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THE

NEW ENGLAND

APIARIAN:

DEVOTED EXCLUSIVELY TO

BEE CULTURE.

Published on the 15th of each month.

JULY, 1883.

PUBLISHED BY

W. W. MERRILL,

MECHANIC FALLS, MAINE.

ENTERED AT MC. FALLS POST OFFICE AS SECOND-CLASS MATTER.

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TERMS, 75 CENTS PER YEAR IN ADVANCE.

For the New England Apiarian.

New England Apiculture.

E. A. THOMAS.

Chapter VI.

COMB HONEY.

In the production of comb honey we aim to get the greatest amount in as marketable a shape as possible, and to this end the attention of the reader is directed in the present article.

Of course no progressive bee-keeper can do without sections and honey racks, and it is presumed that they are used by the reader. I have found that bees will enter and work in the center and back tiers or rows much quicker than they will in the front row; I suppose this is on account of brood being under the middle row and the pitching forward of the hive. Bees will find the highest point to begin operations. As a result of this the back rows will be finished at the close of the season, while the front one will have no sections completed. I have seen front rows of sections finished down to about two inches in the lower corner, and only this defect prevented their being placed in the first grade of honey. Now we may remedy this in a very simple and easy manner; when the back row is all completed, turn the whole honey rack round bringing the front row at the back. A better way still, but one which requires more time is to take off all the sections as fast as finished replacing them with sections from the front row, and filling up with empty ones. In this way the bees can all be kept at work, and I must prefer this method to tiering up, as the honey is removed while it is white and clean, while if left on the hive until the close of the season it will become colored by the bees, and no matter how good the quality of it, it will be spoiled for the first grade. Near the close of the season I stop putting on empty sections, and as fast as the partly filled boxes are removed from the front row, it is closed up. This is to prevent having a large amount of unfinished honey at the close of the season. In this way the bee-keeper can get the most of his

honey finished up, yet a greater or less amount will be left unsealed at the close of the season; this amount is oftentimes very much augmented by the sudden close of the honey flow, before we are ready for it to stop. Now the question arises, how can we most profitiably dispose of thier unfinished honey? Of course where extracted honey finds a ready market, it can be extracted and the combs laid away for the next seasons use. But in localities where there is little or no sale for extracted or where the price is very low it may be disposed of with profit in the following manner.

Select from the unfinished honey the sections nearest compleeted and put them back on a strong hive prepared as follows: take all but two of the frames of brood and exchange them for frames of solid honey from other stocks. Bore a hole in the bottom of the hive far enough to pour in the honey. Properly protect it so no robber bees can gain entrance to it. The object of filling up the hive with frames of solid honey, is to carry the honey fed them into the boxes; unless this is done, they will store so much in the brood chamber, and use so much in breeding that the operation will not be found to be a very paying one unless there is no sale at all for extracted honey. I suspect that many who have tried this method and have not been satisfied with it, have failed to observe this very important point. I put two racks of sections on a hive, as I find that they will finish them up as soon as they will one. After you once begin to feed keep it up until the sections are finished; always keep honey in the feeder day and night so the bees can take it as fast as they want it. The object in view is to get the sections finished up as quickly as possible, as the quicker they are finished the less honey it will take. One colony will finish up a large amount of honey before the cool nights come, and I only use one hive, as it takes less honey. As soon as one set of sections is done I remove them and put more in thier place until all the unfinished boxes are put on. If you have no extracted honey only what you obtain from the boxes, you will have to exercise your judgment in saving out the proper number to put back on the hive. But if, as is sometimes the case, you extract a considerable amount from the colonies which have swarmed, or have had no boxes on, you may be able to get all the unsealed sections finished up.

In regard to the amount of extracted honey it takes, and the profit of theoperation, I will say that as far as my experience goes it takes very nearly three pounds of extracted to make two of the comb, weighing the sections when put on and reckoning their weight as extracted and adding it to the amouut fed. If, then, extracted sold slow at 10 cents per pound and comb had a ready sale at 20 cents, the balance woulp be in favor of feeding back, as the three pounds of extracted would bring only 30 cents, while the two pounds of comb would be worth 40 cents. If, on the contrary, extracted finds a quick sale at 12 cents. I hardly think it would pay to feed it back and have the bees put it into comb. But in this case it might not be profitable to run the apiary for comb honey; probably when comb honey can be raised with the most profit, the extracted can be fed back with profit.

Now a few words in regard to taking off honey. Unless properly done it may be injured by the bees biting the caps to fill themselves with honey; if this does not set the combs to leaking it will cause the honey to granulate sooner. The only way to prevent this is to get the bees out of the boxes as quickly as possible. If the sections

have open tops, this is not a difficult matter to do. Provide yourself with a good volume of smoke, using either very soft punk wood well dryed, or cotton rags in the smoker; raise up the mat from the sections and pour in the smoke on the bees, being careful not to hold the smoker too near the honey lest the hot smoke might melt it. You need not be afraid of blowing in too much smoke, but fill the spaces full and you will fairly force the bees down without giving them time to suck a particle of honey. As soon as most of the bees have gone down into the brood chamber, I remove the honey rack and place it over a shallow box of the same size having a hole in the end. I insert the nozzle of smoker in this hole, and pump in the smoke until it comes out at the top. What few bees are left will come up to the top at once and may be brushed off with a handful of grass. The honey should then be carried to a room having a light window, on which the few scattering bees left in the boxes will collect in the course of a few hours, when the window may be taken out and the bees brushed off.

If the sections have closed tops, take out the first one of each row, quickly brush off the bees and put out of the way of robbers; then pry apart the remaining boxes, leaving a little space between each, when you can blow in smoke and proceed as before. By following the obove directions, no one need have any trouble in taking off their honey before the bees have time to injure it by biting the cappings.

(TO BE CONTINUED.)

Coleraine, Mass.

For the New England Apiarian.

How can we best increase our apiaries without loss in storage of Surplus Honey.

J. B. MASON.

One of the most interesting as well as important questions connected with apiculture, is comprised in the heading of this article, and it is one on which many, who have learned by bitter experience, that dependence upon natural swarming will prevent the realization of a large yield of surplus, in most localites, are desirous of obtaining information at the present time. It is impossible to prevent natural swarming as a rule, without reduceing the strength of the colony either by dividing, or drawing upon it to strengthen weaker stocks, and this of course will detract from its power to labor; much however can he done to retart swarming, and still at the same time allow a fair yield of surplus comb honey. If it is desired to run on repairs for extracted honey, swarming may be easily prevented; the great difficulty in the matter of surplus comb lying, in the fact that it requires a strong stock to give much gain, and strong stocks are the very ones that send out the natural swarms. The first and essential thing to be done is to get the bees into the top boxes before the swarming fever seizes them; if this can be done the rest is compariteviy easy but if this is not done it will be very difficult to prevent swarms from coming out just when they take action. If the fever has set in it is of no use to attempt to prevent it for out they will come, and at times when no seeming preperations have been made. I shall endeavor briefly in this article to give the readers of the APIARIAN, a method which I have pratiqed for the last seven years with satisfactory results and which has given me larger yields of surplus than when no swarming was allowed and at the same time a two fold increase of colonies has been gained. In the first place I select early in the season the stock which I intend to devote exclusively to honey raising and prepare them for storing it before they begin their preperations for swarming.

