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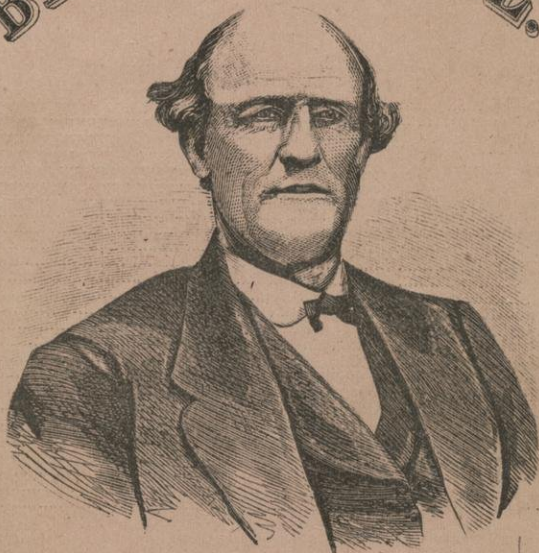
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THE
ILLUSTRATED
BEE JOURNAL.



AUGUST, 1870.

N. C. MITCHELL, - Publisher,

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The Illustrated Bee Journal.

DEVOTED TO THE CULTURE OF THE HONEY BEE.

VOL. I.]

AUGUST, 1870.

[No. 9.]

[Copyright Secured.]

QUEEN RAISING.

FOR THE ILLUSTRATED BEE JOURNAL.

Many inquiries are made in regard to the best method of getting queen cells, etc. This is my method: Remove your best queen from No. 1 to No. 2, destroying the queen from No. 2. In five days you will have a number of cells capped in No. 1. Remove these cells to a nursery. Mine is made after this manner, and works like a charm. Take one of your frames, divide it into as many apartments as you wish, say sixteen, cover one side with gauze, the other make doors of perforated tin just the size of your small cages, hang with steeples made of pins bent and driven just over the edge and through a hole in the tin; fasten the other side with a tack. Put one cell in each small cage, suspend the whole into a full hive, no matter whether the queen is removed or not. In due time the cells will hatch as well as they would from the hive from which they were taken. When the queens are five days old they can be taken from the nursery and fertilized. After the pure queen has been in No. 2 five days, and when you have removed all cells from No. 1, return the queen to No. 1. There will be many empty cells in that hive; the queen will soon supply them with eggs, and in five days more she can be returned to No. 2, thus making one queen

supply two hives with all the eggs they need, and getting a number of cells every five days. If there is a certain plan for fertilizing queens artificially, the cost of raising will be very small. No loss of time in breeding. I failed though completely in the attempt to fertilize. I put a queen, with four or five drones, into a box six inches square and four inches deep, with gauze two inches wide over top and bottom, and placed the whole thing on a full hive, so there was no lack of heat or ventilation, and plenty of honey in the box. I let them remain forty-eight hours together in this way, when, on examing, I found every queen, with one exception, dead. The drones were most of them dead also. Now, Mr. Editor, you have bees, I suppose; if you don't some of your readers do, and can imagine how I felt when I found twenty-three as beautiful young queens as any one ever saw, lying dead. The drones, four of them, showed signs of copulation, having their organs torn out, but no signs could be found on the queens.

Now if any reader of the ILLUSTRATED has a sure plan for fertilizing the queen, let them report through the columns of our much beloved paper; for, Mr. Editor, I must confess I am disappointed in the Journal. You remember how plainly I spoke to you when I sent for it, yet I meant no harm, and can truthfully say I like it much better than I expected, especially for its liberality. We have a paper published here, in Missouri, which we would also recommend to your numerous readers, the *Apiculturist*, Mexico, Missouri.

The West is the place for bees, and there are intelligent men turning their whole attention to the business. Besides, we have no foul brood here—never heard of a case in Missouri.

With many wishes for the success of the ILLUSTRATED, and hopes that some one will enlighten me on the fertilizing question, I remain yours,

J. W. SALLEE.

Pierce P. O., Calloway Co., Missouri.

FACTS, NOT THEORIES.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR AND BROTHER BEE-KEEPERS:—As the season has arrived in which the enterprising apiarist is expecting to reap the reward of his labor, let us, in imagination, give our brother bee-keepers a call, and look around among the bees, and have a social talk.

Most bee-keepers have some stocks that they think a great deal more of than others. From some they expect a number of swarms, from others a large amount of surplus honey, while they have still others that they show but little interest for, and expect but little in return. Now why this difference in your estimation and your hopes in regard to your bees? Are you aware that there is no such thing as lazy bees? Different localities require different styles of hives; yet, at the same time, the general characteristics of the honey bee, in this country, are the same, and we must be governed by certain laws to make bee-keeping a success.

Now, you will ask, what are the steps to be taken to insure success in this very interesting branch of business?

In the first place, let me ask a few questions as to the condition of the bees, and whether you have carefully studied the nature and habits of the little workers.

First. Have you remembered the golden rule and kept your stocks strong?

Second. Are you sure each stock has a vigorous, prolific queen?

Third. Are you using a movable-comb hive, so that you can know, at any time, the exact condition of each stock, and by that means make the strong assist the weak?

Fourth. Do you take a Bee Journal, and by that means keep posted on bee matters, and have the experience of others to assist you in your work?

Fifth. Do you protect your bees in winter, that they may not feel the sudden changes?

Now, if you can answer the third question in the affirmative, there will be no need of my telling you how to keep your stock strong, or how you are to know as to the condition of each queen.

Four years ago I had an attack of the bee fever, and thought I would try my hand at the business. I got a stock of a neighbor in a box hive, as there was no other style of hive used in these parts at that time. Well, I kept the bees one season, but got no swarms or surplus honey. That, I thought, did not pay, and so I asked the bee-men if there was no way to make them swarm or work in boxes. The answer was, no. That the bees would do as they saw fit in regard to such matter. That did not exactly suit my ideas of things, so I began to look the papers over and at last saw the *Bee-Keeper's Text Book* advertized, and sent for one. The information I got from that, as to the way to keep bees, looked a little more like business. I then carefully read Quinby's and Langstroth's works, and commenced taking the bee journals which, by the way, I find very good to take.

Well, the result was that the way the old bee-keepers traveled was rather slow, so I concluded to ride and let them go on foot. The only thing I have to regret is that I have to ride alone, in these parts, except when I have a visit from some live bee-keeper from away. But I have wandered from my subject.

As to the style of hive you should adopt I cannot say. They all have some good qualities, but I find that we cannot always prove a hive in one season. The combs will be straight the first season in some styles of hives, and everything work nice. The next season they will be warped all ways. This is, no doubt, owing to the great depth or width of frame, without any support in the center. There is another way to avoid having stocks weak in the fall; that is to use a division board. Now,

I find a swarm of bees will fill a hive much sooner by giving them but half of the board-chamber at a time; and I have also found that when the bees are a long time building a sheet of comb, the more likely it is to be built crooked. When we bear in mind the shortness of the honey season, it should be our aim to economize the heat in the hive so as to have the board-chamber filled in the shortest time possible. Another thing, but few bee-keepers seem to realize the value of comb to the bees; if they did, there would be less converted into wax.

We are glad to read, in the *Journal* of May, that we are to have a machine for making artificial comb. That, with the mel-extractor to empty the comb, will, I venture to say, constitute a new era in bee-culture.

Are your hives so constructed that you have ventilation under your control? You must remember that they must have your attention in that line at this season of the year as well as in winter. Some days the temperature will be 90° in the shade, and before night there will be a sudden change; in fact, cold enough for a frost. Now the bees will feel this change as well as we, and the hive should be so constructed that the change may be as gradual as possible.

In regard to the fifth question, there has been a great deal said and written already. In wintering bees many ways have been recommended, with varied results; yet there is one fixed fact, that is, to have them come out strong and healthy in the spring, they should be in a cool, dry, dark room through the winter.

With the kind permission of the editor, I will, at some future time, give my mode of wintering the past winter. I will here say, that they were in a fine condition, swarming as soon as the 26th of May, and storing honey in boxes by the middle of May.

This, I think, is doing well when we consider what a poor season and a bad winter they had to go through.

Some old bee-keepers lost all of their stock and came to my place to see how mine had fared. Now, brother bee-keepers, if I have said anything that will assist you in this work, I am glad. I hope that none of you have gone into the business without counting the cost. I fear you will be disappointed if you expect your bees to work for you without they have your care and attention. Bee-keeping means work, study and care; then, with the blessings of rain and sunshine, we may expect our reward. Let us endeavor to assist each other by giving a true statement of our successes and failures in each branch of bee-keeping, and by those means lend a helping hand and advance the cause.

A. GREEN.

Amesburg, Mass.

HONEY PROSPECTS IN MISSOURI.

FOR THE ILLUSTRATED BEE JOURNAL.

N. C. MITCHELL, Esq.—*Dear Sir*: I promised to give you a few items from this section of country. So far, we have had one of the poorest seasons for bees ever known.

The peach and apple blossoms were completely ruined by a severe snow storm, and the season has been so dry that even the White Clover has failed to give the sweets to which it is so peculiarly adapted, and so highly prized as one of our best honey producing plants.

The very best of my colonies, so far, have not stored over three pounds of surplus. I have labored under many disadvantages so far: first, that swarming so far is completely played out. In fact, one of my neighbors with 100 colonies has not had over half a dozen swarms. I desired to transfer from the box to the movable comb hive. Had the first part of the season been good, I should have transferred when peaches and apples were

in bloom; as it is, I had to wait three weeks after the first swarm. I would have to have the patience of Job, if the season continues as poor as heretofore. I believe they will never swarm. At this time several of my colonies are killing off the drones.

