The New England apiarian : devoted exclusively to bee culture. Vol. I, no. 5 May, 1883

Mechanic Falls, Maine: W.W. Merrill, May, 1883

THE

NEW ENGLAND

APIARIAN!

DEVOTED EXCLUSIVELY TO

BEE CULTURE.

Published on the 15th of each Month.

MAY, 1883.

PUBLISHED BY

W. W. MERRILL,

MECHANIC FALLS, MAINE.

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

THE

New England Apiarian.

Devoted Exclusively to Bee Culture.

VOL. I. MECHANC FALLS, ME., MAY, 1883. No. 5.

THE

New England Apiarian,

PUBLISHED BY

W. W. MERRILL,

P. O. Box, 100, Mechanic Falls, Maine.

Published on the 15th of each month.

TERMS, 75 CENTS PER YEAR IN ADVANCE.

For the New England Apiarian.

The Coming Frame.

J. E. POND, JR.

A person calling herself Rachel Brown in an article published in the *Home Farm* of April 12th inst., assails the APIARIAN and myself, for advising beginners to adopt and use the standard L. frame. She asserts that the standard L., is not the frame to use in Maine, and that good results cannot be obtained with it; and not only that, but she further asserts that the Gallup frame is far better suited for use in all localities that any other. No proofs are offered by her in support of her assertions, except that she once heard of a man who was now using the L. frame, and would at once change to the Gallup if it was not so expensive to do so. In my article, it may be remembered, I said that I kept bees as a means of pleasant exercise. This Rachel, warns bee-keepers or those intending to keep bees, not to follow my advice, as a person who keeps bees in Mass., as a "means of pleasant exercise," can be of no value. I do not know what experience Rachel has had, consequently cannot determine the value of her advice, but if the inconsistencies and inaccuracies shown in her article, are a fair test of her knowledge, my advice now is, don't follow her teachings. She beside advising in regard to frames, offers some advice in regard to ths works on bee-culture that beginners should read, and says that "Cooks' Manual" cannot be understood by common people; now as she assumes to be one of the common people, I infer that she cannot comprehend the teachings of "Prof. Cook's" work, and can only say, that any one too ignorant to comprehend and understand a work on Apiculture, as plainly, clearly and concisely written, as is this manual, is altogether to ignorant to give advice worth

following. In my Article in the APIARIAN, I did not disparage any hive, and gave my reasons for advising the standard Langstroth. To be sure I keep bees as a "means of pleasant exercise," does that make my advice of less value? For over seventeen years I have kept from five to forty stocks; during that period I have devoted a large portion of my time to the study of the etomology, and history of the honey-bee; I have carefully experimented, and many a colony have I sacrificed in order to determine a single point, my sole aim having been to procure the best bees and the best hive. I have proved both points to my own satisfaction, and again advise all, whether novices or experts, to use the standard L. frame. Rachel quotes Doolittle as using the Gallup hive, and mentions his success as an evidence that the L. frame is valueless. Well this same Doolittle cannot and does not winter his bees successfully, while L. C. Root, only a few miles from him, carries his bees safely through the winter in the Quimby frame, which is longer than the standard L. and shallower than the Gallup. B. F. Carroll with the standard L. frame obtains 800 lbs. of honey in a single season, from a single colony, the progeny of a single queen; and Mr. Hasty informs us that the standard L. frame is the best for wintering in his section, where the thermometer sinks to 40 degrees below zero. I think Rachel will have to study the matter up a little more fully, before she assumes to become a mentor, and I would advise her to deal less in assertions, and more in simple opinions: and above all things, I advise her to collect proofs of her assertions, before she again offers them to the bee-keeping public.

Foxboro, Me.

For the New England Apiarian.

New England Apiculture.

BY E. A. THOMAS.

Chapter IV. May Management.

Next to June, May is the most interesting month of the whole year to the enthusiastic bee-keeper; and I might almost say it was the most interesting, for there is indeed much pleasure in the anticipation of the future, and in preparing for the harvest.

There is much to be done in the apiary during this month, and unless it is done, and done properly, we may hazard all the success which our work and care during the year which have led me to expect. The most important thing to do is to build up the colonies as rapidly and effectively as possible. Upon this point, bee-keepers are all agreed; but the methods of accomplishing this result have confused many. This confusion is brought about by the writings of bee-keepers in different parts of the country, which, however happily they may apply in their own locality, are not applicable to our climates and conditions. Take for example the process of spreading the brood, a very excellent method of stimulation, as I shall endeavor to show. The beginner in New England, reads an article written by some one who resides in some warmer and more even climate, in which the writer recomends spreading the brood the very first of May, or even before. With the confidence inspired by the rep-

utation of the writer, he proceeds to spread his own brood without that knowledge, which, perhaps can only be acquired from experience. The result is, that a sudden change of weather chills the brood, and the poor beginner denounces both the method and its advocates. Now I am going to try and tell you how you can use this invaluable means of stimulation here in New England without fear of failure, and if I succeed, well and good; but if I fail, the fault must rest with the writer and not with the method. It is impossible to give any definite time for commencing brood spreading, as the season will greatly vary the time. In ordinary seasons I generally begin about the 10th of the month by hanging in the combs which contain eggs, in the strongest stocks. This will allow the bees, if the weather should prove unfavorable, to take care of what brood they have, as the eggs and larvæ can be better cared for in the center of the cluster than at the outside; and should the weather continue favorable, the queen will proceed to deposit eggs in the adjoining combs to preserve the spherical form of the brood nest. During the first half of the month I never hang in empty combs, but only those containing eggs, in this way letting the bees act as weather prophets. As the weather becomes more settled and the danger of frosty nights grows less and less, I begin hanging in combs of eggs into the less populous colonies. If there are any very weak ones, they should be let alone, for the present; attention being directed to the strongest ones in order to get them in in condition to help the others. If you are a good weather prophet, you will have but little trouble in these operations, but if you are not, take my advice and proceed with care. Do not try to do too much, early in the month, or a sudden change in the weather may put the bees back more than your interference would otherwise put them forward. If you have any doubts as to what the weather will be, let the bees alone; remember that very wise aphorism of Prof. Garreston's that "when you do not know what to do, do nothing." I know how easy it is to be misled by warm nice weather, and to carry the matter too far. More than once I have made mistakes in my earlier experiences, being guided more by the time of year than by the weather and season. I have since learned better from experience, and it is my object to give you the benefit of that experience to start with, if you choose to profit by it. I used to think I must get my bees into shape for the honey harvest by a certain time but I pay no attention to time now. It is immaterial to me whether the grass becomes green April 15th or May 1st, or whether the willows blossom in April or not. If the grass becomes green the middle of April, the honey will be earlier; if it gets green April 1st, it will be still earlier. As the weather delays vegetation, so it will delay the honey harvest. I have so long a time to build up my bees in, whether that time comes early or late. So do not fall into the error of pushing matters too rapidly because the season is late, for you have just as much time in a late season as in an early one. If I have succeeded in impressing you with

the necessity of exercising the utmost care in the employment of this most excellent method during the early part of the season, I shall be amply repaid for my labor.