This I do by putting sections on the strongest of these stocks, and forcing the bees into them. When they are well at work in these sections, I remove a section or two with the adhearing bees and put them on top of another stock; by putting on these the bees that are at work secreeting wax, the bees belonging to the hive are at once induced to go into the top boxes, and commence storing the gathered nectar in them. The result has been with me that when the colonies have got well at work in the sections, the larger number of them will keep right through the season without swarming at-all, provided I do not want increase of colonies and therefore allow them so to do. Some of them how ever will swarm in spite of all we can do even if we follow them up knife in hand, and cut out queen cells as fast as they are formed. From these stocks I make my increase by allowing them to swarm, and hiving the new swarms on seven frames of foundation, (no more,) inclosed in tight division boards, I remove the cases of sections from the old, and place them on the new swarm at the time of hiving, set the new close up to the old hive with their entrance quatering from it, in about 4 days I swing the new hive around so as to give the bees the location of the old hive; on the 6th day if the bees are working well in the cases, I raise them up and set empty ones prepared with starters in them. On the 7th day when the bees are flying briskly I remove the old stock to a new location, sliding the new hive along to it so as to divide the distance. By this means it will be seen we throw what would have been a second swarm right into the first one, at the time when they are working well in the sections; this will so disconsert the old stock, that it will not attempt to start a second swarming. If from any cause more than a quart of bees are left in the old stock, we take out the frames and brush enough of the bees in front of the new one from them to reduce the the old stock to about that quantity. Bees should never be shaken from combs that contain queen cells; it will shurely dislodge the embroy queen from her proper position in the cell, and causes her death unless she is within a few hours of hatching. The object of the method is to keep the majority of the bees together, and in the new hive, for the new swarm will not be inclined to send out a swarm for a long time if at-all, and the old one is so weakened that no bees are left from which to form a 2nd swarm even if they are ever so much disposed to send one out. Bees enough will be left in the old to build it up strong enough to winter well, and this is all the new swarm would be expected to do, and the great source of gain is made by setting the whole force of workers to gathering stores, which otherwise would in all probality have sent out a poor weak little 2nd swarm. Care of course will be taken to supply sections as fast as they fill them, else the young swarm may swarm itself, but with ordinary care in this respect no trouble of this kind need be apprehended. In supplying new cases, the old ones should always be raised, and the new ones placed under them; if the new ones are placed on top, the bees will not work up into them, while if placed underneath they will invarible will do so. With the above method the old stock can be used to advantage to raise a queen, for like a setting hen, its time is not worth much and the queen raised this is so much real gain, as the cost is no more than rearing one from a nuclei. In fact we cannot raise queens from full stocks in any other way except at a loss. By the above method I have doubled my number of

colonies, and at the same time made a large yield of surplus comb honey than I ever did with natural swarming; and after one trial I am convinced any one will be well satisfied with the results.

Mechanic Falls, July 2, 1883.

Size of Frame—Bees for Business.

JAMES HEDDON.

In reply to Mr. Alves, let me say: 1. The large majority of frame hives used in this country *are* "made" by the users.

2. Mr. Langstroth has never, to my knowledge, pronounced 17⅞ the standard, and if his fiat will make a standard at any time, I will write to him and possible induce him to call it 17⅞x 9⅛.

3. I did not object to the mongrel being well adapted to taking the one pound sections. I only object to that fact being used as an argument in its favor, asserting that the true standard size 17⅞ would do the same, and that the two-story broad frame system was fast falling into disrepute.

4. I maintain that when a man lays down a system in a book, and gives dimentions of all the parts of his hive connected with that system, together with good and valid reasons for such measurements, spreads that book far and wide, which results in thousands copying after his directions, that such established standard is not to be altered by wrenching from him his assent to a fractional change that can serve no purpose for the better, only annoying bee-keepers with the disastrous results of odd sizes of hives and frames.

5. What Mr. L. says on page 331, has reference solely to principles with in the realm of the adaptiability of the hive to the instincts of the bees, and *not* to the convenience of bee masters. I am not willing to cover the fame of of this greatest of apicultural inventors with the veil of ignorance that would be thrown over him to suppose that he saw no inconvenience in the size 40 and 9 different forms and sizes of hives and frames. He wished to impress the minds of the ignorant, that his inventions and patents did cover frames of various sizes.

6. I am in the habit of calling things by their right names, and will call the 17⅞ Langstroth the "obsolete" Langstroth frame when it becomes so. Please do not count until the eggs hatch.

On one point Mr. Alves and I agree, and that is that we both fail to see that he makes his case any stronger than he did in the first attempt. I thank Mr. A. for his enlogestic words in his closing paragraph, and hope my views on this subject may in the end serve to strengthen his former good opinions.

QUALITIES IN BEES.

In reply to the publisned questions of Mr. Hutchinsons I little thought of arousing my old antagonist, Mr. Demaree. It seems to me that Mr. D., in his article on page 284, merely repeats arguments of his former article. This effort strikes the ear like a wail from the tomb of Guiteau: "Not guilty."

Bee keepers are turning attention to the new system of breeding bees for their qualities, regardless of color or the number of their rings. M. Hutchinson sees the point; Mr. Alley says "that's so;" neighbor Shirley, a breder of close observation, feels almost out of patience with me that I should have erroneously inferred that he places any special value upon "the gold rings;" he says that he "has been through the mill," and is a firm believer in bees for business; qualites which are not necessarily inseparable from any special number of brands. Such old and excellent breeders as E. A. Thomas, are adver-

tising a strain tested for qualites; and my orders for hybrid queens bid fair to go beyond my ability to supply. And right or wrong, the decision of bee-keepers of to-day is, "Give us bees tested for qualites." It is no wonder that Mr. Demaree consideres it high time to "protest against the present tendency" of breeding for qualities, viewing the matter as he does.

I hardly thought after the late editoral scolding, that Mr. D. had, would again try to blocken the character of those who honestly differ from him, by useing such a term as "mercenary tendency." Such statements, as well as the whole article, seem to me entirly uncalled for; and as before stated, I had no idea of again calling out the unchangeable opinons of Mr. Demaree.

