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## **Moon's bee world : a guide to bee-keepers. Vol 3, No 5 April, 1876**

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# MOON'S BEE WORLD,

—A GUIDE TO—

## BEE-KEEPERS.

VOLUME 3.

APRIL, 1876.

NUMBER 5

For the Bee World.  
HOW I MANAGE BEES, No. 5.

RAISING QUEENS.

REV. M. MAHIN.

It will pay any bee-keeper who desires to increase his stocks to raise queens, and make artificial swarms. I see from the Journals that some bee raisers express the opinion that natural swarms are better than artificial ones. I have not found them so. I prefer an artificial swarm properly made to a natural one. With me they have invariably done better, unless the natural swarm was supplied with empty comb, or with brood. But I did not set out to write of artificial swarming but of raising queens.

The first thing to be done is to select the stock to breed from, and remove the queen. If you have several swarms strong enough to spare a comb or two of brood and bees each, make up a new colony for your queen, or make any other disposition of her you may think best. In ten days, not

sooner, cut out as many queen cells as there may be to spare, or as you may want, and put them in cages. By careful handling all surplus comb may be cut away without injury to the cell, and it can be put into any ordinary queen cage. To fasten the cell in the cage put a little wax on the end of the stopper and hold it to the fire until partially melted and apply it to the upper end of the cell, fastening it in such a manner that it can be put into the cage in its natural position. Now insert the cage in the brood nest of a full colony having a queen. The best way to insert the cage, if the bees are likely to build comb, is to have an inch board the size and shape of a frame and made to take the place of one. In this board cut a mortice just large enough to receive the cage, and put it in the middle of the hive; or to cut out a piece of comb and insert the cage in the place of it. The comb can be put back again when the cage is removed. Leave the old queen in the hive until the young one is hatched.



Then remove her, and in twenty-four hours release the young one. It is safer always in releasing a caged queen to fix the cage so that some little time will elapse after the hive is closed before the queen will get out among the bees. If the bees are gathering honey this mode of introducing young queens will never fail, and very little time will be lost, as the young queen will be laying in a week from the time the old one is removed. I believe this is the best way to Italianize an apiary of black bees, or to raise queens for sale. I practiced it successfully last year, and intend to do so more largely this. The advantage of leaving the old queen in the hive until the young one is hatched is that no queen cells are started, and in twenty-four hours the bees have missed the old queen, and are ready to acknowledge her successor. If queen cells have been started they may destroy the young queen, or swarm. If honey is scarce it will be well to feed the bees a day or two. When honey is being gathered, or when the bees are being fed, they will always feed a young queen in a cage, even when there is a laying queen in the hive. If honey is not abundant they will let her starve. So it will be well to put a little honey TAKEN FROM THAT HIVE into the cage. If you wish to divide the stock do it as soon as your young queen is hatched.

Whatever race of bees may be kept some stocks will be found more productive than others. Some bees are more productive than others of the same race, and, no doubt, this quality is, in some degree, transmissible; and by always selecting the best to breed from we may improve the quality of our stock. In raising Italian queens

for myself I would select the most beautifully marked, OTHER THINGS BEING EQUAL, and always those that I believe to be pure; but gentleness and industry are the qualities to be considered before beauty. Gentleness and industry do not always go together. I have had some Italians apparently pure that were inclined to use their business ends (Josh Billings) pretty freely, but they were magnificent workers. I have had others equally industrious, perhaps, that could be handled in any reasonable way without becoming irritated.

I have now thirty-seven stocks in fine condition, nearly all pure Italians. I have wintered them on their summer stands, and have lost none.

*New Castle, Indiana, March 8, 1876.*

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For the Bee World.  
SIZE OF HIVES.

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H. H. TAYLOR.  
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In beginning an apiary care should be taken to adopt a hive of the proper size, neither too large nor too small, as an excess either way will affect the prosperity of the bees. A few remarks will therefore be made on the subject.

Much has been said and written by apiarians relative to what should constitute the true scientific dimensions of the hive without having arrived at any uniform conclusions thereon, every shade of opinion being entertained, from excessively small to excessively large hives. It is, of course, of the first importance to a proper and convenient management of an apiary that all the frames should be precisely of the same length and depth, and consequently that the hive should in these two respects be of uniform size;—no variation therein can afterwards be



made without deranging the manipulations daily required in the apiary. The width alone may be changed without this result, as this will require only a greater or smaller number of frames of the same size. The object in preserving a uniformity of size is to permit the transfer of frames from one hive to another, so that one weak hive may be strengthened by taking frames from a stronger one, and that the stock may be increased at will by transferring a part of the frames with brood and eggs from an old hive to a new one. A uniform national standard, as established in Italy, would be desirable, in so far as it would facilitate the apiarian in introducing hives from other apiaries without the necessity of transferring the bees into other hives having frames of the same size with those of his own.

The size of frames adopted by the most successful apiarians in Louisiana is  $17\frac{1}{2}$  inches long by 8 inches deep inside measure, this size being found the most convenient for handling as well as for the extractor. The size of the box or hive is made to contain nine or ten of these frames, each frame when in the box being distant from the other one and a half inches, measuring from the center of one frame to the center of the other. A box to contain ten such frames should be  $15\frac{3}{4}$  inches wide, nineteen inches long and ten inches deep inside measure.

Ten frames are as many as should be placed in one hive and nine as few as will be seen from the following considerations:

A box having ten frames contains 3040 cubic inches, each frame of the size given contains 140 square inches on one side of the comb only or 280

square inches of comb in each frame. This gives 2800 square inches for the entire ten frames. Each square inch of comb contains 25 cells, making the number of cells in the ten frames 70,000.

Now, as the longest period from the egg to the mature bee is about 24 or 25 days, (the time being 16 days for the queen, 21 days for the workers, and 24 for the drones), it follows that the cells may be filled every 25 days. The queen is said to lay between 2000 and 3000 eggs per day. Suppose the number, in the honey gathering and breeding season, to be 2500. This would give 62,500 eggs every twenty five days or so many cells filled, during which time they would become emptied by the hatching of the eggs and again ready for the queen to lay in. Therefore it is evident the most fertile queen cannot require more than this number of cells, at the utmost, for the purpose of propagation, leaving nearly two frames of surplus cells in the box beyond her capacity to fill; showing conclusively that no greater space can be required for her operations in the brood chamber. The two extra frames will afford sufficient space for storing what honey may be necessary for the support of the bees whose work it is to nurse the brood. A larger space or greater number of frames would be injurious, because additional room would only induce the deposit of more surplus honey in the brood chamber which ought as much as possible to be reserved for breeding; unless because the queen cannot possibly lay over a larger space.

This box should, of course, constitute the brood chamber exclusively. The surplus honey to be extracted for profit should be stored in an upper



box, of the same size containing the same number of frames, placed on the top of the first so that the two constitute one line of two stories, the upper box simply resting on the edges of the first so to be movable at pleasure, and the frames therein reaching to within  $\frac{3}{8}$  or  $\frac{1}{2}$  inch of those in the lower box. This would reduce the depth of the second box or story about half an inch making it  $9\frac{1}{2}$  inches instead of 10. Some have occasionally added a third and even fourth story. Experience must determine the utility of this. Perhaps when the bees are so numerous as to require more than two stories it would be better to divide the swarm and make two separate hives. By so doing there would be two queens instead of one, and as both hives would soon become as populous as the first, the number of workers would be doubled.

The above estimate is made on the supposition that a fertile queen will lay an average of 2500 eggs a day, and even at this rate the hive or brood chamber is found sufficiently large. The truth, however, probably is that considerably less than that number are laid on an average. Therefore there can be no possible advantage in extending the dimensions beyond those mentioned. Supposing the number to be 2000 a day, which is, perhaps, a fairer estimate, there would be left unfilled but three frames, not more than sufficient for the requisite amount of stores for the young bees and to compensate for the outer portion of cells in each frame which the queen would neglect to fill. Therefore it is equally evident that the hive should not be contracted within such limits. These dimensions being based upon the laying capacity of the queen

and about co-extensive with that capacity they would seem to approach as near accuracy as we are likely to arrive at. No doubt some changes should be made in a Northern climate for carrying colonies through the winter, but the philosophy and principles of wintering have little or no application in the South. The style or hive here indicated is adapted more particularly to extracted honey, the only shape in which it is prepared for market in this section and generally in the South. The superiority of extracted honey is, in every way, so great over the box honey that the time is not far distant when it will be exclusively prepared in this form for market, except perhaps in special localities where it can be raised and consumed fresh from the apiary. If, however, this is an error, and box honey is to be the only form in which consumers will receive it, then the business of the apiarian will shrink in importance and instead of a progressive, it will become a retrograding pursuit. It is the extractor in addition to the frame hive which has given to the science of apiculture its present growing interest, and which will bring it to that point that will justify it in being extended hereafter as a no inconsiderable element of national wealth.

*Pointe Coupee, Louisiana, March 1, 1876.*

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For the Bee World.

SCRAPS FROM ILLINOIS.

—  
WILL M. KELLOGG.  
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You Southern bee friends can not crow over us much this winter, for we have had so little cold weather that we are thinking of shipping in a cargo of ice (if we can find any) to cool our thermometers with; they keep running



so high we are afraid they will BUST THE CORK OUT and spill our mercury. On February 9th it was 60° above and on the 10th it was 67°; and our Illinois mud is almost hub deep. Of course our bees had to come out, got into some of our honey jars, paid the grocers a visit, and cut up to a great rate, giving us the "centennial" sting on one of our fingers. They would not touch sugar (dry) or flour put out for them.

I think they are breeding, as all fly as strong as they ever did in summer. We grabbed our old hat to swing it for the season of '76, but just before we hoisted it the thought popped in, How about springing them? Our under jaw lengthened out wonderfully. But we are going to try hard to carry the 12 stocks through to flowers if possible.