I have had good success so far in transferring; being absent from home a great deal, I had to do it when best I could find time. Transferring here is something new, a few coming several miles to witness the change, and a change it is. Within the last week we have had copious rains, and for the last few days bees are doing quite well. I don't fear over swarming in this section this season. I am swarming my bees artificially, and am using the American hive—improved American—a couple of other patents, and last, but not least, Conklin's Diamond Hive.

In looking over the June number of the ILLUSTRATED BEE JOURNAL, page 341, it is somewhat amusing, to me at least, to read Mr. Price's statement in regard to the Diamond hive, and if Mr. Price will take the trouble to pay me a visit, I will show him straight combs in the Diamond hive, that were not cut from other frames and wired there. Perhaps Mr. Price has an ax to grind; in fact, he can't deny it.

I don't deny Dr. Jewel Davis's statement, but I am under the impression that Bros. Price and Davis, in trying the Diamond, did not get the hive *level*.

In using any hive it is best to use small pieces of guide comb. I do it in all of mine, but, to try the Diamond, I used some without, to see if they would build straight; they did it every time. I merely own a farm right in the Diamond, and have no ax to grind. But if there is any thing I do despise, it is to see a man running down another man's patent. Suppose Mr. Price don't like the Diamond, there are some that are foolish enough to do so, and I am one. Another man might not like the Buckeye, and so on. Doctors and lawyers disagree and so do bee men; but enough of this, for I

want to say something about Dr. Jewell Davis's Queen Nursery. I have been trying it this season, and advise every bee-keeper to purchase of him a farm right and model nursery, but be sure and get one with movable cages, for it is the best in my opinion. To use an odd phrase, "its as handy as a pocket in a shirt."

I have been trying your fertilizing cage; but, perhaps I had better tell you in a future article of my success and failure or failure and success. Yours truly,

Rolla, Mo., June 24, 1870.

W. J. BROKAW.

NATURAL SWARMING *vs.* ARTIFICIAL.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—As the advancement in bee culture has made such rapid strides in this nineteenth century, permit me, a novice in the "biz," to give my notions, or a part of them, to the readers of the JOURNAL upon the above subject.

Although I am aware that I will tread upon the great toe of the professed adept in bee culture when I assail his pet hobby—artificial swarming—and be dubbed an old foggy. But a free interchange of thought may be the means of giving light to some one, and turn him from the error of his way. That there is an error some where; is evident, since we have practicers of both methods of swarming. That both methods are correct, is not true. Either the one or the other is to be condemned.

The majority of writers on bee culture claim that artificial swarming is preferable to natural; but why? Do they give one sound, substantial reason why it is preferable? I believe in letting everything have its established and regular course as provided by the great Creator.

When we try to change the established laws of nature—substituting an artificial process—deterioration is the result; and he who will persist in artificial swarming will slowly but surely find his colony growing less productive and fruitful. But chimes in the advocate of artificial swarming, we will assist nature and expedite the swarming in order to avoid the possibility of a loss of the swarm. All very well, I believe nature can be assisted under certain circumstances. But suppose you had a hen setting, and at the end of two weeks you would break the shell of an egg in order to expedite the chick's egress, what would be the result? Would nature be assisted properly?

Reader, did it ever occur to you what might be the reason of all this ado, and lauding of the artificial process? Did it ever occur to you that those self-same writers had a patent hive for sale—far be it from me to detract from the merits of the movable comb hive—and lauded this process in order to thrust their hives upon the public? as they well knew that artificial swarming could only be practiced in the movable comb hive.

Multiply and increase is the doctrine taught by the advocates of this theory, or, at least, this is the result to which the novice leads. The practice becomes a kind of monomania when once indulged in, and he will go on dividing *ad infinitum* until his colony is a total wreck. Such instances have come under my own observation, and I ask, will this pay? And especially, I ask my Iowa neighbors which will day the best, to keep your bees in a non-swarming condition and have a plentiful supply of honey, or divide them as fast as possible, and sell them at from two to three dollars per swarm?

If you see fit to give this an airing in the JOURNAL do so, and if it looks well in print you may hear more anon from

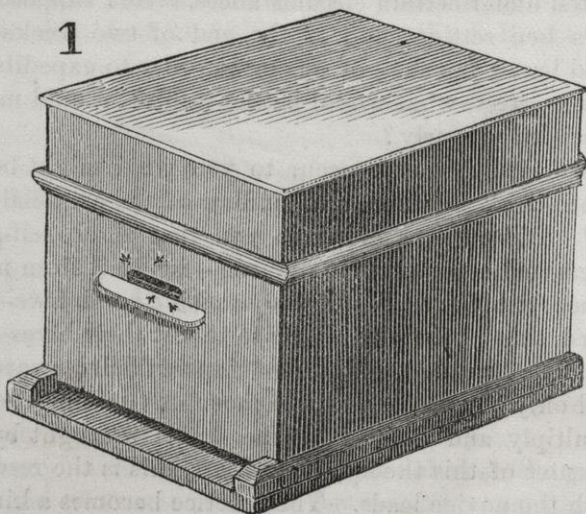
NOVICE.

South English, Iowa.

ALLEN'S PATENT BEE-HIVE.

ENGRAVED FOR THE ILLUSTRATED BEE JOURNAL.

BRO. MITCHELL:—As you have asked me to give you a description of my hive, "The Home of the Honey Bee," and it shall be illustrated in your valuable paper, THE ILLUSTRATED BEE JOURNAL, I will endeavor to do so in

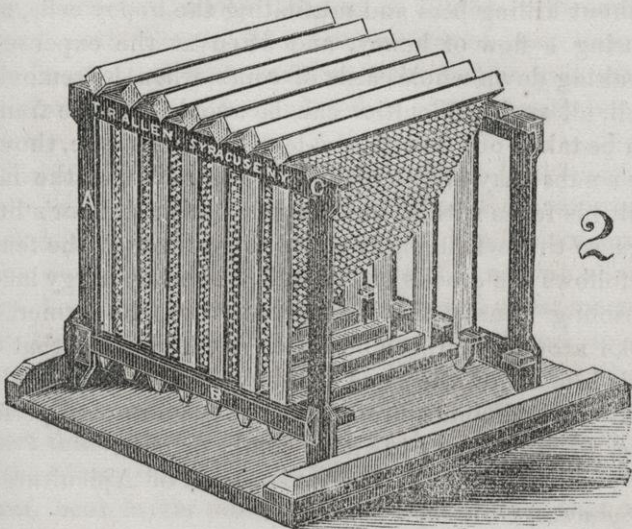


my plain, simple style, which is the style of my hive. So plain and simple is the management of it that the wayfaring man, though a fool, need not err in the management thereof.

Figure 1, is a perspective view of the hive as it stands in the apiary with the bees in it and flying about the upper entrance. The shell, or outside of the hive, is composed of two sections, upper and lower. The upper section contains the honey boxes or surplus honey frames (as either may be used), and lifts off down to the break, a little above the upper entrance. The lower section contains the broad frames and brood, and also winter

stores, and lifts off down to the sills of the hive, which project a little on either side, and form a base.

Figure 2 gives an inside view of frame work, the shell or outside cover being removed. Letter A, in this figure, exhibits the frame-holder which supports the comb frames. C represents the absence of a comb frame, which has been taken out and exhibited in figure 5, of circular. Letter B, the lower rail of frame-holder. On the inside of the lower rail, at the rear end, can be seen



the openings or spaces which receive the comb-frames, and keep them at equal and proper distances apart, both front and rear. Figure 3 exhibits the lower section of shell or cover, after being removed from figure 2. The upper section of cover is exhibited in figure, 4 of circular. Now, as I have shown that the whole of the outside shell, or cover, of my hive is separate and independent of the combs and bees, and can be removed when necessary, notwithstanding some have got the impression that the whole shell, or outside cover, has got to be removed, in all cases, before drawing a frame; but

that is not so. The comb frames can be drawn at any and all times, the same as in any close box movable frame hive, subject, of course, to the same difficulties, without removing the shell; but will always be found best to remove it in the honey and swarming season, as at that time the combs are sometimes made crooked, honey cells stand full of honey and jutting out into the frame next to it, that not being filled out with comb, so that it makes it impossible, many times, to draw a frame without killing bees and mutilating the honey cells, and causing a flow of honey, and often at the expense of breaking down whole cards of comb, when, by removing shell, all such difficulties can be avoided, as the frames can be taken out on either side with perfect ease, though the combs may be as crooked as the rails that the man built his fence with to guard against his neighbor's little pigs, so that when piggy starts to go through the fence, he follows the crooks of the rails, and when piggy lands, consoling himself that he has outwitted the farmer, he looks around and beholds with astonishment that he finds himself on the same side he started from. And so with crooked combs in my hive; they go in with perfect ease, without injury to either combs or bees.

T. R. ALLEN, Prof. of Apiculture.

Syracuse, Onandaga Co., N. Y.