When there is no further danger from cool nights, we may spread the brood to the utmost strength of the colony, and not only hang in combs of eggs but empty combs. If there is any honey in the combs to be hung in, it should be uncapped, when the bees will remove it. I like to have some honey in the combs, as it seems to stimulate the bees as much to move it as it does to feed them. Brood may be taken from the strongest stocks now, and given to the weaker ones, care being taken to select that which is the nearest ready to hatch. In this way you can equalize all your stocks and get them all ready for the harvest, which is much better than having a few, strong enough to swarm too early, and a few too weak to be good for anything when the season opens. You should aim to have all your stocks of as nearly an equal strength as possible, as I have found that better results can be obtained from such an apiary. If you feed your bees, do not stop until honey comes, for if you do you will put a damper on the ambition of the bees. It is not necessary to feed very much at a time, but feed a little regularly at some stated time of day, night being the best.

Now I want to give you some advice in regard to getting your supplies ready for the swarming season. You can probably tell by this time what you will want, how many hives, how much foundation etc. You should procure your supplies at once if you have not done so, and begin to get things in readiness for June. With everything all ready, the swarming season is one of pleasure rather than work, but with nothing done in the way of preperations, it is one of vexation, hard work and trouble, so have everything in readiness and thus avoid the hurry and the worry of the man who is always behind time.

Some reccommend putting in frames of foundation and letting the bees build them out for use during the season, but I have not found it profitable to do so. It divided the brood nest too much, and my bees always built them out as fast as wanted later in the season. One friend writes me for advice as to whether he should put his sections on this month or not. Sections should not be put on until the honey flow comes and is steady enough to warrant the belief that it will continue; if put on before that time the colony will suffer from too much ventilation, and often times will not enter them as readily when the honey does come.

(TO BE CONTINUED.)

Coleraine, Mass.

For the New England Apiarian.

An Explanation and Reply.

WM. MC LAUGHLIN.

There seems to be some misunderstanding relative to my position, on adulteration of honey. I will say that the allusion I made to feeding bees in flower blooming time was for surplus honey, for ones own personal use on the table, and for removing and retaining until winter's feeding would require it, in the frames. I never sold a pound of

such honey in my life nor ever expect to, yet I know of several successful apiarians who have. In regard to the assertion I made, that many progressive apiarians acknowledge that the honey obtained from the syrup of granulated sugar is far better than that obtained from buckwheat, is true and correct, notwithstanding friend Aspinwall should indulge in slang and slurs, unbecoming a gentleman or scholar. A progressive bee-keeper told me to-day that buckwheat honey was not fit to eat, nor fit to sell, and not fit to winter on. I have knowledge where several colonies have died by eating or wintering on buckwheat honey. Bro. Aspinwall knows, if he knows anything, that it is dark colored, offensive or at least, unpleasant taste, and not salable either in comb or extracted. My friend Pond very gentlemanly grants "that a large quantity of pure granulated sugar syrup may be mixed with clover honey without detection, and to the taste of many the addition would make a substance preferable to the clear honey." Is Bro. Pond a "progressive bee-keeper? Slang and slurs should never enter into criticisms, but candid and convincing arguments will always command courteous attention.

Harmony, Me.

For the New England Apiarian.

Hints in Bee Culture, Part V.

J. E. POND, JR.

Mr. Editor:—I trust that every reader of the APIARIAN will fully understand, that I am not engaged in bee culture for the pecuniary gain derived from it; that I have no hive or queens for sale, and that I am not writing these "hints," because I have an "axe to grind," or because I desire to get any advertising without paying for it; and that while I may speak in praise of some particular thing, and advise its use, I do it simply because I have found it a success, and desire to give others the benefit of my experience. I am not writing these "hints" for "old hands at the business," but to aid those who have either just commenced, or are about commencing the occupation of apiculture.

The season is fast approaching when we hope to obtain a yield of honey, and thus repay ourselves for the time and money heretofore expended, and labor performed, in getting ready for it; At this time we begin to ask ourselves, how much increase of stocks shall we allow, and shall we increase by natural or artificial swarming? It is well understood that a large increase of colonies, and a large gain of surplus honey, are wholly incompactable with each other, consequently we must at once determine whether we shall work our apiaries for increase of bees, or for increase of stores; and further, whether our stores shall be extracted or comb honey. It is also well understood that the greatest yield of surplus honey, will be obtained by allowing no swarming at all. When a swarm issues from a colony, it of course diminishes the army of foragers that are engaged in gathering stores, and by dividing it, decrease its efficiency for work in that particular direction. In working for extracted honey, it is quite easy to prevent swarming, if we

know the nature of our bees, and the laws that govern their reproduction and perpetuation. Bees are so constituted that they can only exist in communities, and it has been found in practise that a certain size of hive is the best for them to colonize in. No colony can be larger at any time than the capacity of the queen for laying eggs, and by taking advantage of these laws, we can bring about the best possible results. When the brood chamber is filled to repletion with brood and stores, at a time when a large amount of nectar is being constantly furnished by the flowers, unless more room is given in the brood chamber, preperations are at once made for swarming; a portion of the bees and the queen issue from the hive in search of a new home, and thus make plenty of room for those who stay behind. If we wish to prevent these bees from swarming out, all we need to do is to give them more room, for by so doing we suppress any anxiety they may have in that direction. If we are working for extracted honey, it is easy to give them room, all that is required being to extract the honey from the frames, and then return them to the hive. If we are working for surplus comb honey, we find a far different state of things. Oftentimes it is very difficult to coax the bees to occupy, build comb, and store honey in sections, and swarms will often issue when there is ample room for them if they choose to occupy it; but instead of so doing, they leave at times, apparantly in disgust.