#### CANDIED HONEY.

When we first began to have it I did not like it at all; but now give me the candied article every time. We have a little of our '74 buckwheat honey left. It went through the winter of '74-5 and summer and fall of '75 thick and clear as crystal, and we crowed considerably about it; but now we'll keep still for it is so hard we have to take the dish in one hand and the spoon in the other, or else bite dish and all. I must own that you can get good honey in Dixie for we have some of that extracted by Miss Anna Saunders, and it is A No. 1, candied hard and white. It is hard work to convince folks that it is not sugar, though we are beginning to tell on them by offering to send it to a chemist and the one that gets beat to pay the expenses; while I offer to give them the honey if they come out ahead. I also offer them \$10.00 to

make an article that will granulate like honey. They do not take it up. We have some extracted honey that defies us to keep it clear. Have followed the directions of putting it in a boiler of water and bringing the water to near the boiling point. It clears it perfectly, does not injure the flavor, but it candies again harder than ever. The honey from Anna Saunders serves us the worst of all. It does not need skimming when clearing.

#### BROOD.

On page 94 you speak of the sudden severe cold killing the brood. We have the best of you there, for, with our bees packed with one foot of straw on all sides, we are ready for all such snaps. We only unpack the front to let them fly, and when the thermometer shows it is getting too cool we hustle the straw back in front, up goes the doors, and we say "Nix," Mr. Cold, you cannot have our little brood. This may seem as too much trouble, but it pays.

*Oneida, Ill., February 14, 1876.*

—o—

For the Bee World.

#### MY EXPERIENCE WITH BEES,

W. B. E.

MR. EDITOR:—As you seem to run a boat in the special interest of bees, and as there is so much said and written about them by all sorts of folks, I propose giving my experience as a warning to uninitiated. My aunt has an apiary of about 40 colonies; I have seen her so often, handling them with impunity, that I concluded there was no harm in the little things. One day a friend called to see the "new-fangled hives and bees;" but as aunt was not at home I undertook to carry him around and show them off myself.



In a few minutes we were in the apiary, and in all innocence I marched up to one of the largest stands and without the slightest warning to the inmates lifted the top. They rushed out by the thousands. I dropped the top on the ground and beat a hasty retreat. By the time we had finished extracting stings and wetting our faces in camphor, &c., my friend concluded that he had seen enough of the new-fangled bees, and gave them a wide berth for some time.

My aunt has an idea that bees from distant countries are far superior to our own "home spun," so she is continually sending to Yankee-dom for king bees,—gives from five to ten dollars apiece for them. I suppose she thinks they will boss our "home spun" and teach them Yankee tricks. Be that as it may, one day she received a couple by mail and introduced them to their respective hives. For fear that the hot blood in the Southern hearts might cause them to rebel against their Northern rulers they were left in their cages; and as she was going from home on a visit for several days she asked me to release them on the third day. At the appointed time I went down to release their majesties. I provided myself with a bee-bonnet, and lifted the cover of the first as I had before. They rushed at me but as I thought my veil impregnable, I released the king, but he stung me on the thumb. I let him go in a hurry, and stuck my thumb in my mouth. In doing so I lifted the veil and about "forty-seven" dozen got around my neck and on my face. As I knew it would never do to leave the palace of the ten-dollar king open to the weather I undertook to adjust the top; but it got contrary and would

not fit. I jumped on it with my feet, and the miserable little things rushed up my breeches legs to meet the fellows that were going down from my neck. There were not enough left to wait on his majesty. By that time I thought I had about finished with that colony, so I left. When I got to the house I was pretty much in the fix of Longstreet's Georgia major except (though I am not certain) I had on one shoe and my collar. I sent my compliments to his majesty of the other colony, and begged to be excused then and forevermore from having anything to do with their bee ships.

*Bangoodle Hall, Miss.*

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—O—  
For the Bee World.  
POINTS OF SUCCESS.

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JEWELL DAVIS.

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MR. EDITOR:—I have already claimed from past experience that bee keepers in general do not give as much attention to bee pasturage as they should.—if they did give their bees as much care in this respect as they do their cattle and other stock fewer failures would be seen in bee-culture, and prosperity would most certainly follow the investment. Who can successfully keep cattle unless they provide for them a sufficient amount of pasturage? Without this the cattle would be nearly worthless. The same is true concerning bees.

In days of yore we were taught to keep the colonies of bees strong if we would make bee-keeping a success, but it is evident we can not do this if they are not kept in the vicinity of a profusion of honey-yielding flowers. It is further evident that it will not do to cripple them in this direction on account of brood rearing, for if the sup-



ply of food is cut off breeding ceases and the stocks soon become weak from the continued loss of bees while out in pursuit of honey. Success means, here, more pasturage.

The next point of success which I will notice is our care of the bees early in the season. Under this point I call your attention to feeding, both to stimulate them to breeding and to keep them busy. Early breeding is essential to building up the stocks to their full capacity to gather the early honey harvests. If they are kept busy carrying in a little feed daily they are not so much inclined to rob each other and annihilate the weaker colonies.

The third point of success is found in so arranging and managing the bees that no colony will be more than three or four days without a laying queen. To let them swarm naturally is sometimes equivalent to the loss of seventy-five thousand bees; and if they precipitately take flight to the woods the loss may be equal to one hundred thousand bees. How is this to be remedied? I answer, By the improved systems of artificial swarming,—keeping all the queens breeding up to their full capacity. The new swarms are at once supplied with young vigorous queens.

All bee-keepers, both North and South should pay particular attention to these matters, and now is the time to begin in some localities to make the coming season a successful one.

*Charleston, Illinois, January, 1876.*

—O—  
For the Bee World.

OCCURRING THOUGHTS ON READING  
THE MARCH NO. OF BEE WORLD.

—  
WM. J. ANDREWS.

First on the list for this month comes our friend McLean,—and which reminds us of the fact that we paid a

visit to his apiary on the 22d of February. The day was somewhat raw, —too much so, we thought, to handle bees, but, notwithstanding this fact, friend McLean (or Doctor, as we call him) insisted upon opening and showing us some of his bees. If FANCY is the acme of perfection in the bee line the doctor can boast of it, for he undoubtedly has some as fancy bees as we ever beheld.\* But doctor, we have, as you are aware, abandoned the fancy and now go in for the WORKERS; that is, imported stock of Dadant and Brown. Though our queen from the latter has not yet arrived, we have been notified of her time of shipment, and ere these lines fall before your eyes we will doubtless have beheld her, and when we do we hope and trust that we will be more favorably impressed with her than we were with Miss Dadant. But we find ourselves rambling. Doctor McLean's apiary is situated between Culleoka and Campbell's Station, on the L. & N. & Great Southern Railroad. The surrounding country being heavily timbered land, abounding with poplar and linden, affording a large of natural pasturage. He has, in his opinion, as good a location as can be found in the South, Florida not excepted. The doctor possesses considerable ingenuity, having exhibited to us a hive (patent but no rights for sale) and an extractor of his own invention. Of these we would like to speak but fear we will make our chat too long. At the doctor's we found complete files of BEE WORLD and Gleanings, which we had the pleasure of looking over. Our visit was altogether a very pleasant and agreeable one, and we hope to be

\*We have some of Mr. McLean's stock, and they are not only handsome but good workers.



able to pay him another during the coming honey season.

Well, friend Mac., here's my hand on that "lasting debt of gratitude" that we bee-keepers owe to such men who have been such benefactors to the cause of apiculture; and allow me, friend Mac., to suggest that we in part make a portion of the payment of that debt to him who stands preeminent as one of those benefactors, Rev. L. L. Langstroth, by each of us sending him a colony of our best bees this fall. What say you? I believe I can give your answer now. While I have said nothing of it, nor did I intend to, it has been my settled purpose to do so for some time past.

"Chinese mode of taking honey" reminds me of a neighbor, a business man, whose family reside immediately over his store, and, not being possessed of any yard room, but being desirous of keeping a few bees purchased two hives which he has placed on the top of his roof. His building is a two-story brick, covered with tin. We shall note his success or failure. We rather predict the latter.

Rev. M. Mahin says, "Occasionally a swarm will be found queenless." This has occurred with our bees to a greater extent than we ever knew before. We found several queenless hives in February to which we gave brood, and they have all hatched out young queens. Whether they have become fertilized or not we have not as yet ascertained. The loss of bees in the early spring by those using the box hive, and which their owners cannot account for, is frequently, if not in every instance, attributable to the fact of the loss of the queen.

In regard to robbers we would say that we have been experimenting by

trapping them. To do this we close up the entrance to the hive, and bore an inch hole about three inches above it. In this hole we insert a funnel-shaped tube which, at the large end, just fits the hole, and at the other is just large enough for a single bee to pass through. This we have made of tin. It allows all bees that are disposed to enter to do so, but prevents any from leaving the hive. By keeping the hives thus closed for several days we trap the robbers and they become of the scent as the bees that rightfully belong therein, consequently accept it as their own domicile and when delivered from their confinement will defend it with as much energy as they displayed an eagerness before to rob it. We have also heard it suggested that if the entrance to the hive be closed so that only a single bee can pass through and a piece of cotton saturated with camphor tacked immediately over the entrance it will dispel them.

We are much of your opinion, Mr. Kellogg, in regard to the "hue and cry against extracted honey" being sugar syrup. You say that "the people are not fools, generally, and they put this and that together and make out a pretty strong case against us;" but here we are not much of your opinion, for generally we have found "the people," not engaged in bee-culture, if not fools at least very ignorant on everything pertaining thereto, and, as you say, show their ignorance upon this very point, for "they can be fooled on comb honey, for that can be doctored as well as anything else."

How many of the people, outside of bee-keepers, can tell you anything about the queen or drone bee, or, in a word, anything of the physiology of the bee?