NATURE AND HABITS OF THE HONEY BEE.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR—*Sir*: With your permission I will state, through the columns of your most excellent Journal, that I write from a scope of country within the bounds of the "Old North State," between the seaboard on the east, and the mountains on the west, and in the imme-

diate vicinity of a group of mountains, between and on top of which may be heard the hoots of owls and the yelping of foxes by night, the whistling of plow boys in the valley, the clatter of cow bells, frying pans, and the frequent humming of fugitive swarms of bees decamping by day. The country is thinly settled, well timbered and watered. The group of mountains is divided by a valley of considerable length, through which a stream courses its way. The valley land is generally very productive, while the best of lumber is procured from the mountains. The last but not of least importance to most of your readers, is the culture and manifestations of the nature and habits of the honey bee in this region.

The inhabitants have generally secured to themselves as much honey, as was necessary for home consumption, from hollow trees and box hives, by the use of brimstone, etc. The idea that the drone does not lay all the eggs, has always seemed very strange to most persons here. Talk about a queen bee here, and many do not know that they have such bees. Talk about the "king bee," and they at once see the point and are ready to assert that he is the male, and the only one of the kind in the hive. Tell him that worker bees can and do raise queen bees in the absence of the queen, and they will quickly assert that *their* bees will not do so.

People have kept bees here in hollow logs, nail kegs and box hives, where they never see them only as they passed to and from their dens. At this season, vagrant swarms of bees are frequently found clustered in tree tops, where they remain for several days and even months. While walking the road the other day I saw, suspended from a large limb, six pieces of as neat white honey comb as I ever beheld, and not a single bee to be seen. On going further, I found bees at water and soon coursed them to their den, and now have them working nicely in their *movable comb hive*.

A movable comb bee-hive was almost unheard of in this section a year ago. Early in the spring I secured the hive and transferred my bees, and now, Mr. Editor, you ought to see box hives growing small in the eyes of even *old fogies*. Quite a number are now in use, while a great many men have so little confidence in their own minds that they are waiting until next year, so they can see what has been done in *new hives* this year. Bees are now gathering the best and finest of honey from the sourwood blossom. More anon. IGNORAMUS.

Sawyer ville, V. C., June 25.

OBSERVATIONS AMONG BEE MEN.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—I wish to tell you a little about how I first got an introduction to your valuable paper, THE ILLUSTRATED BEE JOURNAL, and how I became interested in it as an agent, and what I have been doing to advance its circulation. My first acquaintance with the JOURNAL was formed through the politeness of a friend of mine in this city, by the name of M., who told me that he stoled it off an editor's table, though I believe he has never been arrested, as I have never told it before, and I hope, Mr. Editor, you will not expose him now, and I suppose you're the very man that sent it, and, perhaps, intended it for me, for aught I know; neither do I wish to know, only that I got it, and my friend escaped detection. It was the January number, and as soon as I got it I commenced reading it and read it through, and not knowing that I should ever be favored with another number, I kept on reading it until I got much of it committed to memory. I first went to friend Holmer and asked him if he would like to subscribe for a bee jour-

nal, he being a live bee man, and anxious to learn all he could about the wants of his little pets, he did not need much urging to comply with my request; and then I went to Mr. Stanton, a brother-in-law of H., and as he was about to engage in the bee business this season under my tuition, I told him that it was indispensable, that all my students should have books, and get their lessons, if they expected to succeed in the business. I then took a tour around through the adjoining towns. One bee-keeper could not take it, for he was taking a little sheet printed at Washington, D. C., which is neither stitched nor bound. I went to another farmer, he thought he would not take it, for, in his opinion, his bees would all go up; already he had lost one swarm out of three. He had his bees standing out, exposed to the run of his hogs and cattle, and by some mishap some hog or cow came in contact with one of the hives, and exposed its inmates to all the wind and snow of a cold stormy night, and when Mr. Farmer—I will not call him bee-keeper—got up in the morning and saw the condition of his hive and the little bees all froze stiff, he began to cry out that one swarm was gone up, and he guessed that bee business was all a failure, and he thought he would not need the paper, as it would do him no good. Now, in that, I think he told the truth; and as an illustration of the extent of his education, I will relate a little anecdote. At the time I was there he had a friend call on him that he had not seen for a long time, and after he had gone he remarked to me that this friend was a nephew of his, their fathers are own brothers. And, now, on taking my leave of the farmer, and administering a few words of consolation for his neglect of duty, and the application of a little common sense, by saying that it was a blessing to the bees that had gone up, as he called it, and it will be equally as great a blessing for the two remaining swarms when they also are relieved from the miserable care and protection they have and are receiv-

ing from your hands. And, now, Brother Mitchell, I have not one particle of sympathy for such would-be bee-keepers; they are a dead weight to the progress or advancement of bee-keeping, and I could mention many others now in my mind, in adjoining towns, that are like the dog in the manger, they will not do anything themselves, but stand in the way of others that would do something. I have had, within the last few days, no less than three of the above class of mongrel bee-keepers tell me they have lost every swarm they had. I tell them I am glad of it, we are glad to get you out of the fraternity, and hope you will keep out until you can come in right, do your duty, join the association, and set an example in bee-keeping that others may be proud to imitate. I called on a man neither farmer nor mechanic, nor anything else as far as enterprise has to do, but he had six or seven swarms of bees down in a deep cellar sitting on the ground, and the cellar so wet they had to lay boards on the ground to walk on. Whether dead or alive now I know not, but I doubt not they will be before many sunshines. I entreated and begged of them to do something for their bees and save them, to take the BEE JOURNAL and learn how to take care of their bees as they should be, and the bees will provide for themselves, and pay their owner better than anything else, but all to no purpose, they had to raise to much maney to pay their taxes, they could not spend anything for bees. O! is'nt consistency a jewel. I called on another in our own town, a would-be great bee-keeper; he had got reduced down to one lone swarm, and he assured me he should manage that most mighty careful; he was'nt going to trust that swarm to no book management, nor have them put in new-fangled modern improved movable frame hive; he was'nt going to have any artificial swarms nor artificial queens, but was going on the good old tried system of bee cultivation that his good old grandmother's great grandfather had always prac-

ticed, and he never failed of having good luck, and always had lots of bees to take up every year. So I concluded to let him jog along with his great grandpa's old and tried way of bee-keeping. I did not say anything more to him about taking the BEE JOURNAL, for I had, by this time, become satisfied that he was so brainless that he could not read and understand it if he had it, so I left him here with the one. I fear that he thought he was the smartest and best bee manager in the country. I have not heard from him since. About this time I took a tour out in Oswego county, calling on bee-keepers, and found them all far from what they should be in the line of bee-keeping. I called on one bee man that had some fifty hives, a German by the name of Guenther, who thought that he needed some more light to make him a better and more successful bee-keeper, and at the same time gave me his name, as above, for the JOURNAL. And, to sum up in a word, bee-keeping in this section of country is in a miserable low uncultivated state. We need a bee association in this county, and we must have one if there is talent and enterprise enough in the county to organize one; at any rate, we can try and see what we can do. A few days since I met an old acquaintance, by the name of P., who says to me, "Allen do you keep bees now?" to which I replied, that I did. "Well, I have got a hive I would like to sell you." "What kind of a hive is it Mr. P.?" "It is a good new hive made of pine boards plained inside and out, with a chamber and two drawers for the bees to fill with honey." "Box hive I suppose, Mr. P., is it not?" "Box hive—it is like any other hive, only, as I told you, it had a chamber with two boxes in it for the bees to put honey in. I made it especially for my own use, but I lost all of my bees before I got any swarm to put in it; so, now I would like to sell it." "O! now I understand you Mr. P., it is just a common box, where the bees attach all the combs to the sides of the hive to keep them in their proper place.

Mr. P., I do not use any such kind of hives. Now you are too far behind the times to sell me hives. You are getting so far advanced in life that you cannot keep up with the march of Improvement in bee culture at the present day. Were you not aware that this is a day of steam whistles and horse railroads." "But, do you not have your hives hollow inside for the bees to stay and build their combs?" "O yes, but different kind of a hollow from what you have. In the first place, in my hive, called the "*The Home of the Honey Bee,*" I have a pair of frames, called frame holders, one of these at the front and one at the rear end of the hive; inside of these I have some eight or nine frames of a different kind that hang upon these frame holders, and are held at proper and equal distances apart at both top and bottom. In these frames the little workers set up all their furniture, in which they have all their different apartments for the various kinds of business necessary to be carried on for the convenience and maintainance of the family; and, in addition to all this, they have a *queen wedding parlor*, which is adjustable to any one or all of the hives, in which the young daughters or queens, as soon as they arrive at a marriageable age, are introduced, to perform the marriage nuptials. In some respects their weddings are like the Quakers. After selecting a partner for the young daughter, and several other gentlemen of the fraternity as guests to witness the marriage nuptials, they are all invited into the wedding parlor, doors closed, and then, like the Quakers, left to perform the marriage ceremony for themselves." "But," says Mr. P., "all that may be true, you may have some way of doing it, but I do not believe a word of it. What is the price of your hives?" "They cost five dollars, and the queen's wedding parlor extra." "Well," says Mr. P., "I think I shall not engage in the bee business, it costs too much." "But, my dear friend P., did you not know that a thing that costs nothing is always worth the price, and that a thing costing a high price is often the cheapest in the long run."

Syracuse, Onondaga Co., N. Y.

FINIS.

EXPERIENCE WITH BEES.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—I must say a little about bees. I speak by experience and practice, and will talk about the queen at present. The queen is the mother of all bees; she lays about three thousand eggs in twenty-four hours; in the best honey season the greater part of her eggs is the worker bee, and several hundred male bees during the season. The worker bee is a female not fully developed for laying eggs, although there is some fertile workers, but their egg will all be drones.