> "I had supposed the shattered string
> Would prove, by now, a silent thing;
> But touch it lightly as ye will,
> It gives a mournful echo, still."

Now let us look at the mistakes in Mr. D.'s argument. The mule argument, to begin with. Let me quote from that comic philosopher, Josh Billings. He says: "That the mule is half horse and half donkey, and then comes a full stop; nature evidently having discovered her mistake." Again, "I have known the mule to behave first rate all the week for the sake of puting a good fair crack at the driver Saturday night." Again, "The best way to make a mule stay in pasture, is to turn him into an adjoining lot, and let him jump out." This animal ranks as he does because of his unchangeableness. Let us have no mule bees.

I take it that Mr. Demaree, in his experience with hydirds, has never gone beyond the first cross, or if so, merely in a hap-hazard way. The after crosses judiciously direct by a skilled master, is where develop as well as retain many superior traits of the character of both races, at the same time doing away with vicious qualities. Three of my present students are bee-keepers of some years experience with Italians. I propose they be consulted upon the points just referred to, as found in my apiary.

Mr. Demaree believes that every honorable breeder should be able to give a discription sufficiently comprehensive to enable any one to identify his bees, and distinguish them from every race or strain of bees. Mr. D. uses the word "strain," can he, roaming the fields, distinguish bees from his apairy, from those of other strains of the same race? I can do this with mine.

Mr. D. thinks I should give a description of my bees. I did so, and was so plainly given, and so well defined a discription that he held it up to redicule, and sought to make fun of the terms "long-bodied,"and well known to modern bee-keepers. Now he has the audacity to come forward with bees of "plumage," "white silver bands;" "slender in form," and "second-band conspiciously broad," and "generally wearing but little plumage,"but that little of a "light silver rather than a golden hue." "Form slender, inclining towards orange banded." Why, if we had not known that Mr. D. was a lawyer, and were we inclined to look upon every new and novel movement as a "mercenary" dodge, I should be induced to believe that Mr. Damaree was about to advertise "Queens for Sale!"

The Legislature of Kentucky is now working on conservative ground. Kentucky always did think her stock had reached the end of perfection; and consistent with that view, demands "purity of her stock." But will Kentucky and its able lawyer please to remember that their shorthorns and blooded horses were not handed down to us from on high, but were produced

by the efforts of some one who said: "Let us have better horses and better cows, let us cross this one with that one; let us breed for qualites." Some Legislatures allowed men to bring forth the setter from the spaniel, the pointer from the setter and hound. This was not the Legislative of Kentucky.

Nature has done for the mule what Lentucky would do for all stock, and the mule stands in the stock world just where Kuntucky will in the apicultral world if she passes any such laws regarding bee-breeding, as Mr. D. alludes to in his "aforesaid" article.

—*American Bee Journal.*

For the New England Apiarian.

Hints to Beginners, No. 7.

J. E. POND, JR.

CHANGING QUEENS.

Nearly every bee-keeper has occasion to make more or less changes of queens each season, either for the purpose of replacing one worn out or unprolific, or of introducing a new variety into the apiary, but the novice may have some doubts or to when he makes these changes to the best advantage. Of course if a queen is lost, she will at once be replaced, no matter what the time or season but as the removing of a queen during the height of the honey gathering season, will neccessarily entail quite a loss to the force of forages, such changes must be made when there is no further prospect of any stores being secreated in the fields. It is true that queens can be more easily introduced when a flow of honey is coming in; but this trouble can be over come by breeding. The queens should be introduced in season to allow them to fill the hive with their own brood, before the advent of severe cold weather, or it is a well ascertained fact that young bees, will winter with more safety than old ones. After careful consideration, I have determined that August and September, are the best months in which to make change of queens, and another advantage in waiting till these months is found in the fact, that we can get better queens and at a lower price, than eariler in the season; and again if we desire to rear our own queens, we can do so with less loss, than earlier in the season.

There is a great difference is colonies in the matter of accepting a queen: one will recieve her at once with evident pleasure, while another will take days and even weeks before she will be allowed to remain peacefully in the hive. Mr. Henry Alley however gives us a plan which with him has always proved safe and sure, and by which he has introduced hundreds of queens and that too immediately upon removing the old ones. His method is to remove the old queen, blow tobacco smoke into the hive until the bees are somewhat stupefied, and then allowed the new queen to run in at the entrance or down from the tops of the frames; the bees when they awake from their stupor, do not seem to recognize the change in queens, and accept the new one at once; she at once begins laying and no less of foragers accures. By this method a queen can be introduced at any season of the year, and if it should prove as successful at the hands of the others, as with Mr. A. this matter is shown of half its terrors, and becomes as simple as it has heretofore been considered intricate.

INDUCING BEES TO WORK IN SECTIONS.

Great trouble has been experienced in inducing bees to work in sections, we all know the trouble we have had with colonies refusing to store honey in surplus boxes, and in insisting upon swarming, as soon as the brood chamber becomes filled.

Mr. J. B. Mason of Mechanic Falls, has hit upon a plan, which he has practised with unfailing success for the last seven years, by which the bees are induced to at once go into sections and deposit their surplus. This method is original with him, and the thanks of the bee-keeping community, are due to him for making it known. It was discovered accidental by him, but he unlike many others when he found the first instance where it proved successful, formed a theory, which no doubt is correct His method is to take a few sections with the adhearing bees, from a hive whose bees are working well in the surplus boxes, and place them on top of a hive in which the bees have not been induced to leave the brood chamber. These bees which are working in sections continual secreting wax, and this induces the bees below them to take the wax secreting impulse, when they at once rush for the suplus chamber, and the result is a full set of well capped sections. No trouble is found in uniting, as the change should be made at a time when honey is being gathered, and bees will always unite peaceably at such times. Since learning the method of Mr. M. I have given it a trial in my little apiary and found it a success in every instance and can heartily recommend all to give it a fair trial.

Foxboro, July, 1883.

For the New England Apiarian.

Beginner's Mistakes.

E. A. THOMAS.

Perhaps it will be profitable for those just commencing in the bee business to learn how others have made mistakes that they may profit by their experience, and so save themselves much trouble.