Mr. J. G. Thompson has never yet SEEN any of those big yields of honey; neither has he ever seen anybody who HAS seen them. Like him we have never yet seen any of those big yields of honey, but we have seen those who have seen them, in the person of Mr. P. W. McFatridge of Carthage, Indiana, who paid us a visit a few days since. Mr. McFatridge reports a yield of 8567 lbs. from 44 colonies, in Vol. 3, No. 4, Gleanings.

Friend Knight we are surprised that you should advise any "class of bee keepers to commence with plain box hives and boxes for saving honey." We should never give any such advice. But to those who do use box hives, or movable frame hives either, and who wish to raise box honey we would say that your views are in the main the same as ours, especially in your 5th remark.

For wintering we cover our hives with brown paper and spread cotton seed over it, allowing no upward ventilation.

Friend Johnson has, it seems, had the same experience in regard to honey candying as we stated in the March number BEE WORLD, page 107. He says, "I have never had honey to become candied." Can you tell us why not?

In friend Staples' "Timely hints for March" you have a typographical error; the word two should have been ten, making the sentence read, "We have in our yard ten different styles of frames." Doctors will differ, and so do we. Staples prefers the American frame; I the Langstroth and Standard. I received a few days since a sample of frames from Root, of all the styles he makes, and out of the lot we decidedly prefer the Standard as being

neither too deep nor too shallow, or too long or too short. In fact we regard it as being exactly the right size, and for our own hives should adopt it. It has the same depth precisely as the frame we have always used, but lacks about two inches of being the same length.

Miss Anna when we are called from home, which frequently occurs, we leave very specific instructions with our "better half" for the management of things at home. Now, had we gone from home and left instructions as you did, and then returned and found that no one remembered these instructions, we would have had a general scolding on hand. Now, Miss Anna, we would suggest a "better (?) half" in your case, and if he did not do the thing right why give him a good scolding. But did not that nephew who forgot to do the feeding catch it anyhow? My better half, however, always attends to things right.

Mr. T. B. Parker has never seen any honey dew, and knows nothing about it, but has conversed with a couple of knowing gentlemen who have "seen it fall like a mist, in the daytime, perfect honey dew."

Now, friend Parker, we possess a very skeptical mind, and it takes ocular demonstration to convince us of a great many things. There are many things true, we know, which we have not seen, but before we believe that HONEY DEW FALLS LIKE A MIST we will have to see it. The February number of Gleanings, page 23, contains an article by Mr. A. M. Lueck of Maysville, Wis., which we would like to reproduce here in full if it was not so lengthy, as he treats of that subject fully and intelligently. Perhaps friend



Moon may reproduce it for the benefit of yourself and other readers, but especially for the couple of KNOWING gentlemen who have seen it fall like a mist in the day-time—perfect honey dew. [The article will be found on another page.—Eds.]

Mr. J. C. Churchwell, Mr. Tennessee, and Mr. Sherendon pounce upon friend Howell as he said he expected they would in regard to his views, given in the January number, on the Drone Bee. Now, gentlemen one and all, we had a very reliable gentleman, a bee-keeper, inform us only a few days ago that he knew of a queen (he put it almost in the identical words of Mr. Churchwell so I will adopt them,) hatched "with wings so crumpled up that she could not fly and would not make the effort," yet she was a very prolific queen, her eggs hatching not only drones but workers also. In the specimen number Bee Keepers' Magazine, page 44, will be found an article headed "Wingless Queens," which I will copy in full:

"Mr. Chevally of Bellizone, Switzerland, gives the following description of a queen which was hatched wingless: She was the largest and finest queen I ever saw, completely yellow—the extremity of the abdomen rather white. I saw her when she was coming out of the cell, and had I not helped her, I think she never would have succeeded. When just hatched she was longer and larger than a queen in full laying activity; in seeing her I could not help exclaiming: What a pity! so fine a queen, and wingless! I was going to kill her when my wife interfered and begged for her life. She put her into a little hive with the bees. Ten days after the queen was fertilized and laid a large number of

eggs. Curious to see the result of her fecundity, I took a frame filled with young larvæ and placed in another queenless hive. Immediately they built queen cells, and out of them came the finest queens we could wish for. I must add that the queen was excessively fertile."

Now, I am aware that the two cases I have cited are just the opposite of the reasoning of friend Howell. He taking the position that "without sexual intercourse there can be no offspring," while others take the position that there can be, but in that event the progeny will all be drones. They also take the further position that that intercourse must be on the wing and in the air. The point I am driving at is this: Taking all things for granted, if the meeting of the queen with the drone must be on the wing and in the air, and without this meeting the queen will be a drone layer, how do the gentlemen account for the fertility of the crumpled up and wingless queens cited?

Friend Churchwell asks, "Did any person ever know bees to try to supersede a queen at that time of the year?" (January 15th.) We had one superseded early in February, and have heard several bee-keepers speak of having them superseded early this year.

Friend Johuson gives a record of the weather for January. I will, for the benefit of your Northern readers, give a record for January and February, notes being taken between 7 and 8 o'clock A. M., every day except Sundays.

JANUARY—1st, thermometer 60°; 2d, —; 3d, 40, frost at night; 4th, 32; 5th, 48; 6th, 38; 7th, 30; 8th, 42; 9th, —; 10th, 26; 11th, 24; 12th, 29; 13th 22;



14th, 20; 15th, 42; 16th,—rainy; 17th, 65; 18th, 59; 19th 46; 20th, 30; 21st, 38, brood in hives; 22d,—raining; 23d, had a colony desert; 24th, 38, cloudy. 25th, 38; rain; 26th, 42; 27th, 60; 28th, 64, rain at night; 29th 40, found another colony that had left; 30th,—;

FEBRUARY—1st, 45°, heavy rain, followed by strong wind and snow; 2d, 13; 3d, 32, southwest wind and cloudy; 4th, 24, southwest wind and cloudy; 5th, 18, northwest wind and clear; 6th,—cloudy; 7th, 43, southwest wind; 8th, 52, s-w wind; 9th, 54, s-w wind; 10th, 60, s w wind; 11th, 67, south wind, rain in evening; 12th, 42, north wind; 13th—heavy rain; 14th, 40, north wind; 15th, 33, west wind; 16th, 25, northwest wind; 17th, 27, northwest wind; 18th, 25, northwest wind; 19th, 28, southeast wind; 20th,—rain at night; 21st, 50, south wind; 22d, 32, north wind, visited McLean's apiary; 23d, 34, northwest wind; 24th, 26, southeast wind; 25th, 37, southwest wind; 26th, 52, south wind, cloudy; 27th,—rain, new queen hatched; 28th, 44, west wind; 29th, 34, north wind.

If Mr. Johnson will continue to give them for every month, I will do so from this latitude, and we will thus be able to compare notes on the weather, and at the same time make a useful record for future reference.

In conclusion I will add that flowers, peaches, plums and pears are in full bloom with us, the weather pleasant, and the bees industriously at work.

*Columbia, Tenn., March 11th, 1876.*

P. S. Another change, on Sunday the 12th, raining all day. A freeze at night, and this (Monday 13th) morning blooms are frozen up and we fear blasted.

For the Bee World.

—O—  
CHIPS FROM SWEET HOME

D. D. PALMER.

February 20; we can throw our bee hat as high as the next one,—and it might be well to give it a good sling while we are able, so here goes! We have just put out our 105 hives and all are alive. They are as strong as when put in the cellar November 22d, and appear to be as heavy. One hive shows a little of the disease. Last spring we entered in the register, "Think best to ventilate freely at top of hive and top of cellar, as well as at the bottom of each." We have acted on that idea the past winter. We not only keep an individual record of each hive on the slate, but a general record of the whole, which is handy for reference. In the latter we keep notes on weather, when we put bees in and out of cellar, blossoming of the principal sources of honey, the increase or decrease of honey, amount of honey, sales, &c.

March 9.—Thermometer has stood at 66° to day. The diseased hive has gone the way of 200 more that were like it the last three years; and one hive, the queen of which, my slate says, was an extra one for two years—she will be two years old this summer—I found eggs regularly in the cells but no larvæ. Upon closer examination I found they were longer than usual and not plump. I will unite it with another, then that will leave us with 103 hives in good condition. To-day they have taken in six quarts of Graham flour.

I think the disease was caused by a certain kind of honey.

Will some Florida bee-keeper give us a chapter on bee-keeping in that State.

*Eliza, Mercer Co., Illinois, March 9, 1876.*



## HONEY DEW.

For the benefit of our readers who may wish to hear both sides of the honey dew theory, we publish the following from Gleanings:

\* \* \* We see, therefore, that "honey dew" is not, like common dew, condensed moisture of the atmosphere. Nevertheless, we find it often; its existence is not denied. But how is it produced? Let us first see what good authorities say in answer to this question.

"Honey dew," says Webster, "is a sweet, saccharine substance, found on leaves of trees and other plants in small drops like dew. Two substances have been called by this name; one secreted from the plants, and the other deposited by a small insect, called the aphid, or vine frogger."

From the Deutsch-American Conversation's Lexicon we learn still more: "Honey dew," (*melligo*) we read, "is a sweet, yellowish-white, pasty and smelling substance, which is found on leaves and twigs of trees and plants. Sometimes it is the product of the wood-louse, which sucks the sap from the young twigs and leaves, elaborates it in its body, and afterwards ejects it through two tubercles near the anus, and also through this latter opening. At other times honey dew is the product of a diseased condition of the plant, prevailing during dry seasons, and originating in a disturbance of the balance between the production of the nitrogenous and non-nitrogenous substances in the vegetable tissue. It consists chemically, mostly of manite and grape-sugar. It forms an important nourishment for bees and other insects, but kills vegetables by sealing up their pores and favoring the growth of parasitic fungi."