Now, Mr. Editor, I say that the queen is raised from an egg that is laid in a worker cell. An egg is selected before it hatches, that is, before it is three days old. I would say here that bees can't rear a queen after the egg hatches out, and in its cell is stored its so-called royal food, and in about three days the worker bees cap it over, always pointing the cell downwards, and, according to what condition the hive or miniature's temperature is, if favorable, will come out a perfect queen in fifteen or sixteen days, and when six or seven days old she goes out to meet the drone high in the air. The queen upon her return frequently bears marks of her connection with the drone, and generally begins to lay in two or three days afterwards, unless some interruption occurs. The queen never lays an egg in a prepared queen cell, nor the workers never take an egg from a worker cell and transfer it to a queen cell; the worker bee always selects an egg near the edge of the comb to raise a queen. Now, I have heard questions asked how the queen can tell when to lay worker and male eggs? and, why not all workers or male eggs? My answer is, that the workers must be raised almost continually to supply the waste the whole or about the year around. There must, in some parts of the season, be several hundred drones raised,

and that is when the hive is well supplied with honey and bees generally. They commence to raise them in the month of May and until September, although I have seen a few young drones in February, 1868; they were Italians. When the queen is laying in a worker cell her sides are compressed, and as the eggs pass the receptacle they receive the male element, and when she lays in the drone cells, to the reverse, her sides are not compressed, so consequently the eggs do not receive the male element, or, in other words, are not impregnated, and the eggs will, if ever hatched, be drone bees, and man nor bees can change them to queens or worker bees. The eggs are generated in the top of the oval; the conceptive sack lays on one side of the lower part of the oval, and the male element is received in that sack, and when the eggs pass down the organs through the mouth of the conceptive sack it is impregnated, when the queen lays in a worker cell, and not when she lays in a drone cell.

I will now tell you how I raise Italian queens. I make a box six inches square and rabbet the top, front and back, and a good tight movable cover, and put in three or four frames, the top end longer to hang on the rabbet, and a hole in the bottom for the bees to enter the miniature; the frames to have honey in, except the middle one, which must be dry comb; cut out a place in the center two inches long at the top and one and a half inches long at the bottom and one inch wide, cut a half circle below that to give a passage through for the bees and a better chance to cluster around the eggs; cut a piece the same size that has eggs on both sides and put it in the dry comb frame, and always put it in the center. Never attempt to raise a queen only when drones are out. Put one quart of your bees in and a wire cloth over the hole, and then it is ready for the eggs, after putting them in the work is done. I then put my miniature or what I make into my wagon, generally late in the afternoon, and carry them two miles from home, and set them about

forty rods apart and take the wire cloth off and let the bees out; they find they are queenless, and have the material and commence at once to raise them a queen, they generally start several and sometimes not any; I leave them three or for days, tack on the wire cloth after dark and fetch them home; and fifteen or sixteen days from the time I give them eggs a perfect queen comes out, and when six or seven days old she goes out to meet the drone; and when she lays, which is generally two or three days after impregnated, I take her and put her in a cage about three inches long made of wire cloth, the mesh not large enough for a bee to go through; the size about one inch around; I generally have a corn-cob in each end for stoppers; and put them in a miniature prepared for them, with plenty of bees and honey, but no queen, and space enough between the frames and top to put in the queens that are caged; you can in this way keep as many queens as you please in the miniature all summer; and when I put one in a hive first drive the bees out and find the queen and kill her, and then, if in a box hive, put the caged queen in the center of the comb and about four or five inches above the bottom and press the comb against it so as to hold it, and put the bees back and leave for thirty-six or forty hours, then liberate her and all is well. There are other ways, but this is the safest way, not liable to so many accidents in losses of queens. I find if I put a queen pod in a miniature or a hive the bees will invariably destroy them or the most of them; and if I want to save them, which is an item to the apiarist who raises queens, I put them in a cage and put them in the safest place in miniature.

Mr. Editor, this is my first effort, so you must excuse bad spelling and my absent grammar, which branch of study I am sorry to say I am not acquainted with; however, you shall hear from me again soon. The season opened here early and good for bees, and they are doing well. I use the Union hive. I remain the same,

CLARK SIMPSON,

Flushing, Genesee Co., Mich., April 13, 1870.

THE PROCESS OF INTRODUCING QUEENS TO BLACK BEES.

FROM A. BENEDICT'S CIRCULAR.

Blow a little smoke in the entrance of the hive to quiet the bees, then take it up gently, then carry it a rod or so from the stand, set it down bottom up, if a common box hive, then take a box that will fit on the hive; if it does not fit lay a piece of cloth around to keep the bees in, then rap gently on the hive for a few minutes, the bees will run up into the box the queen with them; then shake them out on a cloth or sheet, have in readiness another box, set it down for the bees to crawl in, look for the queen as they crawl and secure her; then take the new queen gently by her wings with your thumb and fore finger, have in readiness a tea-cup half full or so of diluted honey, dip her until she is completely covered, carry the hive back to its stand, let the new queen crawl in at the top down among the comb, then take the box containing the bees, shake them down in front of the hive and let them crawl in and all is done.

In three weeks thereafter her young begin to hatch, and in three months the stock is entirely changed to the new variety. If in a movable comb hive remove the surplus boxes, then put the cover back and drum them up into it, as in common box hive. I prefer this mode to the removing of frames to search for the queen, as the drumming process causes the bees to fill themselves with honey, and they are not as liable to injure the new queen.

Bees can be improved as well as any other farm stock. While at Kelly's Island, in 1866, I commenced by picking out of the first lot of queens hatched, one of the Parson's stock; she was large and light colored;

after she had deposited eggs six days, I then removed her and let the bees construct queen cells from the eggs; when they were capped over, I cut them out and inserted them in nucleuses. When they hatched, I picked out the largest and lightest colored again, and so on until I raised the sixth generation that year. In 1867 I raised five generations, in 1868, five more, making sixteen generations in three years.

Most of the queens, thus raised, I put in my own hives at home, and others in the vicinity, so that I could test them and pick out the best each year to breed from. By thus careful breeding, I have succeeded in producing very large and light colored bees.

IMPREGNATION AND PROGENY OF THE ITALIAN BEE.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—On page 407 of the July number of THE ILLUSTRATED BEE JOURNAL, Mr. A. Moore answers T. P. Tillinghast's question, in regard to the character of the progeny of an Italian queen having been impregnated by a black drone. Mr. Moore thinks that the offspring will be impure in such cases. The same opinion is also entertained by quite a number of our best apiarists and queen breeders in the country. Among those who favor such an opinion, I might mention our worthy friend, Dr. S. Hathaway, of Muncie, Indiana, whom I regard as one of our most careful queen breeders, and who has on hand a stock of Italians which, I think are unsurpassed in America. The doctor has adopted my own custom, in cases of mismated queens, namely, that of destroying all their drone progeny before they hatch, by shaving off their heads with a

sharp knife; and I also allow such queens as little drone comb as possible. But whilst such has been my practice, I cannot say that I fully entertain either Mr. Moore's opinion, or the same opinion entertained by many others. I look upon it as being a question as yet not fully settled; if so, I have never been able to find the experiments which clearly demonstrate it in any of the works which are looked upon as authentic. Among the authors that I have examined, are Langstroth, Quinby, Mitchell, Thomas, King and Adair. All of the above named authors equally agree that a queen, having never mated with a drone, will lay eggs which will produce, to all external appearances, fully developed drones. But whilst they all agree upon this fact, they have not proved that such drones are sufficiently developed to enable them to fertilize virgin queens. Some of the correspondents of our journals have stated that they do not believe such drones capable of playing any part in the process of reproduction. But such beliefs have not been accompanied with sufficient evidence to show more than a strong suspicion as to such disqualifications. Now, if it can be demonstrated that the drones from a virgin queen are not sufficiently developed to enable them to mate virgin queens, we are forced to the conclusion that the fertilization of an Italian queen, by a black drone, will affect the purity of her drone progeny. But, on the contrary, if it can be proved that the drones of a virgin queen are capable of impregnating the young queen, then I must confess that I cannot see or understand how fertilization can possibly affect the purity of drones. If fertilization does not have such an effect, we must conclude that the seminal fluid of the drone becomes a part of the queen herself, and that it not contained in a permanent receptacle, as the experiments and observations of Huber, Dr. John Hunter, Dzierzon and Dr. Joseph Leitz, of Philadelphia, go to show. Each of these distinguished gentlemen and naturalists have demonstrated

that the spermatheca of the fertile queen contains a fluid precisely like the semen of the drone. Now if there are any faults to be found with these experiments, or the manner in which they were conducted, they have thus far been kept from my view, and I must say that so far as my own observations have extended upon this question, nine queens out of ten that are called mismated queens, were dashed with impurity themselves, and consequently cannot reasonably be expected to produce either handsome drones or workers. Such queens spring up in the apiaries of our best bee managers, and I feel confident it happens in something after the following manner: a bee-keeper has an Italian queen, his neighbor has a black queen; some of the young black queens are impregnated by an Italian drone. This at once renders their queen offspring part Italian and part black, and, of course, *their* drone offspring, in turn, will be equally mixed. Now let one of these drones impregnate an Italian queen, of undoubted purity, and the only means by which any of us can, to a certainty, detect any impurity in her queen progeny, is by rearing queens from her queens, when a majority of them will be of very dark color. I know that here I am not adhering to the usual tests of purity, the most popular test being three distinct yellow bands on the abdomen of the workers, commencing with the waist; but experience has taught me that such a test is not always to be relied upon. I remember of having a queen in the summer of '69 whose workers, in many cases, exhibited four distinct yellow bands, and upon testing her queen breeding qualities, I found she was decidedly unfit for this purpose, and proceeded at once to destroy every queen that hatched from her brood, as they were only fit to run backwards with in breeding queens. Now as to the mode of testing drones in practical queen breeding, I would advise some of our breeders, who have succeeded in having queens impregnated in confinement, to use

drones from such a queen as has never been fertilized by a drone, and thus ascertain whether they can or cannot impregnate a virgin queen. If they can I, for one, must support the conclusions already arrived at by the authors referred to, namely, that fertilization will not affect the drone progeny of a queen; and, also, I will state again that impure drones come from impure queens I know, as they cannot be otherwise; and, for this reason, cannot impregnate a queen purely. But, gentlemen of the bee-keeping profession, as this is a vexed question, I will not impose upon you too much, by discussing it at greater length here, but shall continue to hope that time and fair investigation will settle, beyond dispute, this and many other questions of similar character.