If we must have surplus comb honey then, and can't prevent increase while working for it, we must do the next best thing, and "strike a happy medium."

My plan is this; as soon as stores are being largely gathered, I put on my sections, watch each colony closely, and as soon as I find any queen cells being built, I take a frame or two of brood and the adhering bees from such colonies as are strong enough to bear the loss, (supplying their places with frames of foundation;) these frames of brood I put in a new hive, on a new stand. The old bees return to their old home, while the young ones remain and care for the brood. In a day or two I cut out all queen cells, and give the new colonies a vigorous queen. The bees always unite without quarreling, and I have never found any trouble in introducing a queen to them.

By the above means I prevent swarming and while forming a few new colonies, do not weaken the old ones enough to impair their honey gathering powers.

The new colonies always build up strong enough, and gather stores enough to enable them to winter safely, and in a good season will yield quite a large amount of surplus. I have made use of the above plan for years, and it has been invariably a success, and while others may obtain equally as good results by adopting some other, I hardly think they can make use of one more simple, or that will take less time or cause less trouble.

As I am actively engaged in my profession, (that of law) I am obliged to economise my time, and have endeavored to so systemize it, that I may give all the time needed to my apiary, and still not encroach upon the time I must

devote to my office. In order to do this I have been obliged to do away with natural swarming entirely, as the swarming season comes just at the time when I cannot give much attention to my apiary. My office hours are from 8 to 5, and I find that I can give all the time needed or required by my apiary to it, morning and night, and that too, when I have from 12 to 20 colonies. Were it not for system, or if I allowed my bees to swarm naturally, I could not do this, and if I could, I should like others, lose a fine swarm occasionally, besides having the bother of constantly watching the apiary during the swarming season. I trust that others will give their experience (theories I care nothing for) on this important subject, for "from a multitude of counsellors comes wisdom."

Foxboro, May, 1883.

For the New England Apiarian.

Wrinkles.

JOHN H. MARTIN.

No. 1. It is sometimes very handy, when we do not have tools at hand for a special purpose, to know how to make a substitute. For instance it is very necessary to scrape off portions of our hives and especially the bottom board. A very good scraper is sold by our dealers, but quite as good a one can be made from an old mowing machine section. Punch a hole in the centre and insert a 3-8ths inch iron rod about eight inches in length and you have one equal to a bran new one, and at no expense except labor.

No. 2. Bee-keepers frequently have to move one or more swarms of bees, in frame hives, upon quite sudden emergencies. We have no sticks to place between the frames. We find a few wads of paper inserted between the frames answers every purpose. Paper put in properly is better than sticks; there is some spring to it and when wedged up there is no wiggle to a single frame. We have also used pieces of old carpet; place a piece in each end, and form a fold between each frame until all are in.

Hartford, N. Y., May 5th, 1883.

For the New England Apiarian.

Queen Rearing.

J. B. MASON.

The subject of queen raising is one of great interest to bee-keepers, and especially so to the beginner, as he is of course anxious to try his hand at this specialty of apiculture. While there are many methods in vogue, the general principles remain the same, and he who understands the laws which govern the reproduction of queens, by the bees themselves, can easily make the matter a success by making use of most any of them. However much difference of opinion there may be as to methods, it is generally agreed that in order to obtain large, healthy, prolific and long lived queens, they should be raised from the egg, and fed on that highly concentrated food, called "royal jelly," from the time the egg hatches till the cell is cealed up; at any rate I myself became convinced that such should be the case, long years ago, and have never seen any reason to change my opin-

ion then formed. I do not propose, in this article to give general or special directions in regard to practical queen rearing; but merely to give a few plain, simple ideas in regard to the matter, which may assist the beginner and enable him to rear a few nice queens for his own apiary, and thus satisfy himself that he can do it anyhow. For a special treatise on the subject, I would refer the reader to Henry Alley's new work called "the Bee-Keeper's Handy Book." This work can be procured of Mr. Alley at his home in Wenham, Mass., or of Mr. W. W. Merrill, Editor of the N. E. APIARIAN. Price, in Cloth, $1.25. Although I consider Mr. Alley's methods are rather complicated for a beginner who merely wishes to rear a few queens. I think the work a good one, and that it will amply repay all bee-keepers, novices as well as experts, to peruse its pages. In raising queens, the first thing to consider is the form of nucleus hives; many advocate the use of a small box for that purpose, the object being to use the smallest possible quantity of bees to stock it with. It may be for the advantage of the general breeder, to adopt this plan, if not for the advantage of his customers; but I believe all queens should be reared in large colonies, even after the cell is capped, for thus only can they obtain the requisite amount of heat to cause them to hatch out strong and vigorous. I shall describe the size of nucleus hive I use, and the description given, will relate to that size, but the methods described can be equally well used in any other size of hive. The boxes or hives I use for nuclei hold four frames, 8 1-2 by 8 1-2; two of which just fill the inside of a standard L. frame, and I use that size for that very reason. The first thing we want after choosing the hive, is the queen mother; she should be as near perfection as possible and the very best one in the yard. Her workers, to fill our idea as honey gatherers, should be swift of flight, hardy, vigorous ,long lived, of pleasant disposition, and last of all, markings; which is of the least consequence. If we have such a queen, she is fit to use, if not one should be purchased from some reliable dealer, regardless of price, as we should obtain the very best we can procure to breed from, When upon examination we find capped drone brood in our strongest colonies, we may commence operations by placing an empty frame of comb or foundation in the centre of the stock containing the choice queen mother. If convenient this frame of comb should consist of two of the small frames just described, fitted into a regular L. frame. On the fourth day after putting in this frame, we examine it and see if eggs have been laid in it, if so we take an extra hive with division boards containing three or four frames of comb, one of which should be well filled with honey or syrup; we now take the frame of eggs from the queen mothers hive, and if it contains two of the small frames, place one half in an empty, full sized L. frame, beside another of same size of empty comb or foundation. If the regular frame did not contain small frames then cut out one half the comb and fit it into a small frame, using the other part for another frame in the same manner; now place the frame of eggs

in the centre of the new hive between the former, one empty, the other containing honey; first cutting a 3-4th inch wide strip, lengthwise out of the comb containing the eggs, being careful if the comb is new to have a small bar in the centre of the comb as a support for it. Cut out two such strips, say two inches apart, place in the hive, put on the covering and cap. Then take from some strong stock, two frames, being sure not to take out the queen; place the newly prepared hive on the stand occupied by this stock. Shake the bees off from the two frames of comb in front of it, replace the frames in the old stock and remove it to a new location. On the eighth day after this cell rearing stock was formed, examine it to see how many cells can be removed and for every perfect cell that can be taken out safely, we can form a nucleus, by taking a frame of brood from any stock we wish, cut the comb out of the frame and place in two of the small frames, each nucleus must contain, when ready for the bees, one frame of brood, one of honey, and two of empty comb or foundation. Our nucleus being ready we can take the bees with which to stock them, from any strong colonies we choose, I would shake directly into each nucleus, all the bees from two or three frames; being sure not to get the queen.