Now let us look at the insect itself, that produces this honey dew. It belongs to very numerous species—over 12,000 are known. Rebo, in his *Naturgeschichte*, arranges it in his 7th class, the *Hemiptera*, and among these in 2d order, the *Homoptera*, and here we find it in the family of *Aphidii*, or, as Webster gives it, *aphides*. This family is subdivided into the leaf louse, the spring louse, and the ground louse (*Blattlaus*, *Springlaus*, u. *Erdlaus*.) The leaf lice have *antennae* longer than their chest and made up of seven joint. Their proboscis is bent under their abdomen. At the end

of their body are found two *tubercles* (honey tubes) secreting a sweet substance of the consistency of honey, which is eagerly sought by ants."

This is the so-called honey dew, which was formerly believed to descend from the clouds during a thunder storm.

Now our own observation about honey dew fully coincides with the foregoing citations. We keep in our window-garden evergreen plants the year 'round. These are much infested with a species a wood lice, and very naturally, honey dew can be found upon and around the plants. We have often observed these insects in the very act of ejecting this substance. In summer our plants are not so much covered with it as in winter. This is owing to the fact that during the former season the ants are always ready to sip every drop as soon as excreted. Nay, they often may be seen to squeeze and coax the aphid with their bare feet in order to induce it to give off this sweet morsel. We may therefore expect to find more of this substance in places where ants have no access, or where they are scarce; provided the conditions for its production exist.

Thus, during last summer we visited our Insane Asylum at Madison, and in this building we also found a great variety of exotic plants, and around them the floor varnished with honey dew. Inspection of these plants revealed various kinds of *aphidii* as being the cause thereof.

—O—

For the Bee World.

## SPRING FEEDING—ROBBING.

T. B. PARKER.

Nine out of ten of the correspondents of the different Journals advocate spring feeding. Every circular that I have seen that touches at all on "spring management" says feed sugar sirup. The books that are devoted to bee-culture say, Feed sugar sirup in the spring. All for the purpose of stimulating the queen to greater activity so that the hives will be full of bees when the honey harvest comes. Acting upon the advice of so many, I fed my bees last spring, with what results I cannot say positively, as others did as well



without any sirup. This spring I concluded to feed one colony so as to get early drones, that being my choice colony. I made a sirup of extra C sugar and commenced feeding. In a few days I noticed an unusual quantity of dead bees in front of that hive; so I looked at all my hives but saw no more dead ones than usual around the others. Next day I concluded to watch and see if some other colony was trying to rob them, thinking perhaps they were killed in that way; but saw no robbers. During the middle of the day I found several of them in front of the hive, unable to fly, and their bodies very much distended. I put several to the entrance to see if they would enter, but instead of entering they would crawl away, fall off on the ground, double up and die. I continued to feed every night; they continued to die every day—and night too, so far as I know. As my others did not seem to die worse than usual I concluded that perhaps the sugar sirup had something to do with the dying of that particular colony. In a few days I stopped feeding; in a few days more they stopped dying, and now they seem to be as healthy as any. If sugar sirup did not kill them what did? I wonder if it has not had a great deal to do with the recent "spring dwindlings" that we read so much about? My advice is to feed only when your bees are in need, unless you feed just one colony for early drones and risk the dwindling.

I will now tell you how I stopped robbing a few days since. I had a queenless stock, and a strong Italian stock next to it. One day noticed more bees than usual going in and out of those two hives. A moment was enough for me to see that the strong

stock was robbing the weak one. Some of them would come out so heavily laden that they could scarcely fly. I closed the entrance until between sunset and dark then opened it to give the robbers a chance to go home which they did with a rush. Next morning I closed it again, kept it closed for two days, then opened the entrance enough for about two bees to get through. In a few hours the robbing was as bad as ever. They would not resist the bees of the Italian hive at all but if a black bee came around he was immediately hurled from the entrance, thus showing that they would allow the bees of one colony to rob them while they fight those of another. Having tried everything to stop the robbing that I knew of, and having failed, I concluded to try a new (to me at least) way. While they were robbing I quietly took the robbing hive off its stand and placed the queenless one in its stead, and vice versa. Imagine their consternation when they would come out with their spoils and start homeward and find that they were already there. Outside they seemed to be at home; but inside of the hive it was the one they had been robbing. They were the worst puzzled set of bees that I have ever seen. With the moving of the hive I think the last load of honey was removed. The result was that all robbing ceased at once and they have been perfectly quiet since. Both are working finely now, two days since the change. Should anyone know any objections to the plan, they will please give it.

*Goldsboro, N. C., March 15, 1876.*

P. S. I found one bee in front of the "fed hive" to-day with body distended. I dissected it with a pocket



knife and found the honey sack full of sugar sirup, unless I was deceived, as it tasted very much like it. I fed them some five days ago, none since.

—o—

For the Bee World.

DR. LARCH'S \$100.00 PREMIUM.

—  
H. NESBIT.

On page 114 BEE WORLD Dr. Larch of Missouri banters Mr. Argo to show 10lb extracted honey at Missouri State Fair next fall for \$100.00 premium.

I propose to be one of twenty to send 10lb extracted clover honey, accompanied with a "V," to compete for the \$100.00 prize.—Honey to be sent to a person or committee to receive and pay express charges, and the honey to be sold at auction at time of exhibition to pay charges, and if not sufficient draw enough from the grand prize to pay the deficiency; and in case there is say thirty entries, make two premiums of \$50.00 and \$100.00, and if 35 or more, add a \$25.00 premium.

Premiums to be decided by THREE AND ONLY THREE competent judges that are judges of clover honey. I would here suggest that Charley Muth of Cincinnati be appointed one of the judges, for the reason that I know he is a judge of good honey, and a fair, square honest man. I have seen in his store all grades of honey, received from Maine to California, and from Canada to Cuba, and even samples of glucose. I know, from the samples and the quantity and quality of honey he handles, he is a GOOD JUDGE.

Come, friend Argo, lay aside your Presbyterianism scruples and send in your "V," and 10lbs nice clover honey.

Remember, Kentucky has always been successful at St. Louis with her

shorthorns, fast horses, pretty women and good "straight" whisky—if any be good—and so we will be successful with our honey. Antie up and let us beat that "puke" doctor.

I don't mean to restrict the competition to Kentucky and Missouri alone, but invite the whole world. Come every body, and let us have a "centennial" honey show—more the merrier and "bigger" the prize.

Allow me to say to those that are troubled writing long-winded articles just to let people know you have a few bees, queens, and fixtures to sell, just to ADVERTISE your things, that this honey show will be a much better and cheaper way to advertise them and will not annoy the readers of the Journals who are in search of INFORMATION—that is information: that will benefit the READERS and not the writers.

*Cynthiana, Ky., March, 1876.*

—o—

For the Bee World.

HONEY DEW.

—  
REV. M. MAHIN.

In the March No. of the WORLD T. B. Parker writes of honey dew. He says, "I was speaking to a couple of gentlemen about it and the different opinions in regard to it. They both said they had seen it fall like a mist, in the daytime,—perfect honey dew." I will say, before going further, that I have seen a good deal of what is called honey dew, and I am satisfied that it is wholly of insect origin. I have never seen honey dew except under trees infested with plant lice of some kind. How, then, shall we account for the fact,—for I will not call it in question,—that the two gentlemen referred to saw honey fall from the sky in the daytime? A friend of mine



discovered, a couple of years ago, that heavily loaded bees will disgorge and drop some portion of their load in their flight. His bees were working on a field of buckwheat, during a plentiful yield of honey, and he observed minute drops of honey falling along the course pursued by the bees. I have no doubt but that the honey dew these gentlemen saw, was no honey dew at all, but real honey which overloaded bees found it impossible to carry to their hives, and dropped on the way.

*New Castle, Indiana, March 18, 1876.*

—O—

For the Bee World.

#### A FEW THOUGHTS ON LAST SEASON'S OPERATIONS.

—  
GEORGE L. LEACH.

EDITOR BEE WORLD: I see in the bee journals for the past year a very great diversity of opinion in regard to extracting honey. I see some of your correspondents say they extract every other day, while others say that honey should be sealed before it is extracted. I never could extract oftener than once a week,—not because the honey was not in the hive, but on account of it being too thin. During the past season there was a time that I could have obtained large quantities of honey, but had to wait for it to get thick, or, as some of your correspondents say, to get ripe. During the time I speak of some of my hives were filled almost from top to bottom with honey. There being only a small amount of brood in the hive, as fast as the brood hatched out, the combs were filled with honey. After this flow of honey, some of my colonies were very weak. If I could have extracted the honey as soon as deposited in the combs, or in a day or two after, like some of your correspon-

dents, thereby giving the queen plenty of room, they would have been in much better condition. If I had extracted the honey, it would have soured I suppose. Bees are doing fine this spring, they are stronger than I ever saw them at this time of the year; everything indicates a good honey season.

*Murfreesboro, Tennessee, March, 1876.*

—O—

For the Bee World.

#### BEES, LIKE ROSES, ARE RURAL ADJUNCTS.

—  
WM. L. GORDON.

If honey has no fixed price, it has value.—  
*My text.*

If I could not enjoy, and reason, I might, on the very threshold of apiculture, begin to despair, when we are assured that honey has no market value. But I have an æsthetic spirit to enjoy, and a presiding faculty to direct and encourage. Apiculture can give point to the one, and expanse to the other. The spirit of Barry Cornwall, leads mine captive where he says.

There's a spirit within us that arrays the things we dote upon with colorings richer than roses;—brighter than the beams of the clear sun at morning, when he plays with the green leaves of June.

And, looking beyond the jurisdiction of affection about me I do not know a worthier object, on which to bestow that spirit, than the honey bee; and, should I want an archetype as a model to the routine of some dear human life, where better might I refer:—"industrious are they and provident, and orderly and full of song all the measure of their days." O! could we but instill of their song into our hearts—of the gladness of their wing into our ways, what an elevation it would give us. With the antipathy to labor all gone,



and the being in a continual air of gladness, what a sunny life being in this mundane sphere would be.