G. BOHRER.

Alexandria, Madison County, Ind.

EQUALIZING COLONIES.

FOR THE ILLUSTRATED BEE JOURNAL.

As the swarming season is now about over, or should be, the apiarist should see to equalizing his colonies by taking frames of nearly maturing broods from the strong and giving them to the weaker ones. Get all equally alike, as to bees and combs, as soon as possible. All artificial increase of colonies should now be discontinued, unless in districts where bee forage is abundant. Throughout this month is a good time to see that all old and unprolific queens are removed and the bees furnished with young and prolific ones. To do this, if spare queens are not at hand, form one, two, or three Nuclei hives; how to do it, see my article in back number. How to Italianize an apiary of bees—always take brood from

the most prolific queens in the apiary. About the eighth or ninth day remove the old queen. The hives should be examined about the tenth or fifteenth day after, to see if the young queens were there and fruitful; then close up for the season. All small after-swarms should be saved. If the apiarist has his bees in movable comb hives he can take one card of comb from each of several hives and give to them. Such combs are generally the best and most profitable the next year. The honey emptying machine should now be set aside, and let the bees lay in their winter stores. Outside cards of comb that are filled with honey and capped over should be removed, giving empty frames in place, or rather place the empty frames near the center of the hive. The full frames should be kept to give back as they are needed.

A. BENEDICT.

Bennington, Monroe County, Ohio.

BEE CULTURE.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—The JOURNAL comes to us regularly, though a little slow, and is read with pleasure. It is always a welcome visitor to our apiary; only one objection; we wish it was larger. It is what all bee-keepers want. Look out for a club. Our bees are doing well at present, but I think they will do better as soon as you send us new queens. I am glad to see that W. H. H. Goodlander is going to ask questions. We will exchange queens with him and drones also. On page 369, Mr. W. McK. Dougan wants to know whether the bees stopped on account of that glass. We don't know whether they did or not. But when we used to let our bees do their own swarming (that is before we learned to artificial

swarm), we always settled with a glass, and in nine cases (or about) out of ten we have had the queen to alight on the glass. The bees appeared to be bewildered, and could be hived without any trouble.

Friend Mohler, examine those hives a little closer, and see if they were not queenless, or had too much honey. Bees can winter just as well between two walls of ice as between two combs entirely filled with honey.

Both will kill them.

TWO BIG BEES.

Leesburg, Ind., June 13, 1870.

HYBRIDS.

FOR THE ILLUSTRATED BEE JOURNAL.

I have failed once in introducing an unimpregnated queen by Allen's process; but it was an uncommon cross hybrid swarm. They were so full of fight that after they were fumigated until they were helpless they would sting one another. These hybrids are tough customers. On the next morning they seemed to manifest so much sorrow for their conduct the previous evening, that I gave them another queen from the nursery, and with very little fumigating, they accepted her all right. In the future, in introducing any queen to a hybrid stock, that will manifest so much rage that they will boil out at a fellow in the way these did, I shall not attempt the introduction until the following evening after depriving them of their queen. By the way, I have had the best of success with that queen nursery of Jewell Davis's. I have allowed my Italians to come up to the swarming, then taken out the old queen and her swarm, and as fast as the cells were sealed, removed them to the nursery for hitching and safe keeping. In this way I have procured all natural queens, raised from the egg, large and

prolific. For, Mr. Editor, I am not exactly satisfied with those artificial or forced queens. There is more than one-half of them that do not come up to the standard with me. How often we have forced or artificial queens that only last one or two months, while a natural one is good from four to six years. Certainly quite an item in satisfactory bee-keeping.

Bees are still doing well up to July 18. That is, gathering abundance of pollen, raising brood, etc.; not storing quite so much honey as they were a week ago, yet still storing in boxes. The yield of basswood honey was large and of excellent quality. The weather was dry and hot—*exceedingly so*—during the time of basswood bloom. Come, everybody, and pay Gallup a visit, and get some honey.

Yours, etc.,

ELISHA GALLUP.

DRONE COMB—ITALIAN QUEENS.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—I tried an experiment, this season, that satisfied me that the theory of Mr. Otterson is not correct. I took all the drone comb out of my movable-comb hives and filled an empty hive with drone-comb, honey in the comb and brood, and then introduced an Italian queen that had never mated with a drone. She was hatched in the apiary of Mr. T. G. McGan, of Monmouth, Illinois, early in the spring, and was laying drone eggs before there were any drones flying. She raised me thousands of bees before my black bees, in box hives, thought of raising any. I had no Italians before I got her. If his theory is correct, these drones must be part black, as they were raised in last year's drone

combs, but they are no more like black drones than a Suffolk pig is like a Berkshire.

I notice in the June number there is an article written by Mr. Tillinghast, in which he quotes F. H. Thomas thuswise: "A pure Italian queen, mating with a common drone, will never produce drones entirely pure; they will have a dash of black blood." In the July number Mr. Moon has answered Tillinghast, and, notwithstanding Moon and Thomas are high authority on any question connected with bee culture, I must differ from them, and I might quote Langstroth and King as my backers.

It seems to me that if an Italian queen can produce pure drones without mating with a drone at all, that settles the point that the drone egg in passing from the queen does not come in contact with the fertilizing material. If an Italian queen can produce pure Italian drones, independent of any contact with a drone, why is she not as independent, as far as her drone progeny is concerned, after her contact with the drone? If we are to have a *dash* of black blood by having occasionally a pure queen mate with a black drone, I would advise every one to do as I have this year, rear all their drones in one hive, from a drone-laying Italian queen, and then the "dash" of black blood will not appear.

A bee man in this part of the world, who is very well posted, says queens raised by the bees after the old queen has been removed, are never so good as queens raised in the ordinary way. How are Italians raised in the ordinary way? I have a notion (I shall not call it my "philosophy") that all queens are raised in precisely the same way, by the bees, and that the queen has nothing to do with it. A worker egg is taken by the bees and developed into a queen by enlarging the cell and by the food, and the old queen has no more to do with it than the drones, only that she lays the worker egg. I have examined a great many hives and I have never seen an

old queen cell; and this, in connection with the fact that the old queen is always hostile to other queens, and will destroy all queens and queen cells if she can, forces me to the conclusion that young queens are raised independent of the old queen.

Now let me say a word for Mr. Ottarson. He started a theory which all admit is not correct; at the same time he is entitled to a respectful hearing and a respectful answer. If every one who starts a new idea on bee-culture is to be sneered and laughed at, or have fun "poked" at him, then bee-men will be very careful how they start new ideas, though they may be satisfied, in their own minds, they are right. Dr. Bohrer's answer to Ottarson's philosophy is correct; but he is mistaken as to Ottarson's threat to let off a big gun at him. If he will read Mr. Trudo's article he will find that Ottarson's postscript, which contains the treatise, is only a quotation from Trudo.

JOHN M. FULLER.

Atkison, Illinois, July 16, 1870.

CARE OF BEES.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—There are too many careless bee-keepers. I called to see one of that kind a few days ago, and on asking if he did not want his bees transferred to a movable-comb hive, he answered by saying that his bees were not worth anything; but said, if you can do anything with them it is more than I can. I asked to see the bees. I found them in a horrible fix. He had wintered ten colonies. Four of them had deserted their hives and gone to the woods. The other six laid around like so many pumpkins, some sitting on one end and some on the other, and one lying on its side. On setting it up it fell into three pieces. Then their hot feet burned

me for awhile. After their rage had subsided, I looked for the bee-keeper or owner of the bees. He had run to the house. I asked him if his bees had not swarmed. "Yes, but I had no luck with bees; they all went off but two." I ventured to ask him, "how many swarms have you had?" He said about nine. "How long have your bees been in this fix?" "Well, the bench got broke last spring, in March, and they have been falling off, one at a time, ever since." "How do you do when you transfer bees?" "I drive the bees out of the hive and put the brood and bee-bread into the frames of one of these movable-frame hives." "Then you let the young bees hatch and make a swarm?" "No, sir; I put the same bees in the new hive that I took out of the old one." "Ah, how did you learn that?" "I learned it by reading the Bee-Keepers' Text Book, and bee journals." "Then they have got to printing bee journals?" "Yes, sir." "What do they cost?" "I take two; one of them costs one dollar per year, and the other cost two." "Where are they printed?" "One of them at New York and the other at Indianapolis." I asked him to take one. He said "I guess not." I transferred his bees in one stand. I found nicely marked Italian bees. I asked him if there were any Italian bees in the neighborhood. He said that he had heard that there were some about three miles off. The queen was a black one, but had mated with an Italian drone.