Close the nucleus and as soon as possible, place it on the stand it is intended to occupy. On the 11th. day from the day cell building was started, we take a sharp thin bladed penknife and cut out the cells, being careful not to cut so close as to injure them, but if one should get cut, we can repair it by pulling over the wound a thin piece of wax and carefully pressing it into place around the edges of the cut; collect the cells in a basket of wool, placing them with points down; one cell should be left in the frame, the rest are cut out of, and the queen will hatch and build up the stock and make it strong and vigorous, or she can be removed and another set of cells can be built in it. Never allow a colony to build more than two sets in succession, and I should prefer that they should build but one. The remaining cells can be carried to the other nucleus, and if the weather is warm, and there is a large number of bees, they can be put on top of the frames to hatch, the ends pointed down between the combs; if it is not quite warm take out one of the frames, the one with the brood, cut a hole in it, exactly the size of the top of the cell and long enough so that the end of it can hang without touching; carefully press the cell into this hole, replace the frame and cover up the hive. On the fifth day after the transfer, examine, to see if all cells hatched; if any are not hatched, destroy them and give others in their places. These small colonies should be supplied regularly with food every day, as they cannot be expected to gather much stores for themselves; the young queens will ordinarily fly out to meet the drones from the 5th to the 12th day from hatching, but may delay to the 18th, and even to the 20th before mating, and in some instances have been known not to mate before 26 days. The fact that they have mated can easily be ascertained by examining for eggs. No queen should be removed from the nucleus till she has commenced to lay and they usually be-

gin laying the 2nd day after meeting drone. I have said nothing in this article about controling drones, as it is a very complicated matter and will not be expected by the class it is intended to to assist, and besides I am largely inclined to the belief that queens mate, quite a distance from their own apiary as a general rule.

Mechanic Falls, Me.

For the New England Apiarian.

Fertile Workers.

F. D. WELCOME.

These starnge (but occasional) inmates of the hive, are simply worker bees that lay eggs; but they only serve to hatch drones, and never worker bees. These drones will be found to be some smaller than those of the queen, for various reasons perhaps, but they are drones nevertheless. We may say further that fertile workers are generally considered as undevelloped females. This has been proved by misroscopic examination. The undeveloped germs of nearly every organ found in the queen, could be seen, and these germs may become developed in such a degree as to allow the bee to lay eggs, but they are never fertilized by the meeting of drones as the queen is. Fertile workers may abound in any hive where the bees have remained queenless for several days and they have given up all hopes of raising a queen. Some may say that, and speak of this thing as the worker bee etc., but I believe that the best writers claim that there are several of them in the same hive. Their presence will be discovered by the finding of eggs scattered promiscously in from one to perhaps a half dozen in a single cell. These eggs will be found in an irregular manner in the cell, some lying on their side, others standing on end and leaning against the side of the cell, others all right and so on. There may be seen a queen cell drawn out over one or more of these cells, showing the bees know that there is something wrong and they are trying to right it, but in vain, they must die unless they have help. Now the question is, how shall we get rid of these Fertile workers? We would say that a great deal has been said about the difficulty of this job, but we have found it easily accomplished by simply giving a queen cell, or introducing a laying queen in regular form. I had one Nucleus of bees last year that became queenless, and fertile workers got into it in a bad mannes. The had built cells and fed royal jelly etc., but after we tore down their works and dug out their jelly, they accepted a queen very readily. The same has been our experience in all other cases. Now Mr. Editor, I don't wish to take up more of your valuable columns, so will only touch lightly on this subject, hoping that others may write their experiences, so that we may take the good of all, as we will doubtless soon have to deal with the Fertile Workers.

Mechanic Falls, Me.

SELECTIONS From Our Letter Box.

Buckfield, April 30th. 1883.

Editor of the APIARIAN.,

Dear Sir:—As I was not at the meet

ing at North Paris the 25th, on account of the bad traveling, I will say a little in regard to hives and frames. I have used for ten years the National bee hive; 21 inches high; how is that for high? This hive is a side opening one, frames from top to bottom, 20 by 11; now I think I know what it is to handle a long frame full of comb and honey. Some speak of bees working up to the top, my bees all died this winter before they got there. Now, realy I do not think that the length of frame was the cause, but however I do not like the frame nor never have, I have transferred hundreds of swarms from all kinds of hives, also from the forest, out of logs; have taken them out of trees that were down and have always noticed that the combs were straight and nice. When I have taken them out of a standing tree they were in all shapes, but in all the shoal frames I have ever handled, are straight and very easy to handle. I like the L. frame the best of any I have ever seen, and shall use it in preference to any other. I have and shall advise all others to use it, as I am satisfied it is the best. Considering the use of the hive, it suits me very well. I am not in the bee business at present, like most of those that write for this Book, but am just as interested, and I want to help encourage it in every respect, I also want to encourage all beginners in the business. Now the trouble with those using box hives, is this, they think they cannot handle their bees in frames, still they can see the success of all the improvements. Now any one that thinks they cannot manage this to perfect success, I will help them free of charge, and show them that they can do just as well as the best of bee-keepers. A man tells me that bees are of a wild nature, and nature has done all for them that can be done. Nature has done a great deal for bees as well as every thing else, some may say by many other things. For instance, our crops will grow, but without some labor with it, (nature) we should fall short in every respect of getting much profit.

J. S. MORGAN.

For the New England Apiarian.