So much for the beauty of apiculture. In reference to its profits, I know of nothing paying a better return to the expense, care and labor bestowed. Is it nothing to have honey in abundance? Does it not contribute toward health and sustenance of the family? Is there anything more presentable, to a honey loving palate, than a fresh white sheet of honey in the comb. What if it has not, just now a settled market; just as with any other industrial production, time will surely settle that. Our wants being mostly by-gone luxuries, we have to grow into their use. Let enough of anything of merit be put upon the market to address itself to the notice of a people, and as surely will it come into popular use. Such has been the history of some of our leading staples. Fruits have just made such a history. But, lest I wear upon the patience of your readers, I will only add, I commenced bee keeping as much for pleasure as profit; they have given me more profit and less trouble than I anticipated. I am indebted to the "editor of the BEE WORLD" for my code of practice.

*Busyrwinds, La., March, 1876.*

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For the Bee World.  
THE DRONE BEE.

J. W. HOWELL.

MR. EDITOR:—When I wrote my little article for your January number of BEE WORLD I had no thought of creating such a buzzing among the bee workers. It seems that I have even disturbed a bumble bee's nest, for one struts about lively and assumes the

name of Tennessee, Tenn., or T. At first I thought that I would let him pass; but then I thought that might deprive the world of something rich in the future if he should continue to raise orang outangs, opossums and lizards, and having his bumble bees to "fly away up yonder" and bum around in the heavens to get honey and bring down to fertilize his green gourds. I hope he will get out of his "botherment" and succeed in his strange occupation.

Friend W. J. Andrews says he wrote an article for his county paper containing sentiments and thoughts similar to my own, but suggest that we experiment for ourselves. Good suggestion.

Friend Churchwell undertakes to tell what he knows to be true; but does Mr. Churchwell know that the queen he speaks of laid the eggs that produced those drones? All the writers on bee culture generally agree that the worker bees are undeveloped females and that they are incapable of fertilization; yet occasionally in queenless colonies one will be found laying eggs, which invariably produce imperfect drones, and that she will deposit her eggs without system. Now how does Mr. Churchwell know but this was the case with his artificial swarm?

I purchased a full colony of Italian bees from Dr. T. B. Hamlin of Edgefield, Tenn., in the spring of 1874, which swarmed twice the following spring. The first swarm of course was accompanied with the old queen (wing clipped). In about eight days afterwards the second swarm came out accompanied with a young queen. I hived them into a Langstroth hive, and in a few minutes I saw the queen come out and crawl about the entrance



of the hive as though she was not satisfied; and soon the bees began to come out. I captured the queen, clipped her wing, and replaced her in the hive. She then remained in the hive and the bees went to work all right. In about forty days I opened up this hive (seeing it was getting weak) and found but few bees, no queen, and no brood except drone brood, some hatched and some in the grub state. But I never saw one of them fly—they seemed to be unhealthy. Last spring I tried a similar experiment, but gave it close attention, and found the queen (with clipped wing) on the ground in front of the hive several days in succession, and examined the hive but found no eggs. Another queen that I raised last spring did not lay any eggs until she was six weeks old, and her eggs did not hatch at all.

In the March number of BEE WORLD, page 109, Mr. Sherendon says, "We do not know what works Mr. Howell has examined, but think he must be mistaken in stating that any reliable work on bee-culture says that the queen, previous to her bridal trip, or impregnation, will lay eggs that will produce drones." Immediately following we think he supports our statement when he says "Impregnation scarcely if ever follows the depositing of drone eggs;" and further support we get from him where he says, on page 110, "We wish to start Mr. Howell in the right direction, and tell him how he can himself prove that the queen bee will and can produce eggs that will hatch drones without impregnation." Now, Mr. Editor, in further support of my statement, permit me to refer him to your own little book—The Apiary—where you say on page 7, "It very often happens that impreg-

nation is retarded, or fails to take place, and the result has been the queen proves to be a drone layer." Dzierzon says, "All impregnated eggs produce drones." Bonner, who wrote in 1795, was of opinion that the queens would lay eggs capable of producing both male and female, although they never saw drones. Dr. T. B. Hamlin said, "Eggs are sometimes laid by the queen before impregnation, but they always produce drones." Mr. Sherendon himself says, "At a certain period, if the queen fails to meet the drone, she commences to lay drone eggs and continues ever after what is termed a drone-laying queen." Have I not quoted enough authors so satisfy Mr. Sherendon that I was justified in saying that every work on bee-culture that I have seen makes the same statement as to unimpregnated eggs hatching out drones? I might quote other authors to the same effect, but deem it unnecessary.

I like Mr. Sherendon's remarks on bee literature:

Some books are lies from end to end; "and many of them are bee books, full of ignorance, superstition, and error." This is so plain a truth that he who runs may read.

I object to the whole story of drone production without sexual intercourse as being nonsense and contrary to reason and common sense, unless, as I stated in the January number, you make the queen bee an exception.

We are now having winter again. Bees are all housed up. Mercury stands 14° this morning; snow eight to ten inches deep. Peach and plum trees in full bloom. I do not think bees will swarm so soon now. If the weather continues as cold many more days, as it has been for several days past, some of our bees will do well to get through.

Kenton, Tennessee, March 22d. 1876.



For the Bee World.  
GEORGIA WRITERS.

J. M. HARRIS.

EDITOR BEE WORLD:—I very seldom see anything in the Journal from this or any of the adjoining counties; in fact, very few contributions from Georgia writers. Why is this? Is it because there are so few Georgians interested in bee culture, or is it because those interested think (like myself) that they are not capable of writing anything worth printing?

I have examined the last four numbers of the BEE WORLD, and find, of about fifty letters to the WORLD, three are dated in Georgia. I find from Tennessee 14; from Illinois 11; from Indiana 4; from Kentucky 3; from Maine 2; from Vermont 2; from North Carolina 2; thus getting 38 out of 50, north of Georgia. This, I think, is not a very good showing for Southern bee-keepers. I am satisfied that there are, even in our county, several who are more interested, pecuniarily, than myself in bee-culture; yet we very seldom see a word from them. I am satisfied, also, that these men are much more capable of interesting the public than I am. This being the case in Polk county, what might we think of the whole State? Yet, of fifty communications to "our Southern Bee-Journal," printed in Georgia, we have three written in the State!

I, for one, am always more interested in Southern than Northern writings on this subject, and anxiously devour everything of the sort from Georgia, Alabama, Mississippi, Texas, and other Southern States, but alas! find but very little compared with what comes from a colder climate.

MARCH 25. — Several days have

elapsed since writing the above, since which time we have had a cold snap,—the coldest we have had during the whole of the past winter. Since the weather has moderated I have examined my bees, and find that they were injured very little, the brood seeming to be healthy.

I see that you request all bee-keepers to give their experience, good, bad, or indifferent. Well, my experience is sad, though I am not discouraged. I began last year with four stands. Had one natural and three artificial swarms, increasing to eight. Of these two seemed to think they could not keep house, and joined themselves to others, making those others good strong householders, which are now doing well. One perished through neglect, one became very weak and I united them to another, so that I begin again with four, but I think they are in better condition than last year, being stronger.

If they have no drone comb, how will they raise drones? I see a few protruding cells in one of my hives. If these be drones in worker cells, will they be perfect, capable of impregnating the queen? At what time in the spring can bees begin to make comb, and what time in the fall do they cease? My bees are all blacks, but I have one queen very large, and of a bright yellow color, while the others are smaller, and much smaller.

*Cedartown, Georgia, March 25, 1876.*

Bees frequently cut down worker and make drone comb of it. The cells you saw are drone cells in worker comb, a not unfrequent thing to see, although they are generally considered worthless.

Bees will build comb as soon as they get strong enough to keep up a

proper degree of heat, and can gather honey from the forest. All comb, or wax, as it is termed, is the production of honey. In this section of Northern Georgia the honey harvest falls about the first of July; and when this takes place no more comb is built. Bees will secrete wax in mid-winter if placed in a warm room and fed either on sugar or honey. I have had them make fine specimens of box honey when no honey could be gathered, they being confined in a dark room and fed on sugar syrup.

We can not wonder at your remarks regarding our Georgia contributors. Without egotism we can safely say that the BEE WORLD is of as much benefit to the South as any other publication South of the Ohio river. Our friends in this and other States who desire to see the cause of bee-culture take as rapid strides as it deserves, can best do so by aiding the BEE WORLD. They can do this by contributing their experiences or giving advice, as they feel the best able to do the one or the other.

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For the Bee World.  
THE SEX OF BEES.

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E. KNIGHT.  
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Drones are universally admitted to be males; and queens are as universally considered females. Nor does any one claim that workers are males.

On the other hands, many writers call them undeveloped females. Langstroth and some others say they were not fed on "royal jelly." Others affirm that the undeveloped condition of the worker is the result of position while in the chrysalis state.

I consider that the workers are neither males nor females but a distinct

class, not designed, under any possible circumstances, to aid in the reproduction of the species. The egg that may become a worker cannot possibly become anything else.

If we admit the existence of "royal jelly," how is it possible for its wonderful properties to change the physical form, and the mental faculties of the worker? It is said that a queenless swarm will select an egg from a piece of worker brood comb, if the brood is not more than three or four days old, and raise a queen. This mode of queen raising is sometimes successful but more frequently unsuccessful. Success does not prove that every egg in the piece of brood was a female egg. It only proves that there was one female egg.

The failures indicate that the bees could not find a female egg in the worker brood. There is no reason why every case, if carefully conducted, should not be successful if a worker and a queen egg be one and the same thing. If worker eggs can be changed to queens by position let us carefully place a hive upon one side and we can raise queens by thousands.