Fortville, Ind.

J. S. MERRILL.

MOVABLE FRAMES.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—On page 400 of the July number of the BEE JOURNAL Mr. F. Brewer condemns the movable frames now in use. This gentleman says:

"In the *first place* the bees never fasten their combs to and across the bottom, consequently the bottom bar, at least, is not only useless, so far as the use it is to the bar

has to do, but is positively in their way, and a harbor for the moths in the bargain, to say nothing about the inconvenience it so often gives in removing combs without first removing them to one side. * * * Moreover, those useless parts of the frames actually add to the expense of the hive."

The above will show that Mr. B. has four objections to the use of the bottom bar, viz: 1. "The bees never fasten the comb to the bottom." This is true with the Black, but not with the Italian bees. On the other hand, the bottom bar is very useful as a support when transferring combs from box hives to movable frames. It will be found efficient, also, whenever combs break down by heat or any other cause.

2. "It is a harbor for the moths." It is not, if you make the frame half an inch shorter than the hive.

3. "It gives inconvenience in removing combs without first removing them to one side of the hive." It does not, if you make the bottom bar a little thinner than the comb is.

4. "Those *useless* parts of the frames add to the expense of the hive." At fifty cents per hundred feet for laths, I find that the bottom bars in a Quinby hive will cost about six cents, or six dollars for one hundred hives.

In the hands of careless bee-keepers the frame hive is certainly no improvement on the log or box; but will Mr. B. tell me which hive is an improvement for such bee-keepers?

"Even passably practical men will condemn all claims to improvement in bee culture and resume the good old brimstone practice soon." Hear that, bee-keepers! There is no use in talking and writing so much. You made no improvement in bee culture at all! Passably practical men have already resumed the good old brimstone practice. (I wonder if Gallup ever will.)

Impatiently expecting the description of Mr. B.'s patent, and patiently waiting for the second imperfection in movable frame hives susceptible of a remedy, I am



M. G. PELATAN.

ENGRAVED FOR THE ILLUSTRATED BEE JOURNAL.

We present our readers with a true likeness of M. G. Pelatin, Editor of the *Journal des Fermes a des Chateau*, published at Paris, France. The Editor is an able writer and is doing much good in the interest of bee culture, and is in charge of the apiary of the Society of Acclamation of the Bois de Boulogne, Paris, in which bees of Italy, Egypt, Corinth, etc., are kept.

BEES—THEIR NATURE AND HABITS.

FROM THE WESTERN RURAL.

Queens mate with more drones than one. As I remarked in my last, this is admitted to be true; yet the queen is only once impregnated. That a queen once impregnated is impregnated for life, is easily proved, in the following manner: As soon as it is ascertained that

a queen has mated, catch her, and cut off one of her wings, so that she cannot fly; the consequence is, that she remains in the hive, and never goes out to meet the drones again, and yet she remains fertile till old age, or during life. That a queen should mate with more than one drone, and yet be impregnated but once, as stated above, must appear strange to those who do not fully understand how a queen is impregnated; but when this is fully understood, it appears very natural that it should be so. The impregnation of the queen is effected in the following manner: In the abdomen of the queen, communicating with *oviduct* through which the eggs pass to be deposited in the cells, there is a small sac called a *sperm reservoir*, or *spermatheca*. This sac, in the act of coition, and during the time the organ of the drone remains attached to the queen, becomes filled with the impregnating or seminal fluid. The queen is then said to be impregnated or fertilized. It will now be seen that if a queen mates with a drone, and the organ of the drone is prematurely removed by the bees, or in any other way, the sac will not be filled, and the queen will not be fertilized, but must mate again with another drone. I have never seen the bees remove it, but have seen them attempt to do so. MR. MOORE states, however, that he has not only seen the bees remove it, but has removed it himself more than once from the same queen. This being the case, we are enabled to understand what has heretofore been a mystery. Since the introduction of Italian bees, it has been claimed by apiarists whose veracity cannot be doubted, that some of their Italian queens produce at first a progeny of pure workers; afterwards, they produced only hybrids; while others again produced at first hybrids, and afterwards pure bees. I have never seen a queen that produced in that way; yet, if such really is the case, it can only be accounted for in this way: A queen mates with a drone, either native or pure Italian, and the organ of the drone is not removed

from her body by the bees until the seminal sac has been partly filled with the fertilizing fluid. Not being fully impregnated, she goes out and mates with another drone. If the first drone happens to be Italian, and the second black, she may at first produce hybrids, afterwards pure, or *vice versa*, as the case may be. This idea is supported by the fact that MR. GALLUP, of Iowa, had several queens only partially fertilized, fertility expiring in a short time after they commenced to lay; and my brother had a similar case. Such queens, had they mated a second time, and with a different kind of drone from the first, would have produced two kinds of worker bees.

There is a wide field for experiment in this production, and I hope that some of our amateur bee-keepers will turn their attention to it.

J. H. THOMAS.

INTRODUCING QUEENS TO STRANGE COLONIES.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—Parties frequently complain of losing Italian queens in attempting to introduce them to Black colonies. Having had some experience in losing and introducing Italian queens, I have endeavored to profit by such loss in searching for the cause, and think I can mention two causes, at least, which not unfrequently lead to the destruction of queens in attempting to establish them as mothers of strange colonies. The first cause to which I allude is where colonies have lately cast a swarm and have not yet a young queen hatched. Now, be it understood that bees are as partial to queen cells immediately after casting a swarm as they were to the old queen just before the swarming. In fact they not unfrequently watch over their queen cells with more

seeming jealousy than they do over a fully developed and fertile queen; and in case the queen cells are destroyed, they will at once start others, and will persist in this until all the eggs and larvæ are so far developed as workers as to leave them no hope whatever of rearing a queen from their own brood. Being thus left queenless they will accept a strange queen, if she be kept caged from thirty-six to forty-eight hours. And right here I would state that I almost entirely abandoned the practice of unstopping the cage, even at the end of the time above specified, and of liberating the strange queen, with the bees excited, which they always will be when the hive is opened and the queen cage is being meddled with.

My custom now is, when it is time to liberate the queen to remove the stopper from the cage and tie over the mouth of it a piece of newspaper wet on both sides with honey; then I return it to the bees, close the hive and leave them from twelve to twenty-four hours, at the end of which time the bees will have cut the paper out of the way and the queen will be set at liberty when the bees are quiet.

Now where parties make a mistake in such cases is by simply destroying the first set of queen cells started and then liberating the queen in twenty-four or forty-eight hours, forgetting or overlooking the fact that the colony still have eggs or larva from which to start other queens, and that they almost invariably do so. It is also a fact that most of the queens purchased during the swarming season are intended for colonies in the condition above described, which accounts for the loss of many queens.

The second state of circumstances under which queens are often lost is in introducing them to colonies who have acquired the propensity to swarm, and have commenced the construction of queen cells. In such cases we of course remove the Black queen and destroy all

queen cells in process of construction and liberate the new queen at the end of forty-eight hours, the result of which often is her destruction by the bees clustering tightly around her, and thus suffocating or stinging her. Sometimes they will receive her well, but will persist in building queen cells, and will either supersede her with one of their own raising (which is quite likely to be from the brood of the queen removed) or they will cast a swarm and let the strange queen go with it. I remember on one occasion of having a strong colony of hybrids, and also had two Italian queens, and was desirous of dividing them into two colonies and giving to each of them one of the Italian queens. I accordingly destroyed their queen and divided them. At the same time I found several young queens in process of development, which I also destroyed; and at the end of forty-eight hours I tied wet paper, as above described, over the mouth of the cages and left them to cut their way out. Next morning I opened the hives and found both queens held as prisoners. I took them from the bees and again caged them. At the same time I found and destroyed quite a number of queen cells. In two days I liberated the queens by the former process, and next day found them prisoners as before. I caged them again, and destroyed a host of queen cells. This operation I repeated every forty-eight hours until the end of ten days, when the queens were both accepted. But I have no idea whatever that they would have been received had it not been that the bees no longer had any other means of obtaining a queen.

Now from this it will be seen that the most danger of losing a queen is in introducing her to a colony just before swarming or immediately after they have cast a swarm. In my opinion the safest time to introduce a queen to a colony is either before they have commenced rearing drones in the spring or after they have destroyed them in the fall. But by this it is not meant that queens

should not be introduced between these two seasons of the year, but my object is to show that greater caution is necessary in introducing them during the swarming season, and that we must not regard a colony as queenless immediately after it has cast a swarm, and suppose that it will accept a queen much more readily under such circumstances. But we must regard their condition as experience and observation teaches that they regard themselves, namely, that so long as they have the means through which they may obtain a queen, the labors of the hive go on as usual; and that either just before or immediately after casting a swarm they are more hostile to strange queens than at any other period.

At any time after liberating a queen I inspect all the combs carefully and destroy all queen cells that may be started. This I usually do on the sixth day after she has her liberty.

In conclusion I will say, that if proper precautions are taken with reference to what has been suggested in this article, there will, I think, be less complaint about losing queens hereafter.

G. BOHRER.

Alexandria, Madison Co., Ind., July 17, 1870.

From the Journal of the Farm.

ARTIFICIAL NOURISHMENT FOR YOUNG BEES IN SPRING.