How welcome a sunny day is to us, although they are few; and as yet cold and windy weather is the rule. It has been said by many long experienced bee-keepers, that it was a waste to breed many bees before the 1st of May, and still they believe in strong stocks early in the season. Now its a fine job to attain exactly such a point, and no more. But for me I have been feeding for brood for six weeks, and with the cold weather, I believe I hit the nail fair on the head. And as they (as many others had to be fed or starve) they would breed in spite of us. My bees are all in prime order, but the one swarm that I did not transfer, but fed sugar cakes on the frames, but they are on the gain, and I have just given them a good cake of hatching brood. My swarms all have prolific queens, and doing good business, and so are their bees. How pleasing it is to have swarms early, but we often have them so late that in the old fashioned way where foundation was not used, the swarm had no chance whatever. Now

I shall look for (or make) earlier swarms. No doubt by a little early feeding. Just now there is great excitement about pure Italians. It is a well known fact that we, in order to get a pure breed must breed from the same Family and legacy in power and ambition will be the result. I had last season, one stock, as fine shaped and colored Italians as one could ask, but I must honestly say they were far in the rear, of any others in my yard of 18 stocks, for honey gatherers; while a swarm of what many call Italians (Hybrides) would gather 3 lbs to 1 of their Italians, and as to handling, I don't see but little difference. We can make our bees about what we wish; if we want gentle bees we must not knock the hive every time we pass it, or before we open or manipulate it; only think how you feel when you bump your head so as to see stars, where there are none; or how you feel if even an apple drops from a tree on it unawares and of course we have more reason than the bees. Especially do I believe we can affect the disposition of queens, while the cells are being built. We cannot be too easy and careful at such times. It costs no more to breed Italians than Hybrides, and the question is, shall we breed for looks or business? As friend Doolittle says, the Italians are his favorites but I find where I have visited bee-keepers, that the Hybrides are ahead as to both stores and bees. One friend in particular showed me a swarm that he said beat all he had, and they were pure Italians. Went there and saw them, and low, they were not more than half Italians. He said they were good to handle, and bred very fast, and he was going to raise queens for his own use from that one. Now like false teeth, what shall we have them for, looks or business? Where do the facts come in? We often hear the remark that for queens to sell, we must have pure Italians, but for business, the Hybrides are a little ahead. Now will not such a course tend to run down bee-keeping in time? or will the new queens, from the old ones sold about the country, mate enough with the blacks to keep up the cross, and produce the industrious Hybrides? I don't wish to infer that Italians are all lazy, but when we say pure, we are on a track that will run us against the wall in time. I never have seen the new races of bees, and by what is said of them I will let them alone. But I am interested for the people as to the best bees, as it is very important with our short honey seasons, to have the best workers, and at same time, bees that will endure our cold winters, and when we find such a queen, why not take some pains to try a few queens at least from them, but drones from some other queen, to shut in all drones from such as we dislike, at the time of queen flying. I for one will take this course, (if they do not resemble butter,) we will have pepper and salt with lots of honey. Friends lets have friendly talks on this subject. Now a word about foundation; its no easy job to fasten it to the wires so but what it will in time start off in places, if kept out of hives long after being set. I use a wire in centre, instead of tin. I double the sheet of foundation enough to run it down through the frame each side of the

middle brace wire, then the whole frame all over and tuck the ends of foundation under the fine wire near ends of frame; then I lay the frame on my board (fitted to just fill inside of frame) and hammer the foundation to the middle (large wire) so that it cuts nearly through, then I use my creased setter, not all the way along the wires, but skip short spaces and press down firmly. This last does not cut and weaken the foundation as when run the whole length. By running the foundation through thus it is stayed much better, here I will say, the large wire, will take the place of wide tin, I think nicely, or at least I like it much better. I keep a number of sheets of paper on the woolen cloth over the frame under the cushions and its just the thing, these cold nights to keep the bees on the brood, and if it gets too warm, days, I can turn the ventilator, but no trouble of heat yet (eh)?

E. P. CHURCHILL.

North Auburn, Me.

For the New England Apiarian.

NOTICE.

Bee-Keepers of Maine.

Bee-Keepers of Maine, and the Maine State Agricultural Society: Brother and sister bee-keepers; the aforenamed society give to the bee-keepers of Maine, double the amount in premiums ever given for this purpose before; they will also give us a seperate room or department in which to display our bees and fixtures; they will also furnish us with a wire tent in which we intend to have the different races of bees manipulated daily, and we shall be allowed also to sell bees, and everything else in this department, on the last days of the exhibition, if we wish. The trustees of the M. S. A. Society, have treated our committee very gentlemanly and will give us everything we can justly ask. Now brother bee-keepers (do not say, we will let others attend as we have nothing to exhibit that will add to the diplay) let each and every one of us resolve to carry something of our own to be placed in the bee and honey department. The premiums will cover the different articles and fixtures so that no one person can get but part, giving us all a chance to compete.

The President and Trustees of the M. A. Society expect this to be one feature of the Fair, next fall, and if we do our duty and all contribute all we can, we will surprise the people of this good State of Maine, as well as the officers of the Fair, and please ourselves, also advance apiculture in Maine so as to compare favorably with the other States. Now is the time to make preperation; select some branch or feature, some colony of bees or some of the different fixtures pertaining to this industry and work it up so as to have it ready for the Fair, next fall. The premium lists will be sent to all bee-keepers who propose to exhibit as soon as published by making application to Chairman of Committee.

H. B. Cony,
Isaac Hutchings,
William Hoyt. } Committee.

For the New England Apiarian.

The Maine Bee-Keepers Association held their spring meeting at Dexter, last Thursday. President Additon called the meeting to order at the appointed time. About twenty-five bee-keepers were present at the roll call; after the regular business was disposed, Wm. McLaughlin, H. B. Chapman and Lucien French were appointed as a committee to devise a course for forming County Associations, also to locate the next meeting. The death of Bro. Torrey, was announced and a committee raised to draw up resolutions. A few more bee-keepers were present at the afternoon session. The committee on County Associations, presented the following. "Your committee on County Associations, would respectfully report as follows. That this association would earnestly reccommend and urge the bee-keepers in the different Counties, to organize County Associations as a means of forwarding the interests of apiculture in our State; also we would reccommend that the next meeting of the State be held at Augusta, on the time of our next quarterly period." The committee on resolutions presented the following.