The first great mistake of beginners, is to rush into the business too extensively at first, before their knowledge and skill has increased sufficently to warrant it. It is far better to go slow at first, and then if you must with failure, the loss will be slight, and you can begin again, knowing how to avoid past mistakes, and with more ability to guard against them in future. Do not buy every thing you see or hear of, do not buy anything in fact unless you know how to use it and it is what you want. Where something new comes out, let it alone until those who are more competant have tested it, and if it is good then will tell tell you so through the journals. (It is supposed that beginners will take all the journals they can, it would be the grandest mistake of all to fail to do so. Better take them all.) Do not buy high priced bees at first, but get some black bees of your neighbors, purchase queens and introduce them; in this way you learn to introduce queens and handle bees, at the same time getting them much cheaper. I believe it is a mistake for beginners to procure bees that are in apple pie order and need but little attention, for how can he gain much experience taking care of such bees? It is much better to procure a colony of black bees in a box hive, then read up how to transfer them and proced to do it; in this way you put in practice what you learn while it is fresh in your mind. If you are not perfectly successful in the first operation, do not get discouraged, but procure another stock and try again. It is in this way, and in this way only that you can gain a thoroughly practiced knowledge of bee culture. After you have learned how to do a thing, and then go and *do* it, you have mastered the situation, and will even afterwards full confidence in its repetition. In introducing queens also,

the new beginner should read up well on the subject, learning all the various methods, then select one of the simplest and proceed to introduce a queen. He need not be discouraged if loss attends his first effort, for he may perhaps gain experience by it that will be of value to him all the rest of his life, and which may not be obtained in any other way.

Another great mistake is to try and increase stock too rapidly. Without any experience it is impossible to determined to what extent it is safe to increase, and many carry it too far and weaken, and oftentimes ruin their bees. A safe rule for the beginner is to keep his hives strong in bees; if he does this he will be always on the safe side no matter what the season may be. Do not purchase half a doxen different kinds of hives, which will only confuse you and render all future manipulation more complicated. Get some standard hive like the Langstroth or simplicity that is known to be good, and stick to it so you will have all the hives in the apairy alike. This will allow the interchange of combs, an advantage which you will come to appreciate as you progress in the business.

Be careful and avoid and prevent spring dwindling as much as possible, for this proves a stumbling block to many. Study up the matter of its prevention thoroughly and early leaan to be master of the situation, thus learn what has been the ruin of many. Learn the proper time for putting on the sections, which you should put together prepare yourself. Many try artificial swarming before acquring that knowledge of the habits and requirment of bees which is necessary to successfully accomplish it. It is much better to let the bees swarm naturally, and learn to manage the swarms and manipulate them after which you can practice the artificial methods without are of failure.

Another matter I wish to speak of, is robbing. How many have nearly ruined their bees after the honey season is over and the bees are searching everywhere for something to do, by carelessness or ignorance in opening their hives. One cannot be too cautious in such a time, and it is far better not to finish an operation after the robbers gather round too thickly, than to complete it at the risk of the colony, for a colony after having been once robbed is of but little value. Bees, after having once indulged in robbing are more proud to rob than they were before, and more easily excited to it than ever. It is a safe way for the beginner to open his hives only at night, at this season of the year (after the honey harvest is over) and then if they get to robbing, night will soon overtake them and force them to stop, and should they return the next morning, the invaded stock will be in condition to resist them. Become posted on the means of stopping robbing, should it occur, that you may know just what to do and how to do it. I once saw a young beekeeper get as demoralized as his bees during a time of robbing, so much so that he gave up the bees for loss. Calling on me for advice, I went with hive, quietly went to work, and in half an hour had the bees under control.

In conclusion I would advise you never to attempt an operation on the bees without first having thoroughly read up on the subject. If you come across anything in working on the bees that you do not unnerstand perfectly, look the matter up at once inform yourself as far as possible. Always try to study the *nature* of the bees, and in all your manipulations try to imitate nature as far as possible; do this end and mistakes will be few and of but little consequences.

Coleraine, Mass.

At What Age Do Bees Gather Honey.

G. M. DOOLITTLE.

The above heading may be thought by some to be of little interest, but as it has much to do with the surplus honey we get, I thought a few words on the the subject would not be amiss. Many seem to suppose that the bee is capable of going to the fields to gather honey as soon as hatched, or in three or four days at least, but some facts prove that they do not do so. Bees may be forced to go into the fields for pollen and honey at the age of 5 or 6 days old, but when the colony is in a normal condition, as it always should be to store honey to the best advantage, the bee is 16 days old before it gathers honey. If we take combs of bees just hatching, and place them in a hive without any bees, as is frequently done to introduce a valuable queen, we will see young bees not over 5 or 6 days old go to the fields, being compelled to do so for water, pollen, etc., because there is none of the older age to go; but this does not prove that the bees of that age usually do so any more than the experiment of feeding 20 pounds of honey to bees confined to the hive before one pound of wax is produced, proves that it always takes 20 pounds of honey to produce one pound of comb. I have conducted two experiments since I kept bees, to ascertain the age at which bees gather the first honey, and as each proved the same, I believe 16 days to be the time when the bee brings her first load of honey, when the colony is in a normal condition.

The experiment which I tried was this: A black queen was removed from a colony and an Italian queen introduced in her place about the middle of June. The date was marked on the hive, and as the 21st day thereafter arrived, a careful watch was kept to see when the first Italian bee hatched. When the first Italian is emmerged from the cell, a careful watch was again kept of the hive to see when the first Italian took its flight. This happened about 2 p. m., on the eighth day after the first Italian was found hatched, when a few came out for a play spell, but in an hour all had returned, and none but black bees were seen going to and from the hive. As the days passed on the numbers increased at each play spell (about 2 o'clock), but none having the Italian markings were seen, except at these play spells, till the 16th day after the first Italian hatched. At this time a few came in with pollen and honey, commencing to work at about 10 a. m. After this, the number of Italian honey gatherers increased while the number of blacks decreased, until on the 45th day after the last black bee was hatched, when not a black bee was to be found in or about the hive. If the above is correct, and I believe it is, it will be seen that the eggs, for our honey gatherers, must be laid by the queen 37 days before our main honey harvest, if we would get the best results from our bees; as it takes 21 days from the time the egg is laid to the time the bee emmerges from the sell, and this added to the 16 makes 37 days. The above is applicable to any portion of the country, where a certain flora produces the larger portion of the honey crop. To be shure, the bees from the time they are three days old, help to perform the labors in the hive, such as building comb, feeding the larvæ, evaporating nectar etc., hence are of much value toward securing the crop of honey, if we have plenty of bees over 16 days old, but other wise all hatching after the middle of the honey harvest are of little use.