TRANSLATED BY L. SIMMONS.

The first work of the bees on the return of spring, is to gather the pollen from the flowers. For this purpose they fly about in the meadows and bushes, far and near, for hours, often returning fatigued to their hives without success or with slight booty. The bees, as every one knows, have need of a great deal of pollen, to nourish

their increase. If it fails, or if the season or weather does not permit their seeking it, their swarm will present a very poor and sickly appearance. It is customary to use sugar candy, or a syrup made of white sugar, where the honey fails in a hive. Why not offer them "Farina?" Do not the bees seek at this season some pulverized matter.

For four years, during the months of March and April, I have furnished my bees with Farina mixed with honey and water. I scatter the Farina in large boxes, or in old honey-comb, which I put in places not exposed to the wind. In order to attract the bees, I take care to put a little honey in these places first, in a short time remove it and put the Farina. *Unbolted rye* is the best. The boxes are emptied with an incredible rapidity, and I have obtained great advantages by this artificial nourishment, which serves to support the young bees in the months when nature furnishes nothing, or nearly so. This flour, or Farina, is a convenient substitute and cannot be sufficiently recommended to all aparists. The Farina is without doubt, a substitute, a sort of last resort for as soon as vegetation advances, and the pollen becomes abundant, no bee will touch the Farina. For this reason, it must be furnished soon enough, or it will be tried without success. It is very interesting to watch the movements of the bees in forming their pelotes (balls) from the Farina. They seize the meal with their nippers, moisten it with saliva, then with their feet roll it a few minutes, which changes in into a paste, which they roll with their hind feet, with great skill and celerity. At a monthly meeting of the Societe Economique, March, 1857, the following question was proposed: Do the bees use these pelotes (balls) to nourish their young, or do they absorb them themselves? This question addressed to M. Maillet, has not yet been answered, I believe, and I do think they would gratefully, receive any effort to solve the question, according to my views.

The nourishment that is generally given to the young bees is composed of pollen, honey, and water, and this nourishment is prepared in the stomach of the bees who have the care of the young, and in case of the failure of the pollen, the bees seize upon other things, such as coal dust, damaged wheat, or the mildew sometimes found in barns. If you put some pollen at the entrance of the hive, the bees devour it eagerly. They do the same with the balls of Farina when placed there; but it is only those that are engaged with the domestic or interior work of the hive, if I may thus express myself, those that have care of the young that do this. We never find the working bee with pollen in his stomach, from which I infer that the bees for their own nourishment and support do not use the Farina or pollen. The Queen bee nourishes herself with pure honey only. My reply, then, to the question proposed, will be in these few words: The pollen, or, in default of it, the balls of Farina, serve for nourishment of the young bees, and is never absorbed by the bees themselves.

CH. VORMWALD.

De. L., Apiculteur de Paris.

ON FERTILIZING QUEENS.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—I think it would be in place for me to say a few words to the many who are now interested in bee-culture. I have been trying my hand, this year, at fertilizing a few finely bred queens and made a perfect failure of it until quite recently, which I will now proceed to explain. Here let me say, I first tried a cage as invented and recommended by yourself, in which I lost

every queen. I attempted to fertilize seventeen. This, of course was quite discouraging to me; but having more queen cells to hatch, I was determined to not give it up so. A thought struck me that a square cage was not the cage to fertilize in, so I went to a hardware store and made a purchase of two wire covers, such as we often use on our tables for covering meats, fruits, and preserve dishes. One was of oval shape, the other round; both being of cambered or rounded tops, and about six inches deep. To the oval shaped one I made a close fitting bottom of a quarter inch thick pine board. In this I bored an inch hole, so I could let in my queens and drones, and put in what honey they might need while confined. After having a queen of four and a half days old, I took her and put her with two as fine drones as was in this city, with a single worker bee, four in number, all told. Now was the most anxiously looked for event in all my bee-culture experience, which I felt certain would take place and be crowned with success; all of which was a most signal triumph for me (being but about two years in possession of your new system of bee-culture). This cage, as before described, was put into the top story of the Hicks bee-hive, which is so constructed as to allow the worker bees from the brood chamber to pass up and go at will and pleasure over said cage. After all was so arranged as above mentioned, I left them in about twenty hours, looking at them some six or eight times during the time they were confined.

I will now say that to my surprise, though a very agreeable one, I found the queen with something sticking to her which looked to be about as large as an ordinary sized sewing needle, and about half an inch long. I then left her about four hours longer in the cage, in all about twenty-four hours, after which I returned her to her old home again, where she commenced laying

eggs in about four and half days, and has been laying for five days in said hive; and now, at the present writing, she is laying in another hive to which I transferred her about five days since. There is no mistake about this matter, as I have kept her in close confinement up to the time of returning her to the mother hive, in which she was hatched. It may be doubted by some, but this with me makes no difference as I do not charge any one for what I propose to make public, and have no desire to patent it, if I could. And I will further say, if there are any who desire to know anything further about me, I can only refer them to those who have known me for over thirty years, and to N. C. Mitchell, the editor of the ILLUSTRATED BEE JOURNAL, who has known me for the last two years. I went into the bee business and culture with a full determination to learn it, if possible. As to my success, I leave my seniors to judge. I shall only add that my heart and mind have been fully directed in this business for the last two years, and I am learning something more of the little busy bee every day. I expect to meet many who are good bee men at the coming State Fair, this fall, at Indianapolis, where I hope to extend my acquaintance with all who are seeking after light, as I desire to gain all the information I can.

Mr. Editor, I have written more than I at first intended to; yet I hope you will be kind enough to pardon me in so doing, and trust I shall be able to give you something more at a future time, when I shall have my hive so arranged as to make such observations as I desire to.

Yours, truly,

J. M. HICKS.

Indianapolis, Ind., August 1, 1870.



M. SAGOT.

ENGRAVED FOR THE ILLUSTRATED BEE JOURNAL.

We present our readers with a likeness of M. Sago, pastor of St. Ouen l'Aumore, Seine et Oise, France. He is one of the first French inventors of handy movable-frame hives. Without any knowledge of the inventions that had been made in several countries, he invented a hive which is now one of the best French movable-frame hives. His hive is built on the same principle as the Langstroth; for honey boxes he uses triangular frames that cover all the hive. For winter, he puts in place of honey board, a strong linen cloth dipped in melted beeswax. He also invented the swarm catcher described by me in the *American Bee Journal*, September, 1869, and several other devices.

DO YOUNG QUEENS DESTROY OLD ONES.

FOR THE ILLUSTRATED BEE JOURNAL.

G. W. P. Gerrard says, in the July number of the ILLUSTRATED BEE JOURNAL, that the old queen prepares the old hive for her departure with the new swarm by depositing eggs in queen cells, which, when the oldest is sealed over, the swarm is ready to leave. In another place, in the same article, he says: "Queens have a mortal hatred towards each other, and as soon as one hatches instinct teaches her to make a raid on her unhatched royal sisters, and do the work of death while it is within her power." He then goes on to tell how it is done; which is all right. But I want to ask him how he knows all this to be so? Why does the queen lay eggs in those cells if she will not tolerate a rival in the same colony? How does he know that it is the young queen who destroys the unhatched queens? When Mr. J., or any other man, answers these questions we will give some of our own experience, which will tell quite another story.

WM. LEAVITT.

Owensboro, Kentucky, July 20, 1870.

EDITOR'S SANCTUM.

APIARY FOR AUGUST.—Bee-keepers should now be looking after their bees, and see that the moth miller does not get the advantage of them. Open your hives often, and cut out and destroy them wherever found. The bee moth is the great pest of the apiarist, and bee-keepers using any other than a movable comb hive must expect to lose many valuable colonies every season for the reason that he has no way of getting into his hive to help the bees destroy their enemy. Many bee-keepers lose bees enough every season to buy all the hives wanted for use in the apiary. We have visited a few apiaries recently, where the old common box hives were in use. It made us sick to see the ravages of the bee moth. Many were the colonies that were hopelessly ruined by them, and were we to sit down and make an estimate of all the losses annually by these pests alone, it would astonish even our best posted apiarists. We wish to say to those using movable comb hives, to look over your bees, or the bee moth may destroy them before you are aware of it. The man having a movable comb hive, of any make, and allows the bee moth to destroy them, should be sent up for ninety days, to be fed on corn dodger and cold water. In conclusion, we would say, look well to your bees; you will find robbers ready to rush into any hive that they can find not properly guarded. Some one discovered that gum camphor would stop them. It will do it effectually. Roll up a little piece in a rag, stick it in the entrance, and Mr. Robber will leave instanter.

MITCHELL'S FERTILIZER AND BEE-FEEDER.—To those entitled to them, we would say that we have been endeavoring to test them fully. Our bee-feeder we have improved, and prefer it to the old one. It will cost but from five to ten cents, and can be made by any tinner. The fertilizing cage, also, would be better like the one described by Mr. Hicks, and can be bought at any hardware store for twenty-five to thirty cents; and it is, in our opinion, the very thing wanted. We believe there will be much less loss of queens by following that style of cage than any other that we know of. We have learned one fact in fertilizing queens in a cage—the experimenter had to be very cautious, or he would loose both drones and queens. Why it is so I cannot tell, unless they exhaust themselves by their efforts to escape from confinement; and we have noticed that when they were confined and had the least view of daylight, they invariably died soon after confinement. We have been successful, and so have others, in fertilizing in cages; but not to that extent that we would like to record, and to-day we would say to all to try every feasible plan that may be presented to the mind, and we will guarantee success by some one, and, in the meantime, we will do all we can to make it a success.