Resolved. That in the death of our late associate, Bro. R. S. Torrey; the Maine Bee-keepers Association has met with an irreparable loss; for no one in Maine, in our opinion, so well understood the nature and habits of the honey bee, as he.

Resolved. That this Association extend to the widow of our late Brother, our warmest sympathy in her great affliction.

Resolved. That copies of these resolutions be furnished the press for publication, and that the Secretary be directed to send an attested copy to Mrs. Torrey. J. W. Hodgkins, W. Chapman, E. A. Robinsonn, Committee.

The following resolution was unanimously adopted. Whereas it appears from letters received by the Secretary, that in two instances at least, a dealer in Massachusetts, has sold to this State, stocks infected with foul brood; therefore, Resolved. That we, the Maine Bee-Keepers Association, denounce such dishonorable transactions, and we advise the members of this Association and others interested in practical bee-culture, to fight shy of one who invites customers, through the Journals under the guise and name of "fair dealer" and then will be guilty of such unmigitated crookedness in his transactions.

Essays were read by H. B. Chapman, Mrs. Lizzie M. Crockett, Dr. McLaughlin. The members present were requested to report winters losses, depth of frame used etc., which was substantially as follows:

Depth of Frame; 9 1-8 in., No. last fall, 140; No. this spring, 126; No. lost, 14.

Depth of Frame; 11 1-4 in., No. last fall, 81; No. this spring, 62; No. lost, 19.

Odd sizes of frames; No. last fall, 26; No. this spring, 9; No. lost, 17;

Box Hives; No. last fall, 47; No. this spring, 34; No. lost, 13.

Total No. last fall, 294; Total No. this spring, 231; Total No. lost, 63.

The next meeting will be held at Augusta, August, 9th and 10th, 1883.

WM. HOYT, Secretary.

For the New England Apiarian.

What is Honey.

In the last APIARIAN, I noticed that one of the contributors, John Aspinwall, understands the nature of the honey bee and the *modus operandi* of honey production, therefore I would respectfully request him to give, through the columns of this Journal, the complete answers to the following questions:

1. Of what is the nectar (?) or fluid found in flowers, composed?

2. What are the chemical constituents of honey?

3. What change do fluids ungergo in being converted into honey by the bee?

4. What is the peculiar aroma of honey, and how is it produced?

WM. MCLAUGHLIN.

Harmony, Me., Apr. 27th, '83.

Barrytown, N. Y., May 1st, '83.

Reply to Dr. McLaughlin.

1st. question: Of what is the nectar? or fluid found in flowers composed?

Answer. When speaking of nectar, from an Apiarian's point of view, we refer to the substance gathered by the bees, before it is evaporated to the consistency of marketable honey. Nectar is what might be called raw honey. It has all the properties of honey, but with a greater percentage of moisture, and perhaps a stronger aroma than the marketable honey. This aroma disappearing during evaporation to some extent. From the fact that the Dr. has placed an interrogation mark after nectar, I presume he doubts the existance of such a substance, but if he will glance at Webster's Dictionary, he will find the following; Nectar; (Bot.) The honey, and other sweetish secretions, of the glands of plants.

2nd. question. What are the chemical constituents of honey?

Answer; Honey is comprised of three substances or elements; Dextrose Leoulose and Saccharose. The first is what is known as Grape Sugar, and has the formula C6, H12, O6. In honey, this forms the Solid Crystalline portion, (with saccharose) and is known in commerce as Glucose, it is less sweet than cane sugar. The second substance, Leoulose, has the same formula as Dextrose, but is distinguished from that substance by the fact that in the Polariscope the plane of polarization is turned to the left while in cane sugar and dextrose it is turned to the right; this substance with an equivalent amount of dextrose, constitututes what is known as invert sugar and here rests the difference between Honey and beet or cane sugar. One turns the plane of polarization to the left and the other to the right. Therefore, before Dr. Mc Laughlin can make honey out of granulated sugar and water, he will have to introduce Leoulose into the mixture. Leoulose constitutes the crystalizable portion of Honey or nectar NOT PRESENT in any perfectly crystallized sugar, nor in water. The third substance is Saccharose, with formula C12, H22, O11. This is cane sugar and is found to some extent in honey. The only plants I believe which secretes saccherine to any great extent, are the cactuses,

This substance turns the plane of polarization to the right. The influence of Leoulose in honey is so strong that it entirely overcomes the tendency of the dextrose and saccherine, and the result is the plane is turned to the left.

3d. question; What change do the fluids undergo in being converted into honey by the bee?

Answer. By the proof in the last answer "fluids" here can only refer to nectar or raw honey. The bees convert this into honey, or ripe honey, by evaporation, which removes the moisture and reduces the rank aroma. No other fluid but nectar can be converted by the bees into honey as no amount of evaporation would produce a percentage of Leoulose.

4th. question; What is the peculiar aroma of honey, and how produced?

Answer. The physiology of odors. is an intricate subject and one with which your humble servant is not acquainted. But there is one thing certain; honey has a distinct odor while pure granulated sugar has not, at least I can't smell any. The same cause which produces the scent of flowers is working in our honey to give it its characteristic odor, for White Clover honey has its aroma, which is different from the aroma of Basswood honey. If Prof. Cook can give us a scientific reason for odors of plants and honey, it would please, I think, a great many. However what I was to prove was, that when bees gather GRANULATED SUGAR SYRUP, we do not get HONEY as the result of their labor. I refer Dr. McLaughlin to all the modern works on the bee, and he will find that the honey bee is simply a gatherer and storer, and NOT A MANUFACTURER of honey. The flowers are the producers.

JOHN ASPINWALL.

P. S. Will the Dr. let us know through the APIARIAN, whether he thinks I am right or wrong.

For the New England Apiarian.

A Standard Frame.

Read at the Western Maine Bee-Keepers Association, at North Paris, April 25th.