Another thing I ascertained by these experiments, which was that the bees which gather the honey are not the

ones that deposit it in the cells. I was reading in a bee paper, not long ago, how the loaded bees from the field carried their honey easily to the top of a four story hive. This was used as an argument in favor of placing empty combs on top of the full ones, instead of raising up the second or third story and placing them between full combs, on the tiering up plan. As far as the loaded bees are concerned, it makes no difference, as will be seen when I state that on the 15th day after the first Italian hatched, when none but black bees were going in and out at the entrance, I found by taking of the cover and examining the sections, that scarce a black bee was in them, but all were Italians, which were at work there, building comb and depositing honey. After this I used an observatory hive containing but one comb. In this I also had black bees as field bees, and young Italians for the inside work. By watching the entrance through the glass, I could see the loaded bees come in, and when one came on the side next to me, I could easily see what it did with the load of honey. The bee would pass along on the comb till she came to a young bee, when it would put out its tongue toward the young bee. If this bee had no load, it would take the honey, but if it had, our field bee must try again till one is found that could take the load, when it was given up to it. The field bee then rested a little while, when it would go for another load. Thus it will be seen that any entrance leading direct to the surplus arrangement, as was formerly made in the Langstroth hive, is of no use, but, on the contrary a positive damage, as in cool nights it causes the bees to leave the boxes, from allowing too much cool air to enter them. To secure the best results, it is necessary to be fully acquainted with all of these minor points of interest about the bees, so that we may combine them all, and bring them all to bear on that which will produce us the most honey.

Boridino, N. Y.

Using a Standard Frame.

W. Z. HUTCHINSON.

One can scarcely pick up a bee paper without finding an article with the above heading, and, although all the writers do not agree as to which frame should be taken as the standard, they do agree as to the desirability of all bee-keepers using a frame of the same size. The traffic in bees is becoming quite large, and with so many different-sized frames as there are now in use, the purchaser of bees frequently not only not has to perform the disagreeable tast of transferring them, in order that they may be in hives like his own, but the discharged hives and frames are seldom of any value, except for kindling wood. Were some frame adopted as the standard, and used by all bee-keepers, the supply business would be greatly simplified and made more profitable, both to the manufacturer and the consumers. Hives, frames, etc., could be manufactured in large quantities, and, at a corresponding lower price, and the delays caused by having to wait while some odd sizes are being manufactured, would be entirely avoided. Experiments, especialy those in regard to wintering bees, would be more conclusive and satisfactory, were all frames of the same size, as success or failure could not be attributed to the difference in the size or shape of the frames used.

As the majority of bee-keepers use the Langstroth frame, it is not to be wondered at, that nearly all writers upon this subject, advocate the adoption of the Langstroth frame as the standard. I have always used the

American frame, which is about 12 inches square, and I have nearly 100 hives, yet I shall, this season, commence using the Langstroth frame, and another season I shall discard the American frame entirely. If I cannot sell the hives and combs to some one who uses that style of hives, I shall transfer the best of the combs, melt the remainder into beeswax, and have the wax manufactured into comb foundation. I will knock the hives to pieces, and use what I can in making Langstroth hives. Heretofore I have reared queens and extracted honey, and for these purposes I regard the American frame as good as any. Now, I shall give the production of comb honey a trial, and, for this business, I convinced that a shallow frame is preferable. Since the Langstroth is a shallow frame, and is used by a majority of bee-keepees, I shall adopt it.

It has been many times asserted that the Langstroth frame is too shallow for wintering bees successfuly in our cold, northern climate. It is asserted that in order to pass the winter safely, bees should cluster beneath their stores—as the heat arising from the cluster keeps the honey warm and in proper condition to be used. It should be remembered that when the warm air arising from a cluster of bees strikes against the covering over the frames, the heat spreads out in a lateral direction all over the upper portion of the hive, and that bees in search of food, in cold weather, move in a lateral direction between the combs just as readily as they do in an upward direction, and much more readily between the combs than they will pass from comb to comb. If any one thinks differently, let him, near the close of the honey season, raise the back of the Langstroth hive until the hive stands at the angle of 65°, when by the time that cold weather comes, the bees will practically be in a tall hive with their stores above them. Two years ago, just after the close of a very disastrous winter for bees, the editor of the *American Bee Journal* requested his readers to send in reports of how their bees were prepared for winter—whether they were wintered in the cellars, or out-of-doors; the kind of hives used, etc.,—and how the bees wintered. From these reports a statistical table was prepared, and one of the facts brought out, was that bees wintered with the least loss in the Langstroth hives. Among other remarks the editor made the following:

"Those who have contended that the Langstroth hive is too shallow for wintering, will be surprised to learn that the figures compare very favorably for it. Thus the pecentage of losses in all kinds of frame hives is 46; exclusive of the Langstroth hive it is 51, leaving only 43 for the Langstroth, being 8 per cent, in its favor. Again, this report records the results of wintering in 521,330 hives; 211,732 of which were in box hives, leaving 309,598 for all kinds of frame hives. Of the latter, 195,957 are Langstroth—*i. e.*, shallow frames—and 113,561 of all others combined. We realy think these figures settle the matter of 'the coming frame.' Had the deep frames been shown to have the advantage, the BEE JOURNAL would have been ready to advocate their universal adoption, for it has no desire to favor any but the most successful methods, hives or impliments.

The reason that a shallow frame is better adapted to the production of comb honey, is that the capacity for top storeing is so increased, that the troublesome and vexatious side-storing is avoided, and the honey boxes are brought near the center of the brood nest, which induces the bees to enter more readily; Now, as a shallow frame is best for obiaining comb honey, and

equally as good as any for extracted honey, and, as the Langstroth is a shallow frame, and is certainly as good a frame as any upon which to winter bees, and is now largely in the majority, I shall adopt it and do all that I can tawards making it the standard frame.

There is some dispute as to the exact dimensions of the Langstroth frame, but the majority of the frames in use are 9⅛ inches deep and 17⅜ inches long. The largest manufacturers of hives, and the greatest number of them, have adopted this size, as have the editors of all of the principal bee periodicals. In Mr. Langstroth's book published 20 years ago, the length of the frames was given as 17⅜ instead of 17⅛, but the introduction, several years ago, of the one pound section, which is 4¼x4¼ inches square, eight of which just fill a Langstroth frame when made 17⅜ inches in length, outside measurement, is a good reason for making them of that length, and Mr. Langstroth, long ago, publicly indorsed the change to 17⅜.

Rogersville, Mich.

—*American Bee Journal.*

Willows for Honey.

F. L. WRIGHT.

If we intend planting a tract of ground in honey producing plants, trees, etc. we should plant quite a part of it in willows of a different variety. A few years ago we told some of their faults in Gleanings, and will now speak of some of their good qualities.

There are quite a number of varieties of which we know nothing, but near our apiary there are quite a number of kinds that we have watched with interest for a number of years; among them there are several that we do not know the name of, as our wild willows are in almost infinite variety. Some we recognize are as follows: The first to bloom is the basket willow(salix-viminalis) and the S purpurea,(I do not know the common name). These bloom very early, the calkins coming out from the shoots of the preceeding years growth, and when the weather is favorable, yield considerable honey and an immense amount of pollen.