The truth seems to be, that one egg in several hundred is a queen egg; and that, if the bees are in want of a queen they select it and raise one, but if not, they destroy it. My main proposition is supported by prominent differences between queens and workers. Queens are larger than workers and differ in color both on the upper and lower part of the body. But I am aware that it will be said that this is the result of higher development. I therefore call attention to some differences that will hardly be said to result from mere development. The queen is larger limbed in proportion to her size,



She has no baskets on her legs for carrying pollen like those of the worker. Would higher development destroy these or only make them more prominent? The queen has all that is necessary for her sphere of action; so also has the worker. The queen has a different shaped abdomen even when she just issues from the cell. The sting of the queen is long, slender, curved, and but slightly barbed; that of the worker is highly barbed, short, straight, thick set and strong. The sting of the worker is designed as a weapon of defense against foes that would otherwise seize upon the stores of the colony and effect its ruin.

If the sting of the worker was curved and slender as that of the queen it would not pierce the thick hide of some animals and would be unfit for defense. The sting of the queen is well fitted to destroy a rival queen. An instinct is also given to her exactly adapted to her sphere of action; so also to the worker exactly adapted to its sphere of action.

I am not inclined to believe that the propensity of the worker to attack an enemy; and that of the queen safely to resist a rival belong to the same sex of the same insect.

Again the worker evidently enjoys a life of activity and labor; but the queen is never known to leave the hive for recreation or labor. Whence comes this wide difference of inclination? Is it the result of "royal jelly"? Is it not evident that such difference size, form, and disposition has preeminently fitted both her and it for their widely different destiny? And does not this indicate a difference of sex?

Some one will be ready to ask. Do not workers sometimes lay drone eggs? I answer, that I have never

seen any conclusive evidence to prove this assumption. It is only claimed that this happens in lives that are queenless. Now if the desire that the common wealth should increase, causes one worker to lay drone eggs why not cause many to do the same thing? And why not as well lay worker eggs, or even queen eggs as drone eggs? Desire and intercourse often exist in the animal kingdom without ordinary results; but here it is affirmed are results without their usual concomitants.

It is said that only drone brood is found in some hives. Admit it, and yet it does not prove that they are the progeny of a worker. I have opened many hives that had only worker brood. In fact this is the usual condition of hives in early spring. This proves nothing, it only indicates that drone eggs are destroyed by the bees, because drones are not wanted until about the time of natural swarming, except by those colonies that have debilitated queens. I have known a young queen destroyed and thrown from the hive when the ground was covered with snow simply because she was not wanted. In time of famine bees will even destroy worker brood to save the colony from starvation. All these facts indicate that thousands of eggs are yearly destroyed because progeny of that sex is not at the time wanted.

If it be said that a class of neuters is not in accordance with the general laws of the animal kingdom, I need only reply, It is not in accordance of the aforesaid general laws to find only one female, of any species, that has anything to do with the reproduction of her own species. I do not say that the modern theory is incorrect, but I



do say that I am not in possession of facts to sustain it.

*Maple Grove, Me., March, 1876.*

**P. S.—Another Patent:**—A slat box, designed to secure surplus honey, has been patented. Your readers will gain a correct idea of it from the following brief description. A set of boxes covers the brood chamber. The bottom of these is composed of slats so arranged that the spaces between the slats correspond with the spaces between the upper part of the frames thus securing ample communication between the brood chamber and the boxes. As soon as one of these boxes is nearly filled it is raised and a box having both bottom and top made of slats is slid under it. This leaves an empty space between the hive and the raised box of honey without interrupting the full and free passage between them. This space is readily filled with bees and work soon commenced therein. Those using these boxes claim much larger yields of honey than by those in common use. They have been used one season in this region and have given general satisfaction.

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 For the Bee World.  
 REVIEW.

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 J. S. DEVITTE.  
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**EDITOR BEE WORLD:**—In looking over the March No. of BEE WORLD the first subject I saw was "one hundred years ago," by S. D. McLean; which is well written and the memory is refreshed with several historical facts worth remembering. But will not one hundred years hence cause us to be looked on as fogies plodding along in the dark with our Huber-Langstroth theories and Von Hruschka centrifugal

honey extractor? So let us not be content but press onward. His welcome to friend Kellogg meets the approval of every true and intelligent southern heart. We want wide awake business men of all trades, to come to see and live among us.

"Chinese mode of taking honey," which is worth reading, but think the followers of Huber, Langstroth, and Von Hruschka can excel them in the art. Then in steps D. Staples on "humbugs." The way he tunes his harp I would infer that he was not afraid of those insects. I am sorry he had such bad luck with albinos, I intend to give them a chance and trial this season. Hope friend Pike will give us statistics relative to longevity.

Occurring thoughts by Wm. J. Andrews:—I would think that a social chat would be beneficial, if all beekeepers were sociable and had no dull axes. Then Thompson, who makes a candid showing, and appears to be a doubting Thomas on yields of honey, says he has not seen the honey or any one that has seen it; so he has company in that respect.

"The drone," by Sherendon is discussed in aid of friend Howell. I like your reasoning friend S.

That is right Dr. Davis! jog the memory, for it is treacherous and careless. Your article gives apiculture a broad shot.

Rev. Mahin, No. 4, is a welcome visitor. We will expect results after a while. So is Kellogg's scraps. I differ with him about the depression of the price of extracted honey. From observation I think that four families out of every five in this County do not consume five pounds of honey annually; so they are not able to distinguish honey from the different adulterations;



then if adulterations are cheaper they will purchase it in preference to honey. So we have but two remedies (or ways) to compete with the adulterations.—1st. Is to educate the consumers. 2d. Is to undersell the adulterations. Then let us not quarrel while the blame is at our own doors. I expect to keep plenty on the shelves of a store in each of my neighboring towns, and consume all I can at home, and make the business as self-sustaining as possible. I think that pure honey will not injure by age. The adulterations will; so I think my time will come after a while.

"Cyprian bees," from *Bee-Keepers Magazine*. Oh how I want a colony!

"Overstocking," by Jasper Hazen, should be carefully studied.

"Sundries from Mississippi," by Miss Anna Saunders; I sympathize with with her in her reverses in apiculture, but from the energy she has displayed in the past I expect her to get all of her bees right, soon.

So I see that J. C. Churchwell is out in an article to assist friend Howell on the drone puzzle; and I see from Mary Barker's *Scraps* that friend B. is extracting on 12th February which trouble I know he enjoys (or I would at least with about twenty-nine hives heavy with brood and light in honey, with three days snow on them).

T. B. Parker, from N. C., is in luck with his bees gathering honey and pollen from 20th December to 1st, February. My bees have been on the wing and have eaten honey and pollen all the while, but have gathered none, or but little as yet.

I do not know how to account for the honey dew falling in day time. Guess friend Parker will claim that his drones were out there kicking it

down to the short-wings.

Friend Love's letter is interesting. He left off naming his bantling to the last. I have done the same thing and fear I will not be able to find a name for it at all. If white paint is a non-conductor of heat we will have no excuse for letting the sun melt our combs.

Friend Knight's light is brilliant and free to all so we will not be in the dark.

Stand back friend Larch and let Bob get up with that bronze turkey; he has not been heard from since January; watch that \$100.00 premium or it will travel into Kentucky.

Friends Johnson and Fletcher's notes are good, wish them good luck. *Talorsville, Bartow Co., Ga.*

—o—

For the Bee World.

THE ALBINO BEE.

—  
D. A. PIKE.  
—

Mr. EDITOR:—In reading the *BEE WORLD* for March, I see an article written by Mr. Staples on Humbugs. In reading it I was perfectly astounded at the inconsistency of the article. Any bee keeper with one grain of common sense can see the fallacy of his argument; and with his sweeping assertions and uncalled for epithets. He also says that he has been experimenting for three years to propagate the albino bee, and has raised scores of them, but failed in getting a good queen. If he had succeeded it would have been no humbug but since others have succeeded he makes a terrible ado about humbuggery. He must have had a flea in his ear, or is jealous of his brother bee-keepers. I will venture to make the assertion that he never saw a pure albino queen. Mr.



Editor I think I am treading on his corns in the way of selling albino queens to some of his customers. I expect to sell queens to Georgia, Louisiana, Kentucky, Tennessee and Mississippi. I would advise Mr. Staples to go to see some of those that I will ship to some of his neighborhood before he pronounces them humbugs. Readers of the BEE WORLD please read Mr. Staple's article of March on albino humbugs carefully and you will readily see that the article is contradictory from beginning to end, he asserts that he raised scores of them that would duplicate herself, but on the contrary, produce eggs from which hatch the finest white bees and queens to the straight gray. Queen breeders you can readily see what a great queen breeder Mr. Staple's is, he proposes to raise queens that will duplicate herself from hybrids. That sounds very much like humbuggery it does, to my ears. I will bet him the price of the best queen he has in his apiary, that will duplicate herself every time much less a hybrid. Mr. Staple what will you take to learn how to raise queens that will duplicate herself from hybrids? I would like to take some stock in the concern if it is not a humbug. He also asserts they are short lived and if she survived the first season, she became a drone layer and disappeared before the end of the second year. If such is the case how would he continue the second and third years? Mr. Staples if you have any duplicate drone laying queens on hand I would like very much to have one soon, as I have none of my own as yet. I have had the albino bee nearly four years and never had a drone laying queen. I have queens that will be four years old this season, and as

lively as crickets, and hope they may live four years longer. Mr. Editor you will preceive I have a different race of bees from those of Mr. Staples (they are longer lived). Mr. Editor what opinion would you form of a man that claims to be so very conscientious who will spend a part of three years to propagate a worthless race of bees, when he knew they were worthless the first year, or at least should have known the second year, but he continues the third year, and does not tell us as yet that he has given up trying to propagrte? I cannot conceive what he wants with those worthless bees as he calls them, unless he wanted to humbug others with them. I have propagated my albino from the pure Italian, not from a cross of the black's and Italian.

*Smithsburg, Wash. Co., Md., March, 1876.*

For the Bee World.