Mr. President, and members of the Western Maine Bee-Keepers Association; The subject of a Standard Frame, I regard as one of vital importance to us here assembled and consequently to the fraternity of bee-keepers wherever they may be found. The people in our own State are just waking up to the importance of bee-culture as an occupation, and are just commencing in a scientific manner to carry it on. As yet but few frame hives are in use in our State, and for that reason we can to-day work up the feature to a large extent, by discussing, and by adopting a standard for this portion of it. As but few frames are in use, and we as an association can by union and labor, carry great weight with not only beginners but those who are just learning the scientific methods which are making apiculture a leading and a paying business. If we unite in adopting a frame, and urge upon all bee-keepers in the State the necessity of taking the frame that we adopt as a standard, we certainly shall carry our point. We can see at a glance that if there was but one sized frame in the State, great good would at once accure. This matter of odd sized frames over the States makes fully as much trouble among us as bee-keepers, as is found in our own apiaries where we have several different frames, we all admit the necessity of having but one frame in our own apiary, and well know the extra trouble and labor that comes from having more than one

size. Now as in our own apiaries, so it is among us as brothers. If we desire to exchange, no standard having been adopted, unless we fortunately exchange with some one who happens to have frames of the same size as ours, we at once throw ourselves into confusion and trouble at once arises. In making sales, either of full colonies or of nucleus, with a standard size, we make no confusion, and better prices will be realized from that very cause. I might go on and explain this matter fully, and give you reason after reason, why a standard should be adopted, but your own intelligence is already convinced, if it was not before, so I forbear troubling you further in this direction. Believing as I do that you are convinced of the necessity of adopting some standard, the question at once arises, what standard shall we adopt? Of course it is not expected that we shall get up a new form or style, there are plenty for all practical purposes now; we must then take one of the styles now being used, and perhaps some serious thought and consideration should be required before we take so serious a step. As for myself I have considered the matter fully and in all its hearings, not only as it applies to us locally as a State, but in the effect that our choice will have when the whole county is taken into consideration. The frame for us to adopt is the one that has been fully tried by practical men and passed their criticisms and judgement, as containing the most good, and the least poor points of any in use; how then shall we ascertain what frame is as I have described, we can easily do this by looking the Country over, and when we find one that is more in use than all others, and one which is now fast superseding all others, we shall require but little time in making a choice. Let me urge the members of this association to give this matter their careful and earnest attention, and if they deem the matter of importance to give it the sanction of their choice by a unanimous vote,

J. B. MASON.

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

Artificial Swarming.

Read at the Western Maine Bee-Keepers Association, at North Paris, April 25th.

This is a very important work in the apiary, and in order to meet with the best results, there are many things to be done. We must feed for brood rearing, early, that we may have plenty of young bees in all stages at the time of swarming, for one reason if none other, and it is this; young bees will mark a new stand and subject to a change much easier than old ones, and too if our combs are laden with brood, and thousands of bees just issuing from the cells. They of course are at home anywhere. Now if our object is to get all we can from our pets (especially after the unusual bee mortality,) it is of great importance to have bees strong as early as possible, either for swarms or surplus. As there are a number of plans for Artificial Swarming, we are sometimes at a loss to use or to adopt the best method if one, take a part of the bees and brood from only one hive, there is always more or less friendly robbing from the two either way as they are of the same scent and both stands are marked by the bees, but there is a remedy for this, I have devised, thus, take out one or two frames of brood with bees adhering, and put into a new hive and add what frames of comb or foundation I think proper, then set division in place, and stay the frame sufficient to be moved away two miles; I let it remain a week, then take it home and they will stay where they belong This dividing should be done about dark so as to get young and old bees alike. Now we leave the old stock queenless, and unless they are getting ready to swarm, (which I prefer they should) by starting queen cells, they will at once start cells from the oldest larvæ, that will furnish them a queen at the earliest possible time, but such a queen is worthless as they are sure to be short lived and perhaps only drone layers, therefore unless they have cells nearly ready to hatch in the natural manner I introduce a laying queen at once and I fimly believe it pays many times the cost rather than have the old stock minus a laying queen two or three weeks besides to risk her being lost in her flight which would run the swarm down to an untold condition But, says one he has an axe to grind, for he sells queens, but if any one chooses to try their hand at such delays as the above, they are at liberty to do so, but friends, when a queen lays even no more than one thousand eggs per day you can easily see the stress of my statement. I am sure it will pay even at a fair price to have laying queens at all times.

Where one has a no. of swarms all in one size of frames, I prefer to take say one frame from a no. of hives and place it in a new one, (brushing bees off in the old hive,) then set the division boards to suit, and set this on a stand from which we remove a strong swarm of course we brush all the bees off when we take this frame of brood; this must be done in a warm day when the bees are at work. There must be a queen introduced into the new hive, or a cell about to hatch, though not the latter until three days have passed, as they would be almost sure to destroy the cell, before they found the loss of the queen on being subjected to the change. There can be an empty comb or frame of foundation hung in the places of the ones taken to make the new swarms, but in this process the bees may rob and cause us much care, if they will not attend to their own business, we can exchange hives and this will usually settle all such difficulties. If this should fail, I stay the frames and take them away two miles, after dark. Oh! says one, that is altogether to much trouble and bother to suit me, but only hold a moment and see; now in natural swarming, we find the bees are almost ready to roll out by the bushel, or at least we think so by the cluster outside the hive, day after day. We go to see them; still they are idleing away the best few weeks of the season, until perhaps a few cold rainy days drive them in, and down goes their queen cells (if there were any,) then in a few days, that awful cluster is out and at the same old game all this time, the women and children are told to look after the bees, for we don't want to loose them. Finaley some warm day when John is over in the back field, the horn is sounded the bells rung as a watchword that the bees are on the wing. John runs as though a blood hound was close on his track, well he finaley reaches the yard, and lo he has lost the inmates of both house and hive. Where under the sun are they? Now while he is almost in despair, he sees away over yonder his family hurrying towards home, hats off and their faces looking as though our Maine laws were not on the temprance side. Says John "what's the matter," why that great swarm has gone, I guess ten miles; we run ourselves almost to death, but they left us all out of breath, and patience to. "Well" says John, "I'll try artificial business after this, queens or no queens" and Mrs. J. says that swarm has taken all my time that I intended for picking berries, for mind you this swarm has been idle in that way nearly all summer. Now friends which is the best mode? I never had a swarm hang out for I look right after them and give them proper ventilation and shade, and surplus quarters. In all cases we must have a strong swarm or swarms. It's of but little use to think of making swarms too early, as they will only drag along and loose the best part of the season. Lets keep in mind that for business we must have thousands of bees; and that quality not quantity is the motto.

E. P. CHURCHILL.

North Auburn, Me.

For the New England Apiarian.

Western Maine Bee-Keepers Association.