Next comes the S,-cordata, and a common wild species growing along streams, etc. This blooms very early but not as soon as the two preceding ones. Next in order comes S. longifotia, long beard willow, a common wild species, and S. alba, white willows; a native of Europe introduced here and quite common in this country, both of which bear their flowers in late spring, or early summer on wood of this seasons growth A little later comes S. nigra, or black willow, a common native speices, and S. lucida, or American Bay willows, also a common native, bearing its calkins on wood of the present seasons growth, consequently late flowering, and if other flowers are abundant, do not attract as much attention as the three first ones described.

This has been the poorest season we have ever known; the bees being confined to their hives nearly all the time by cold high wind or rain yet the willows have yielded so plentifully that they have not only kept up brood rearing under these adverse circumstances but the bees have gained a little and have mended up their combs, and a few colonies that had no drone comb have built some between the combs and the queen has invaribly filled it with eggs. Willows always yield large quantities of pollen and generally considerable honey. The honey although excellent for bees is not fit for man. It has a very dissgreeable odor, in fact it smells worse than a Dutchmans saur kraut, and tastes worse than it smells. I do

not advise it for surplus honey, but for stimulating the bees to work in early spring it is invalueable, and we advise planting a few on some waste ground. They grow readily from cuttings, and usualy blossom the second year and bear a full crop the third. We have several varieties that are new which promise well, that we will speak of in another communication.

Plainfield, Mich.

—*American Bee Keeper.*

Bee-Keeping in Nebraska.

WM. STOLLEY.

I started "Apiculture" here, 150 miles west of the Big Muddy (Missouri River), three years ago, with but two rather weak colonies of black bees, without having at that time the slightest knowledge of them. As was to be expected, under such circumstances, I blundered in my first summer's management, viz.: increasing from 2 very weak, to 3 still weaker colonies in the fall, but with very little honey for winter stores.

Then I got hold of the excellent BEE JOURNAL and found how far I was missing the mark. But, following strictly its teachings, I succeeded in providing, in time, my bees with the required winter stores, by feeding night and day with coffee. A sugar syrup; and in the spring of 1881, I found to my great satisfaction that every colony was alive, although seriously afflicted with dysentary, and two of the old queens dead. So I commenced the season of 1881 with 6 colonies, and, aided by the use of comb foundtaion, I increased to 14 colonies that season and obtained 230 pounds of extracted surplus honey.

Meanwhile, I procured, of Rev. A. Salisbury, 4 tested queens, three of them were Italians and one pure Cyprian, all of them were properly introduced before cold weather set in, in 1881. Only 2 of the queens proved suitable for breeders; and, in particular, the Cyprian queen outstriped all the rest. She proved to be, not only exceedingly prolific, but her worker bees are also amiable and the best honey gatherers. From these 2 queens I have reared 20 queens in 1882, of which 17 are Cyprians and but 3 Italians, allowing no drones to be reared in my little apairy but the Italian colony; hence, all my Cyprian queens were mated with Italian drones.

The spring of 1882 found me as the owner of 12 good colonies of bees, viz.; 1 Cyprian, 1 Italian, and 10 black and hybrids; since 2 colonies had lost their queens during the winter, and I had to unite the queenless ones with other colonies.

With the aid of 4 additional Italian queens bought, one from G. M. Doolittle, one from Chas. Dadant & Son, and two from Scovell & Anderson, the aid of 70 lbs. of founudation, and the pasturage of one acre of melilot clover, I increased to 38 strong colonies in the fall, and obtained 520 lbs. of extracted, and 80 lbs. of comb honey, in 2-pound sections, which I readily sold at 25c. per pound.

Towards the close of the season I lost my Doolittle queen, after I had reared 4 queens from her. I also reared 4 queens from the Dadant, and 2 from the Scoville & Anderson queen. I have superceeded all my black and hybrid queens, except 3 which proved to be the best of that race of bees, as I desire to winter them once more, and compare results next spring.

About the middle of October I finished packing my bees (inside the hives) with woolen blankets and chaff and about the middle of November I moved them back to the rear wall of my bee-

house, and packed them in prairie hay, sheltered the entrance with slanting boards, and then covered the whole 2 feet thick with prairie hay. On December 17 my bees had their last flight, and I hope that they will pull through the winter all right.

Wheather bee-keeping can be carried on successfully, in this, the so-called "Desert of America," I conside *practically solved*. At least, I have got the requsiite confidence to preserve, and my little success has already inspired others, who will try their hand at it during the coming season.

I have partly sold, and partly ordered 12 colonies at from $12 to $15 per colony, the risk of wintering to rest with the purchaser, and, with the proceeds, I propose to build a honey-house in addition to my bee-house, 80 feet long.

Our lands are cheap, and meliot, matrimony vines and borage will always do well with us, hence, what should hinder us from becoming successful apiculturists? I now have 1½ acre of matrimony vines well established, which will feed my bees from early spring till frost. Near me are about 20 acres of melilot (*Melilotus Alba*) which are entirely devoted to bee pasturage and also 1 acre of borage.

We are preparing another bee-farm on a larger scale, on the Loop River, where 50 acres or more will be sown with melilot, and as many acres with matrimony vines as can be grown with plants obtainable; and as soon as ready, we propose to put the bees there, and do not care much about white clover, bass wood, etc.

I predict that "the Desert of America," will count big, in the near future, as a honey-producing section of this land of plenty, and the AMERICAN BEE JOURNAL will count its subscribers from the "far West" by hundreds. I will send you the names of parties who become practically interested in apiculture as fast as the nucleus apiaries orginate here.

Grand Island, Neb., Dec. 28, 1882.

—*American Bee Journal.*

Best Method of Adjusting Sections.

DR. G. L. TINKER.

The modern system of bee-keeping is a progresive one, and in no department have so many improvements been made as in the methods of adjusting sections. The large board frames made to hold several sections were held at one time in great favor, but the tedious and often vexatious task of getting tnem out of the hive, where they are sure to be fixed in propolis, has caused many a bee-keeper to abandon the use altogether for more agreeable and rapidly executed methods.

The placing of sections at the side of the hive has a more serious objection in the fact that if they are left at the sides until fully capped over they will be soiled so badly as to be next to unsalable. The soiling is due to the going and coming of the field workers who also congregate in large numbers at night in sections placed above the brood frames. Hence all the honey made on top of the hive will be nice and white even if not soon removed. It is the best place therefore to get surplus, and if sufficient room is given the bees will probably store more honey above the brood than at any other point.