#### **Honey Comb Foundation.**

From the following letters it will be seen that the patent for making Honey Comb Foundations has passed into the hands of C. O. Perrine of Chicago, Ill. Mr. Perrine has the monopoly of this branch of industry, and if he is reasonable in his prices, can confer a great boon on the bee-keepers of this country, as well as secure a fortune for himself:

Mr. A. F. Moon—I have bought from the widow of Samuel Wagner, his patent, covering the manufacture of all Artificial Honey Comb Foundation by whatever process made, and have given notice to those who have been infringing said patent, and do now hereby give general notice, that I shall enjoin its further manufacture by any and all parties in the United States, and its use, except that which



is made and sold by myself.

Mr. Weiss, the original inventor (invention and making of first making machings dating back nearly two years) of the Rolls for making said Foundation—the only practical mode of manufacture—is in my employ and I have in my possession and am using the machine that he formerly used in New York on which he made the Foundation sold by John Long and E. C. Hazard & Co., also the machine gotten up by Mr. A. I. Root, which I have purchased of him, and which has been lately much improved in making great length of cells.

Only worker comb is made at present, 25 cells on each side to the square inch, and there is material enough in the thick shallow sides of the cells to lengthen them out and probaby cap them over. The only really perfect Artificial Comb Foundation ever made.

Yours,

C. O. PERRINE,

*Chicago, Ill., March 23, 1876.*

MR. EDITOR:—I would like to state in reference to the patent taken out by my husband, the late Samuel Wagner, for the manufacture of Artificial Honey Comb Foundations, that Mr. C. O. Perrine of Chicago wrote to me asking for an individual right to make and use the same; and I answered by saying that I did not wish to sell individual rights, but would make him a complete assignment of the whole patent, for so much money, cash. Mr. Perrine came here and paid me the price asked, without trying to get for any less. Others have infringed the patent for some time, but have never offered to buy it, probably knowing that my age and circumstances would not permit me to prosecute them. I

write this to give a moral weight to a reason why all persons who wish to buy the Comb Foundations should get them of Mr. Perrine, as there may be those who will still infringe.

Yours, Respectfully,

ELIZABETH WAGNER.

*York, Pa., March 23, 1876.*

For the Bee World.

HIVE MAKING.

E. B. PLUNKET.

MR. MOON:—In answer to Mr. Baker, about hive making, I will say to him that I make only one hive. It is very easily done. In the first place get good seasoned lumber and dress it on both sides. Cut a pattern of each piece of the hive to work by, and be careful to cut them right and you will have no trouble.

For making frames make a mitre box about two feet long; nail a board across one end of the box, and then get the measure of each piece of your frame, and saw across the box to correspond to the different lengths. Put in one end of your lath and saw your frames. Be careful and get each piece the right length. Make a clamp to hold your frames when nailing them together; take a piece of board two feet long, five inches wide, and one and a half inches thick; saw out a place in the board about one and a half inches wide and one inch deep. Set in an upright piece the same width, and about ten inches from the end. It should be the same length as your end piece of frame. Nail a brace behind it to hold it perpendicular, then set your frame in it when you nail it together, and you will have no trouble in getting square frames.

I have used several sizes of frames,



and have now settled on one 10x16 outside measure, as a standard, and nine frames to the hive for box honey.

I can say to Ch. Dadant & Son, the queen you sent me in October last is a fine one. Her hive will soon be full of brood. The workers are large and fine. My bees are all in a healthy condition, with plenty of brood and young bees. I can also recommend the Georgia Honey Extractor, sold by Dr. J. P. H. Brown of Augusta, Ga.

Atlanta, Ga., February, 1876.

## Notes and Queries.

Subscribers are especially requested to write short notes on the honey prospects, weather time and duration of the bloom of different honey-producing plants, price per pound for honey, &c., &c., for this column.

Our bees have been swarming for a week or two—from three to five swarms a day, and on the increase. S. S. Alderman.

Iola, Fla., March 11, 1876.

On the night of the 19th inst. there fell eight inches of snow here. J. M. Crawford.

Hernando, Miss., March 29.

As I am a new beginner in the bee business, I see a great many new things in your valuable paper. There is one thing I would like for you to tell me about, and that is how to tell a queen from the other bees. M. D. J.

Love, Miss., March 27.

We send you the Apiary, which will give you the desired information. If you have movable frame hives you can easily find the queen. They are generally on the middle frames at this time of year. After once seen and recognized they are very easily detected, being much longer and slimmer than the workers.

My bees are doing well now,—they are coming in loaded heavy, so much so that many of them fall to the ground near their hives. I have thirty-five hives, in good condition, strong

and healthy. Plenty of drones are making their appearance, and if the weather keeps warm and pleasant like it is now, we will have swarms in this section soon. Peach, elm and maple are in full bloom, and bees at work on them.

J. W. Howell,

Kenton, Tenn., March 10th.

The winter has been very mild. Bees have been gathering pollen more or less all winter. Fruit trees are now blooming. Bees are getting strong and Italian drones have made their appearance; and if we have no more cold weather I think they will swarm. E. M. Wise.

Waxahachie, Texas, March 13.

My bees are in a very weak condition, and I have to feed them heavily on simple sirup. I have 10 colonies pure Italians, 4 of hybrid, and one of black, which last is in a box hive and will be transferred, soon, into a frame hive.

W. H. Green,

Spata, Ga., April 1.

## Michigan Bee-Keepers' Association.

The Third Semi-annual Session of the Michigan Bee-Keepers' Association will be held at Corporation Hall, Kalamazoo, Michigan, on Wednesday, May 3d 1876. The first session will convene promptly at 11 o'clock P. M. We extend a cordial invitation to all bee-keepers to be present. Our spring sessions have hitherto been decidedly successful, and we have every reason to believe that the coming one will fully equal its predecessors in point of interest and importance. The subjects for discussion will cover the broad field of Apiculture. Come prepared to give us your best and most valuable ideas of the points involved, and thereby aid in making the meeting of mutual interest and profit.

Herbert A. Burch, Secy.

South Haven, Mich.

The March number of the *Kennesaw Route Gazette* has been received. It is a bright, entertaining sheet, devoted to the various railroad lines which the managers of the Kennesaw Route controls; also, to the interests of the South generally. The subscription price is 25c a year, the sender also receiving a certificate entitling him or her to a chance in a drawing, to be held June 1st, 1876, for a round Trip Ticket from Atlanta to the Centennial, at Philadelphia, 1876.





## MOON'S BEE WORLD.

A. F. MOON & CO.,

Cor. Broad and Elm streets., Rome, Georgia.

APRIL, 1876.

### Table of Contents.

How I manage bees No. 5—Raising queens	
<i>Mahin</i>	129
Size of hives—Taylor	130
Scraps from Illinois—Kellogg	132
My experience with bees—E	133
Points of Success—Davis	134
Occurring thoughts—Andrews	135
Chips from sweet home—Palmer	139
Honey dew	140
Spring feeding—Robbing—Parker	140
Dr. Larck's \$100 premium—Nesbit	142
A few thought's on last season's operations	
—Leach	143
Bees, like roses, are rural adjuncts—Gordon	143
The drone bee—Howell	144
Georgia writers—Harris	146
The sex of bees—Knight	147
Review—Devitte	149
The albino bee—Pike	150
Honey comb foundation	151
Hive making—Plunkett	152
Notes and Queries	153
Editorial	154

### STANDARD FRAMES.

We are constantly in receipt of inquiries relative to the size of frame we prefer, the number to the hive, &c.; and the BEE WORLD being the easiest and most proper vehicle to answer them in, our interrogators will excuse our not giving each a separate answer.

After many years of experimenting (and if experience is worth anything it ought to receive some weight in this case, as we have exclusively pursued the vocation of a bee-keeper for over forty years), we have adopted, as our stand-

ard, a frame 10x15 inside measure, and eight to a hive. This size is, in many respects, superior to any we have ever tried. First, the size is ample, with eight frames to the hive, properly managed, to fully employ the laying capacity of any queen we ever owned.

2d. A frame of this size is very easily handled, and there is less danger of breaking combs while extracting.

3d. They are of sufficient depth, except in extremely cold countries. In extreme cold, where bees are wintered out of doors, deep frames are needed, having more honey above the bees, so that as the heat arises from them they can ascend and obtain their food. On the contrary, in shallow frames, if cold prevails, they perish in the midst of plenty, frequently, from being compelled to go to the sides of the hive for food. In the South bees do not have this to contend against; they can fly nearly every day, and can stay in any part of the hive where the honey may happen to be.

4th. A hive with shallow frames gives the apiarian a greater capacity for surplus honey, bringing the bees nearer the boxes, thus causing them to store more honey.

5th. The bees build their combs much straighter, and are less liable to fasten them together. No honey board is necessary to be used between the hive and boxes.

### SEASONABLE HINTS

As soon as the bees begin to increase rapidly it is well to examine the condition of the brood nest and see if there be too much honey stored. Should there be too much remove it with the extractor. This will allow the queen a chance to display her laying capacity, where, on



the other hand, she would be crippled for want of room nearly the entire season. We have known many a colony to nearly dwindle away from this cause alone. Place the boxes on as soon as the bees begin to gather honey, and if you can get a piece of comb suitable (clean and white) attach it to the center of the top of the box, which tends to induce the bees to work sooner than they otherwise do. If you use the frame boxes, as soon as the bees get fairly at work in them raise them up and also insert an empty set beneath them. This will draw the main working force up, giving the queen almost full control of the brood nest, which she will improve to the best of her ability. The result will be a fine yield of honey and a large increase of bees. Here lies one of the greatest secrets of successful bee-keeping. It is to have a strong force of bees ready to gather the harvest when it comes. By using the frame boxes we can much easier increase the capacity in the surplus boxes, giving them from one to five hundred pounds capacity. This, if properly applied, will employ the whole working force of the queen for the season, and will be likely to prevent swarming to a certain extent. When the queen has sufficient room below, and the workers the same above, but little danger is to be apprehended of swarming.