BY DR. J. A. MORTON,

The above named society was organized Feb. 28th 1883. Its officers and members are earnest and enthusiastic bee-keepers and are bound to do all they can to elevate their calling to its proper place among the growing industries of Maine. The constitution and by-laws are about the same as other bee associations. also their objects and plan of operations. Their meetings are to be holden quarterly, the last Wednesday of Feb., May, Aug., and Nov., and one or two days, as deemed necessary. At that meeting only business and informal bee talk was had, and adjourned to meet with brother W. W. Dunham, at Grape View Farm, North Paris, Apr., 25th. According to adjournment, met at the above named time and place and called to order at 1 P. M., President in the chair. The roads were in a most wretched condition, almost impassible, yet a majority of the old members, some five or six new ones, also S. L. Boardman of the *Home Farm*, and H. B. Cony of Augusta, both members of the Maine Bee-Keepers Association, were present and cordially invited to take part in the meeting, which they did, adding much to the interest, and brother Boardman gave us a most excellent report in his paper, except in the matter of discussing the Standard Frame. In his warmth of the discussion, he mis-

took the feeling, and reported it to be that the L. frame is very desirable for use in the apiary during honey gathering and if cellar wintering is to be adopted, it would do for that, but for out door wintering it was too shoal. This was certainly contrary to the tenor of the discussion, which was that the L. frame was best for spring and summer, and as safe as a deeper frame for wintering in doors or out. This was proved by reports from Bros. Dunham and Mason, the former of whom wintered eighteen swarms on summer stands with a wind break as the only protection, in equal numbers Langstroths and deep frames, and treated alike in every other respect, with a loss of four in deep and one in shoal frames. He prefers the L. frame for all purposes and should adopt it. J. B. Mason wintered in the same manner, forty-seven stocks, thirteen in chaff hives, eleven in deep and twenty in L. frames, all managed alike in other respects and lost four; none in chaff hives, one in shoal, and three in deep frames. His idea is that the nearer you can keep bees to the bottom board during the winter, the better. The bottom board should be double as well as sides and ends, and bees should fill the frames from top to bottom, from side to side, when clustered in winter, if not from end to end.

Mr. H. B. Cony of Augusta has had long experience with different hives, and prefers a shallow frame. At the close of this discussion, which was enjoyed by all, the following resolution was unanimously proved; Resolved: That it is the mind of this Association, that the Langstroth frame is preferable to any other frame for all purposes, and we reccommend its adoption by all bee-keepers as the Standard Frame, so it will plainly be seen that brother Boardman's report of the frame matter was a slip of his memory and wholly unintentional on his part, and owing to the enthusiasm of the occasion, I forgot to say that the essay inaugerating this discussion, was read by J. B. Mason, on the Standard Frame; this was followed by an essay on Artificial Swarming, read by the President, its author E. P. Churchill not being present, and a spirited discussion followed. J. B. Mason's method of swarming is to take a frame of brood from five to eight different hives, no bees or queen, substitute new hive for a strong stock and introduce a queen cell just before hatching any, division boards and warm covering to keep the bees snug and warm, repeating this operation every four or five days if it can be done without weakening the other stocks. They must be kept strong if we expect any surplus. By this method all stocks are strong from the start, but to practise it, the apiary should contain at least eight good swarms to begin with, and no frame should be taken from the hive at the same time it is substituted for the new swarm, and each stock should be substituted in turn, beginning with the strongest. This discussion and some routine business, changing the Constitution and By-Laws, reception of new members etc., closed the session, and after a short intermission, and partaking of a splendid supper though no better than the dinner provided by Bro. Dunham and his excellent wife, at seven in the evening the readings and discussions were resumed. Col. Wm. Swett of South Paris was present, riding some six or eight miles, bad as the traveling was, and joined the association; taking an active part in its deliberations. Col. Swett is in the 80s, and a veteran farmer and bee-keeper, well known to all this region. He has kept bees for fifty years and is as young in heart and mind as the youngest of us; we feel proud of such men; they show us what we should be when we reach that age and experience. Another member, Mr. Sampson, nearly as old as Col. Swett was present, and as warm in the cause

as any; he walked six or eight miles across the country to be with us. We hope to meet these warm hearted old brothers at every reunion, and long yet may they linger with us in this life, and in that which is to come, obtain the reward of the just and true.

Last of all an essay on Bee-Pasturage for Maine, was read by the President, which was too long for insertion here, but well recieved and briefly disscussed as the hour was getting late. At about ten the regular session closed, after deciding to meet next time with Brother H. C. Wilbur, of Auburn; August 29th at 10 A. M., but some ten or twelve, still lingered around Bro. Dunham's pleasant open fire and talked on bees till a late hour. Next morning we were up before the sun and commenced the conversation as though every moment was too precious to be lost, but as all things, however pleasant, must end, so did this meeting. Messrs. Boardman and Cony took the cars for Augusta, bearing good wishes from us to their Association and an invitation to meet with the W. M. Bee-Keepers Association, whenever they could, assuring them of a warm welcome there. It should not be forgotten that at both meetings all present were most fully, hospitably and generously entertained, by Bros. Mason, Dunham and their families for which we tender our hearty thanks.

Bethel, Me., May 15th, 1883.

Special Notices.

☞Our question department, conducted by Mr. James Heddon, will probably prove beneficial eventually. This month we recieved the questions to late for insertion but they will appear next month. Questions in this depart-department should be sent, so as to reach us by the 1st of each month; as we mail them to Mr. Heddon and they have to be returned to us so as to appear on the 15th.

☞We have not time to insert the advertisments of the "Bee-Keepers Guide or Manual of the Apiary," by A. J. Cook, of Lansing Mich., also the Bee-Keepers Handy Book, by Henry Alley of Wenham, Mass. The Bee-Keepers Guide, will be sent by mail from this office, post paid to any address upon receipt of $1 25. The Bee-Keepers Handy Book, in Paper, $1 00 per copy; in Cloth, Handsomely Bound, $1 25. These are two books that every bee-keeper ought to have. Advertisments of these books will appear in the June number of the APIARIAN. Orders recieved, will be promptly filled.

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

☞If you have not already subscribed for the APIARIAN, do so now, and ask your friends to subscribe also. As this is the only bee magazine published in the New England States, it ought to be well patronized by all bee-keepers.

☞We want bee-keepers from all parts of the country, to send us articles for publication; how their bees are getting along, and anything that they think will interest our readers.

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