If the top of the hive is the point to get surplus the section rack is certainly the best device on which to adjust the sections. 21 two lb. or 28 one lb. sections can be placed upon one rack and if made to tier up more surplus can be had than by the use of sections in board frames. Some make the section rack and case altogether so as to be tiered up, but the plan most easily operated is to

have the case two or three inches larger than the rack and deep enough to hold two or three racks of sections. With single-walled hives this plan requires an extention top to the body of the hive. In this case no rabbit is made but the ends of the frames are made to rest on the top of the hive. Strips to bring the rack up to the right height above the frames are then nailed about them. The case projects a little over the top and is held in place by four blocks nailed in the corners On lifting off the case the racks ot sections can be very easily managed.

The rack itself consists of slats 5-32 of an inch thick, the width of the bottom pieces of the sections, and nailed to end pieces 1-2 inch thick, if separators are used. Side boards grooved on both edges to allow the bees to pass up between the outside sections, and the side boards are then clamped togather with two pieces of lath, or a piece of heavy wire may be bent at each end and made to answer the purpose of a clamp. If thin small sections are used the racks can set down on the brood frames, or what is preferable, on a permanent rack set on the frames. If sections above 1-38 inches thick are used the rack is raised 5-16 of an inch above the frames, or a permanent rack is so raised and the section racks worked upon them.

New Philadelphia, O.

—*American Bee Keeper.*

How to Stop Increase.

GEO. W. BAKER.

There are a great many bee-keepers who have as many swarms as they desire to keep, and now the question arises how can I keep my bees from swarming and get the most honey from them? This is a hard question to answer, for there are exceptions to all rules. I have tried nearly all plans and have read a great deal of literature on the subject, and have heard the question pretty throughly discussed. I attended the Eastern Indiana Bee-Keepers Association held at Richmond Ind., last week. The question was discussed there. Some of them would take the new swarm and put it in an empty hive and let them go to work, and then they would leave the old hive undisturbed until another swarm would come off from some hive in the apairy, and then they would take the new swarm and put it in the old hive where the first swarm had come from, but first they would go and tear down all the queen cells, and then leave the hive that this swarm came from for the next swarm and so on during the season; and claimed they had good success. But I think a better way is when the new swarm comes off take the old hive to some other part of the apairy and give it a different apperance from what it had before, by pointing the entrance in a different direction. Look through the hive and tear down all the queen cells, see that the bees have plenty of room below for the queen to deposit hea egg, and be sure you have plenty of surplus boxes on and not too many, now go and get the new swarm and return them to the same hive from which they came, and they will go to work just as quick as if they were put in an empty hive. Be sure the queen has plenty of room, for this is one essential point that is overlooked a great many times; if they have too much honey in the brood chamber you must extract it, for this goes a great way toward stopping the swarming fever. By this method there is no time lost by the apiarist or by the bees; changing their hive to some other place they mark thier place just the same as if they were put in an empty hive.

This method will as a general thing stop them from swarming. I have tried several plans, and have decided this one to be the best, because the bees will keep working in the sections just the same. Friends try one or two hives this way and see if it does not work well.

Lewisville, Ind.

—*American Bee Keeper.*

Friend Merrill:

As I was so very busy last month I overlooked or did not get a moment to write a word for the APIARIAN. I now have 20 full colonies, and all have more or less surplus, and still I have some difficulty to control swarming, and with all the hurry and care, I fell short of foundation, although I ordered some of Root, and had obtained previously all I thought would be used, but I was obliged to sell to others, and all the while the bees were increasing both in bees and honey, and my only resort was to the extractor, which I find is just boss. I extracted July 6th, over 70 lbs of nice honey. I like extracting, for reason, there always are a lot of bulged combs, and the honey knife eaven them up so that they can come nearer together, which I believe, tends to drive the bees above into boxes. I prefer to hang them ⅞ of an inch apart, then there will be no bits of comb built between, and the bees will be more eaven all over the combs. Its difficult to induce some swarms into the cases, but with such, I hang 2 section frames with boxes of foundation in the brood nest and let them start it out ½ or so, then scatter the boxes above in the cases, and there is a great inducement to the bees to start work at once. After the boxes are about half full I take them out and reverse them as they are always fullest at top, and this eavens them up but I do not set this case back on the frames, but one with new starters, then set this on it, and the bees will go for it business like. Often a stranger comes to see me and wonders what I find to do to occupy nearly all my time (early and late.) and they often say, I thought bees took care of themselves. Well so they will, but no more than stock or anything we deal with; this has been proven with box hives without foundation run by old foggies. In even the plan of changeing inside combs of brood to outside as soon and often as cold, and the strength of the colony will allow, has much to do with rapid increase, and unless we get the bees strong early, we loose a great part of the honey flow. I find that it pays also to feed a little and often in early spring, but have not fed any since May, and already one swarm has much more than paid for all feed. It takes no little time to care for a few queen hives, as I run about a dozen, and take great pleasure in the work, and its a grand nature school. The more I work with the bees the more I am to a perfect lover for all that is given us, though they do threaten and look me in the face, and though very seldom do worse than that, and if they do bite now and then, its no worse usage than we get picking stones or cutting wood, or a thousand other branches of work. I shall have to believe as Bro. Mason says, that there is no question about bees being profitable as on close business; and I also am of about Doolittle's mind, that the farm and bees are too much for my poor health, and must leave one or the other. And in order to make any work pay it must have proper and constant care and its principels studdied. I am much pleased with the APIARIAN, and if one only keeps one swarm of bees he he should by all means be a subscriber for it.

E. P. CHURCHILL.

No Auburn, July 11, 1883.

The Folly of Too Small a Section.

L. H. SCUDDER.

I have read with care the remarks of Mr. T. F. Bingham, the editor, and others, on page 802 of the BEE JOURNAL, and will try and give you some of the reasons why I think we, as honey-producers, should not advocate the use of a continually decreasing size of package for honey. In the first place, neither dealer or consumer would require us to go below a one-pound section, if we did not induce them to by placing it before them; but we, in our anxiety to outstrip our neighbor in the production of an article which will appear nicer and, by that means, sell more rapidly and for a shade higher price, continue to reduce the size of sections until (if this folly is continued) honey cannot be produced with sufficient profit to justify a person of ordinary intelligence in engaging in the business.

We know from experience that honey consumers will not be willing to pay a high price, because of the novelty of the package. What was more attractive in appearance than the glassed section, and still, how short-lived it was? Glass at 25 to 30 cents per pound was more expensive food than consumers could afford; and buying wood at similar prices will become burdensome when we get to using about as much wood for one-half or one-quarter of a pound of honey as we are now using for one pound.

I cannot view it in any other light, than that honey-producers are working against their own interests, in advocating the use of a smaller package. Let me give you a few reasons why I think so.

1st. We must discard all our material left over from last year, which to some of us is a considerable item.

2nd. Make new supers, which means money, whatever style we see fit to adopt.

3d. Double or quadruple our expenses for comb foundation.

