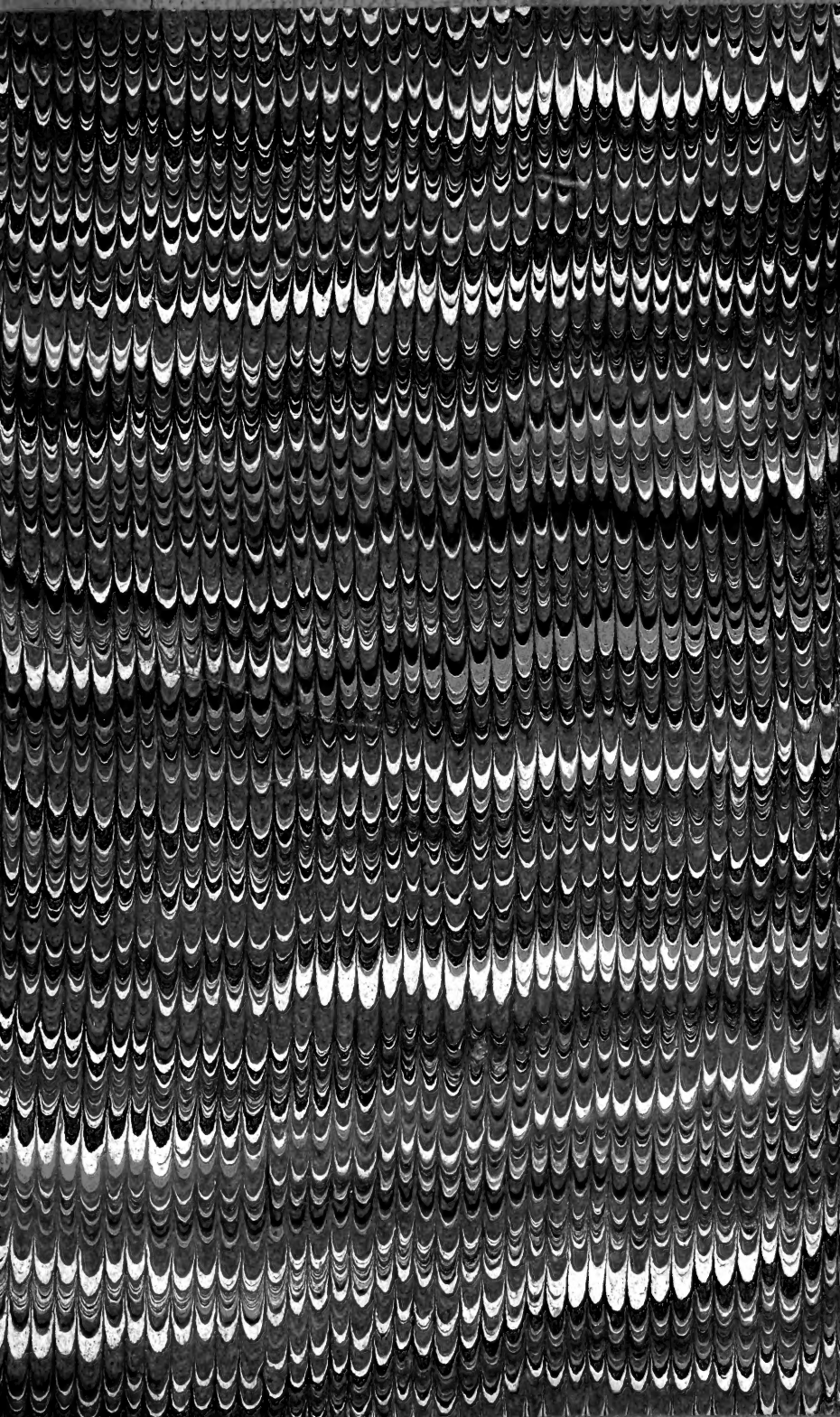
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