—o—  
 "Let justice be done though the Heavens fall," is a good legend to be nailed to the banner of any Bee Journal. Mr. Newman, publisher of the American Bee Journal thinks it would be a good idea to appropriate it, (see page 84 April No. A. B. J.,) but "let the truth be told though the Heavens fell" would sound just as big, and look

just as pretty on his "banner." Contemplating it might possibly cause him to change the statement he makes on same page, next paragraph, where he says "There is but one Bee Journal on the American continent—the American." We tip our hat to the "American" every time for being one of the best bee papers we read, but it is not the only Bee Journal in America by a considerable. The statement is the result of too much conceit, perhaps, but that does not necessarily make it any other than a mis statement.

—o—  
**The N. A. B. K. Society.**

W. F. C., in the American Bee Journal, suggests the forming of a North American Bee-Keepers' Society by the States now having regularly organized Societies sending each two delegates to the place chosen—some central point—the expenses to be paid by the State Societies. No doubt Mr. C. obtained his ideas from perusing an article on the same subject (although intended for a Southern Society) written by W. J. Andrews, a regular contributor to the BEE WORLD. It is the only feasible way to conduct the Society, and will probably be adopted sooner or later. With such a Society the South could reasonably expect to be represented, where, under the present system the expense deters the bee-keepers from attending.

—o—  
**Honey Comb Foundation.**

There bids fair to be a lively time among the proprietors of the above invention. Mr. Perrine enjoins any and all persons from making or using the Foundation except by his permission; while King & Slocum of New York offer to sell the machines to the



public, through the protection of a patent obtained by one of the firm a few years ago. In the meantime Mr. Perrine will furnish the Foundation, and consumers will not be affected by the troubles of the manufacturers.

---

#### The Centennial Display.

---

The Centennial Commission have erected a building for the display of bees, apiarian appliance, hives, &c., and steps should be taken at once for space. As the time expires on the 25th inst., those who intend sending their products had best do so at once. The following letter will explain itself:

A. F. MOON:—The advanced character of apiarian apparatus produced in this country will not be as thoroughly shown at the International Exhibition as is desirable, unless manufacturers immediately apply for space, which will be granted without entry fee or rent for room, if application be made at once. Objects for exhibition must be in place by 25th April. Yours, respectfully,

BURNET LANDRETH,  
Chief of Bureau.

---

H. Deahle of Winchester, Va., has sent us one of his honey boxes, for inspection. They are designed to hold five pounds, are light but strong, well made and very efficient. Two sides are grooved for glass. His advertisement is on another page.

M. Parse advertises in this issue 125 colonies of Italian bees at \$7.50 each, or 70 at \$10 each. They are good stock. Mr. Parse is a fair, honorable man, and we recommend him to our readers as worthy of patronage.

J. B. Magers of Harlan, Ind., gives the readers of the BEE WORLD notice that he will sell queens at \$2.00 each.

Geo. Watson has written M. Parse a letter, but omitted to give his address.

The Southern Kentucky Bee Keepers will meet in convention at Smith's Grove, Ky., on Thursday, June 1st, 1876. We especially invite all beekeepers to attend or send communications on any subject they choose. We expect an interesting and profitable meeting.

N. P. ALLEN.

We have reason to believe that Mr. Argo did not receive the March No. of BEE WORLD, else he would have answered Mr. Larch's offer. We regret it very much, as we would like to see a friendly competition take place between the two States. However, Mr. Nesbit comes to the front, and offers to stand his share of the expense, and we may find out yet who raises the best honey.

Persons who wish to get a newspaper devoted to the interests of Georgia and Alabama should send for a copy of the Courier, published in this city. It is the leading paper in North Georgia, and sets forth the advantages of this country truthfully and with vigor. \$2 per year.

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ADVERTISING: CHEAP: Good: Systematic.—All persons who contemplate making contracts with newspapers for the insertion of advertisements, should send **25 Cents** to Geo. P. Rowell & Co., 41 Park Row, New York, for their Pamphlet-Book (ninety-seventh edition), containing lists of over 2000 newspapers and estimates, showing the cost. Advertisements taken for leading papers in many States at a tremendous reduction from publishers rates. GET THE BOOK.

\$12 a day at home. Agents wanted. Outfit and terms free. TRUE & CO., Augusta, Maine.

SEND 25c. to G. P. ROWELL & CO., New York for Pamphlet of 100 p ges containing lists of over 3000 newspapers and estimates showing cost of advertising

35 to \$20 per day at home. Samples worth one dollar free. STINSON & CO., Portland, Maine

## HONEY BOXES

Our boxes are cut, ready to nail together, grooved for two glass sides, light, smoothly finished, will ship safely, and will hold 5 pounds.

We also furnish the Standard Langstroth bee hive: cut and ready to nail together. With our present increased facilities and rapidly increasing patronage, we are able to furnish these boxes and hives at a lower rate than ever before. Sample honey box free by sending ten cents [care postmaster] to pay postage.

HENRY DEAHLE,  
Winchester, Va.

## HONEY

AND

## BEESWAX

Bought for Cash.—Highest Prices Paid.

Address John K. McAllister & Co.,  
1091 49 E. Harrison St., Chicago

## ITALIAN BEES FOR 1876.

Full colonies (ten frames) in shipping box, \$10 00  
" " " in painted hive, 12 50  
Four frame nucleus, tested queen & drones 6 00  
Tested queen to June 30th, 3 50  
Tested queen after June 30th, 3 00  
Warranted queen to June 30th, 2 50  
Warranted queen after June 30th, 2 00  
Orders solicited and filled in rotation. Purity and safe arrival guaranteed.  
44c] S. D. McLean, Culleoka, Maury co, Tenn.

## Pure Italian Queens for 1876

I have on hand a choice lot of queens, propagated in populous colonies last season, which I offer for \$5.00 each. As I expect to rear queens the coming spring, I offer two queens after 15th June for \$5.00. I will send out none until their brood is tested, and will pay express charges on same. Satisfaction guaranteed.  
44c W. P. Henderson, Murfreesboro, Tenn.

## Glass Honey Boxes!

Practicable and profitable to use Just the thing for Box Honey and admirably adapted to the wants of

## SOUTHERN BEE-KEEPERS.

Honey in them took First Premium at New York State Fair 1874 and 1875. Circulars sent free.  
C. R. ISHAM,  
Peoria, Wyoming County, N. Y.

## HONEY EXTRACTORS!

MADE ENTIRELY OF METAL.

NO WOOD ABOUT THEM.

PRICES \$8.50 TO \$10.

Circulars with directions for use on Application

In ordering, be particular to give us *outside dimensions* of frame or frames to be used. As we have procured the machinery for making every part on our own premises, we can supply Gearing, Honey Gates, Wire Cloth, etc., etc.; Bearings, Stubs' Steel—Boxes, self-oiling.

A. I. ROOT & CO., Medina, Ohio.

P. S.—Be sure and give width, under top bar of frame.





# Selma, Rome & Dalton R. R.

## CONDENSED TIME CARD.

### GOING NORTH.

Leave Mobile.....	6:00 P. M.
" Vicksburg.....	2:00 "
Arrive Meridian.....	1:00 A. M.
Leave Meridian.....	1:05 A. M.
" Selma.....	8:00 "
Arrive Calera.....	11:02 "
" Rome.....	5:45 P. M.
" Dalton.....	8:20 "

### GOING SOUTH.

Arrive Mobile.....	8:00 A. M.
" Vicksburg.....	10:10 "
Leave Meridian.....	1:05 "
Arrive Meridian.....	1:00 A. M.
" Selma.....	9:40 "
Leave Calera.....	5:20 "
" Rome.....	9:10 P. M.
" Dalton.....	6:00 "

Going North—make close connection at Calera with S. & N. R. R., for all points West.

At Dalton with E. T., V. & Ga., for New York, Philadelphia, Baltimore, Boston, and all points East; Virginia Springs, North Carolina and East Tennessee Springs.

At Dalton with W. & A. for all points West.

Going South—making close connection at Meridian for Vicksburg, Jackson and points in Miss. With M. & O. R. R., for all points North and South of Meridian. At Mobile with N. O. & M. R. R. for New Orleans and all points in Louisiana.

Through Sleeping Cars are run between Mobile, Ala., and Dalton, Ga., without change, via Meridian, Miss., and Selma, Ala.

March 7th, 1876.

RAY KNIGHT, G. P. & T. Agt.

5-11p

Patona, Ala.

# High Class Poultry!

All the choice varieties Land and Water Fowls. The best imported and prize stocks of Poultry, Turkeys, Geese, Ducks, Guineas, Fancy Pigeons, &c. Each variety of fowls bred on a separate farm. Only first-class stock sold, and satisfaction always given. Descriptive circular free.

TEN CENTS will procure, post paid, a copy of my elegant new Illustrated Descriptive Catalogue. Superb and reliable. Send for it.

FIFTY CENTS will purchase "THE PIGEON LOFT," our new Illustrated treatise.

## CHESTER COUNTY MAMMOTH CORN

yields from 75 to 125 bushels shelled corn per acre, and is the best variety yet produced. Selected seed \$4.00 per bushel; \$1.50 per peck; 50c per pound free by mail. Sample packet 10c. Circulars free.

# BLOODED CATTLE,

Short Horns, Jerseys, Guernseys, Devons, and Ayrshires. Choice CHESTER WHITES, (a grand specialty), Berkshire, Yorkshire, Essex, and Poland China Hogs. Cotswold and Southdown Sheep. Sporting and Thorough bred Dogs, Ferrets, &c.

Circulars free. Correspondence solicited. Address,

W. ATLEE BURPEE,  
No. 1332 Arch St., Philadelphia, Pa.