4th. Compel the bees to use double the amount of material for capping, and requiring additional time to perform the labor.

5th. Doubling or quadrupling the labor in the manipulation of the sections from the preparation to the final packing for market.

It is not clear that this additional labor will compel many of us to carry a decreased number of colonies? I see no other way, for the very important reason that competent help cannot be obtained; at least, that is the case in my locality, and I presume it is so in many others.

Now, taking this view of the case, how are we, as bee-keepers, to manage to win bread for our families? Some times, for years in succession, the crop will be light, and our profits small, barely sufficient to maintain our families; then, perhaps, a perfect deluge of nectar will come, every shrub and flower bending beneath its weight and as our busy little workers come rushing home, laden to their utmost capacity with their precious freight, would it not be interesting to watch us "Progressive Apiarists" undertake to measure and store away the fruits of their labor in half-pound sections.

Truly, the prospect is no flattering; it seems to me that it would be a hopeless task, and I, for one, cannot see my way clear to undertake it. Call this "croaking" of an old fogy, if you see fit; I care but little; if the business ceases to be profitable, dearly as I love it, I will turn my hand to something else.

New Boston, Ill., Jan. 1, 1883.

—*American Bee Journal.*

Appliances to the Apiary.

G. W. DEMAREE.

First of all a convenient apiary house is a convenience that cannot be dispensed with if the business is to be carried on to any extent worthy of the dignity of a business pursuit. A convenient building adapted to the purpose can be erected at comparatively little cost if proper management is brought to bear in its planning and construction. I have just completed such a building in connection with my apiary, and though cheaply built I am much pleased with it.

The plan which I would suggest would be a house twelve feet wide, eight feet story, and may be made as long as necessary to carry out the plans of the apiarist.

If he only wants a honey store room, and a work room, 20 feet in length will answer. This would give a store room 8 x 12 feet, and a work room 12 x 12 feet. By adding six or eight more feet to the length he can have a nice little office in front where he can keep his library of bee literature, a writing desk, and a case in which to keep samples of honey from the different plants and trees, and also a corner for a minature museum, if he has taste in that direction. He will find such an office a place of pleasant retreat from the busy scenes without when he wishes to read his papers and books, or write his letters. He will also find it a pleasant place to take a friend for a social chat after he has been shown through the apiary. If the building is to be built as cheaply as possible, the foundation can be made of cedar, or any lasting wood, the sills can be made of 2 x 8 inch joists, two of them spiked together and set edgewise on the posts, of course one of them must be notched to receive the ends of the sleepers or lower joist before they are nailed together. The sleepers should be 2 x 8 inches and should have a post under the center of each to support the heavy weight that they are liable to have to bear. The walls may be boarded up with lumber just as it comes from the saw, and the cracks closely stripped. If such a building is kept nicely whitewashed, It will have a cool nice external appearance. The windows to the work and store rooms should have a covering of wire cloth, which should extend about four inches above the opening and so arranged as to let out any bees that may be taken into the house for any purpose. Besides the ordinary shutter to the door there should be an outside shutter covered with wire cloth to give plenty of air in hot weather, and exclude bees from the rooms. The rooms may be sealed overhead with thin lumber and closely stripped, and the inner walls can be covered with heavy paper secured with tacks, as the paper will not split by the swelling of the siding as when put on with paste. Now if the floor has been laid with matched flooring, and the roof covered with good shingles, the house will be complete, and will be cheap and durable and answer all purposes as well as if ever so costly.

In fitting up the inside of an apiary house a little ingenuity and tact will add many pleasing conveniences to inside work.

It is quite common to fasten the extractor to a shelf or on a bench, in which case it becomes a fixture in the room and must be placed in a position where it is not in the way of work. I have mounted my extractor in a movable frame made of light material so that it can be moved to the most convenient part of the room and removed at pleasure. A convenient feature about the frame is the uncapping box, which is made to hang in the frame immediately in the rear of the extractor, and is as long as the inside of the frame. The bottom of the box is made of two pieces which dip toward the center about one and a half inches to the foot, and where they meet in the center there are a number of saw cuts which form a sink to let out the liquid honey as it drains from the cappings. The box is made tight by filling the joints with hot wax. The uncapping box being about two feet three inches in length, it gives room for two persons to work at uncapping at the same time. At either side of the extractor is a case which holds four combs, right in front of the person who operates the machine.

My work room has a nice work bench eight feet long and two feet four inches wide and is invaluable. It has a vice and other conveniences attached to it. On this bench we do all job work.

I propose in a future article to speak of other appliances to the apiary.

Christianburg, Ky.

Convention Notes.

The Western Maine Bee-Keepers' Association, will hold their next regular meeting at the residence of H. C. Wilbur, Auburn, Me., August 29th and 30th, 1883. A large attendance of Bee-Keepers' from different parts of the State is expected.

Those attending the meeting are requested to bring any apiary impliments they posess. Any articles sent to the Secretary, will be placed on exhibition and cared for free of charge.

The following is an imperfect outline of the programme for the two days:

First day, a. m., Secretary's report; Treasurer's report; report of the Vice President; President's address; and appointment of committees to award preferences on articles exhibited, etc.; Intermission from 12 to 3 p. m., for refreshments and a practical lecture in the apiary, manipulating the bees, etc.; afternoon session from 3 to 6.; evening from 7 to 9 o'clock for the reading of essays, and discussions on subjects of interest to bee-keepers.

Second day; morning session from 9 12, report of committee on supplies and fixtures exhibited, and other matters of interest.

Bee-keepers' from all parts of the State are cordially invited to attend, and take part in the meeting, and a general invitation is extended to the public.

W. W. MERRILL, *Sec'y.*

DR. J. A. MORTON, *Pres.*

Boston, Mass., July 4th, 1883.

HONEY—½lb sections 30 cts; 1lb sections 22 and 25 cts; 2lb sections 20 and 22 cts. Extracted, 10 cts. per pound. Good lots of extracted are wanted in kegs or barrels.

BEESWAX—Our supply is gone; we have none to quote.

CROCKER & BLAKE, 57 Chatham St.

Question Department,

CONDUCTED BY

JAMES HEDDON,

of Dowagiac, Mich.

☞All questions should be sent to us by the 1st of each month so as to appear on the 15th, as we mail the questions to Mr. Heddon, and he answers and returns them to us in season for publication.

Special Notices.

☞Subscriptions may commence with any number.

☞All articles for publication must reach us by the 5th of each month.

☞Articles for publication must be written on a seperate piece of paper from items of business.

☞This time of the year being the busyest time of the bee-keeper, our regular correspondents are so busy that they could not get time to send us an an article this month, but we are in hopes to receive articles from them for August APIARIAN.