QUEEN BEES.—We are now sending out queens to our subscribers. Many of our subscribers, doubtless, think them a long time coming. We have gone to a great expense in breeding, and we will say to every man that has recived queens from us since July 20, that they may rear queens from them at once, and they will be as pure as if bred in Italy. We are determined to send only such queens to our subscribers. We occasionally hear of some who have lost their queens in introducing them. Here let me say, that all new beginners should follow the plan laid down in the *ILLUSTRATED BEE JOURNAL*—never let a queen out of the cage under twenty-

hours. Better let her remain forty-eight hours, and when she is let go don't remove the cage, only one of the stoppers, and let her come out quietly. Every queen that I send out I crop, so there will be no danger of her flying away at any time. Always place the queen where she can reach the honey and then should the bees refuse to feed her, she can help herself.

MITCHELL'S GUIDE TO BEE-KEEPERS.—We are about out; we, however, are getting out a new addition, revised and enlarged, which will be fully up to the times. Our constant attention to our apiary will delay its publication until after our labor ceases in our apiary; then we will present to our friends a treatise upon bee-culture, with all the new discoveries of the present day, that will pay them for waiting a few months.

ADAIR'S ANNALS have not yet come to hand. As soon as they arrive they will be sent to our subscribers entitled to them.

FIRST LESSONS IN BEE-CULTURE.—We are getting out a small work upon bee-culture, with the above title. It is designed for a guide to the new beginner, and written in plain language, so a child can understand every word, and will be sent, post paid, for 25 cents.

HONEY EXTRACTOR.—We have one manufactured by J. L. Peabody, of Verden, Illinois, and I must say that, after testing it, I was surprised to see how fast it emptied the comb, leaving it perfect. It is all that is claimed for it by the inventor.

ARTHUR'S HOME MAGAZINE FOR AUGUST.—Among the Ladies' Magazines this is fast taking the lead, not only for the high character of its reading, but for the beauty of its illustrations, and the fullness and variety of its fashion and needlework departments. Miss Townsend's new story, "Jacqueline," increases in interest with every number; while the admirable series of articles on "Woman's Work and Woman's Wages," show a breadth and common sense in their treatment of a difficult subject, worthy of all praise. T. S. Arthur & Sons, Philadelphia, the publishers of this elegant periodical, are untiring in their efforts to make it the leading Lady's Magazine of the country. Price, \$2 a year.

THE CHILDREN'S HOUR, published by T. S. Arthur & Sons, of Philadelphia, comes to our table for August as pure, as fresh, and beautiful as ever. To our readers we would say, take as many magazines for your children as you can afford; but whether you take one or five, be sure that you let them have "*The Children's Hour*." The price is only \$1.25 a year, and your children should have it if it cost twice as much.

WILLIAM BARNES, the owner of the Buckeye Bee Hive, for the State of Kansas, has removed to Topeka, Kansas, where he has opened out by starting an apiary, and, we are credibly informed, is doing a good business. Success to him.

THERE will be a meeting of the Marion County Bee Association, at N. C. Mitchell's office, Saturday, the 14th of August, 1870, at 11 o'clock, A. M. By order of the Executive Committee.

A. J. POPE, *Secretary*.

HOW I CAPTURED THE BLACK QUEENS.

FOR THE ILLUSTRATED BEE JOURNAL.

Having raised my Italian queens, and undertaken to capture the black ones, I found that this was the worst part of the game. I was about stalled. I could not find them. If I did not use smoke the bees would sting; if it was used, as soon as the frames and moth trap were pulled out (I am using the Buckeye Bee-Hive) the bees, queen and all, would skedaddle back over the upright board the frames hang on back into the hive where I could not get at the queen. I studied about some plan to fool her for several days, and finally hit on one that works like a charm. I took thin boards, ten inches wide, cut two pieces just long enough to slip into front door where the moth trap and bees are pulled out, and across the back of these two boards I nailed strips one and a half inches wide, dressed very true, putting them five thirty seconds of an inch apart; covered the back all over in this way, put a top and bottom into it with a door to slip in front without hinges, and having pulled out a swarm I slipped this box back into the hive about five inches and gave them a few good puffs of smoke, when the air ran back into my box. As soon as I put my door in and removed the box and contents, slid in the moth trap and bees, closed up and set the box on the lighting board, and again, through a hole in the front, left for that purpose, blew in a little more smoke, when all the bees remaining in the box passed out and into their old home, leaving every drone and the queen in the box. If the slats are dressed true and nailed on exactly as described, this plan will never fail. Bees are doing fine here, now. They make more honey in July and August than all the rest of the season.

ISAAC HAWKINS.

Buckley, Iroquois Co., Ill.

DRONE PROGENY OF ITALIAN QUEENS.

FOR THE ILLUSTRATED BEE JOURNAL.

MR. EDITOR:—In looking over the July number of the ILLUSTRATED BEE JOURNAL, I noticed an article by Mr. A. F. Moore, on the progeny of Italian queens. He says, “will the drone progeny of an Italian queen, impregnated by a black drone, be pure Italian?” I answer, No. He then goes on to say, that if the Italian were a distinct race by themselves, the drone must, of necessity, impart some of its own blood, etc.

Now, Mr. Editor, he does not fix this thing up to suit me exactly. Instead of taking the matter of fact, he uses a theory to show his assertion to be correct. I claim that an Italian queen, impregnated by a black drone, will produce just as pure drones as her mother, or one that has never met the drone. My theory is this: All drone eggs are not impregnated, the wall of drone cells being too large to compress the abdomen of the queen sufficient to impregnate the egg; therefore, the drone eggs are not impregnated; consequently, the drone progeny of any queen will be of the same kind or species as the mother, and nothing else.

ERNEST DAVIS.

Hillsdale, Reading Co., Michigan.

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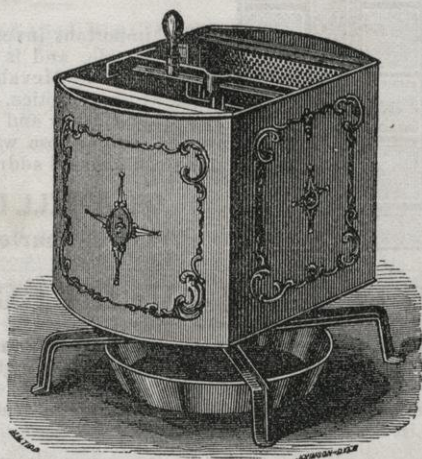
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- Michigan, David Cady, Indianapolis.
- Iowa, Simon Klingensmith, Indianapolis.
- Kentucky, D. B. Helm, Antioch, Ind.
- Pennsylvania, D. H. Lintner, Lancaster, Pa.
- Alabama and Georgia, H. J. Shirk & W. W. Constant, Peru, Ind.
- Wisconsin, Minnesota and Nebraska, Joshua Webb & James Calvert, Indianapolis, Ind.
- Virginia, U. P. Fobes, Peru, Ind, or D. B. Helm, Antioch, Ind.
- Tennessee, Florida, and North and South Carolina, J. H. Cropper, Nashville, Tennessee.
- Texas, J. M. Hicks, Indianapolis.
- Massachusetts, E. H. Barber, Indianapolis.
- Arkansas, W. A. Scofield, Indianapolis.
- Louisiana and Mississippi, W. W. Constant, Peru, Ind.
- New Jersey, H. J. Shirk, Peru, Ind.
- West Virginia and Maryland, District of Columbia, and the two south counties in Delaware, U. P. Forbes, Peru, Ind.
- Illinois and Ohio, Wm. T. Gibson. See his card on inside of back cover.



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This Mel-Extractor is now in use and highly recommended by the best apiarists in the country.

All orders, with the cash, filled promptly or the money returned.

The machine weighs but 40 pounds, all packed, ready to ship. Expressage low.

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We are now having made an improved knife, for

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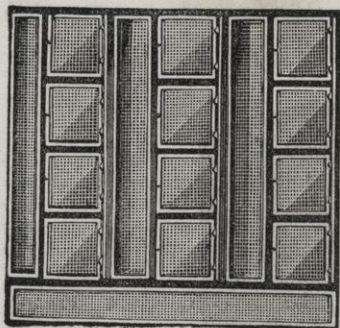
Henceforth we will furnish two of them gratis, all finished, with each machine sold at retail price.

Price of knives, with handles, sent by mail, post paid, \$1.25 each.

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This important invention is now ready for sale, and is furnished to order, to suit any Movable-Comb Bee Hive, at short notice. Individual, Township, County and State Rights are for sale. Those wishing rights and models should address

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Italian Queens, of the brightest colors, reared and tested in full colonies, and selected with special reference to the wants of those wishing to get the choicest mothers to breed from. Sent by mail, at my risk, at the following prices: Queens shipped in June, \$8. From June to the end of the season, \$5.

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Pure Italian Queens for sale during summer,—Price \$5, sent by mail when I think it safe to do so, if not, will send by express. Full Colonies of pure Italian Bees for sale in the fall, winter and spring.—price \$20, delivered at the Express Office in Anderson. Money to accompany all orders, which may be sent at my risk, either by Express and directed to me at Anderson, or by Post Office money order on Anderson, Madison County, Indiana, and directed to me at Alexandria, Madison County, Indiana. Purity and safe arrival of Queens and Colonies guaranteed to nearest Express Office to purchaser. Address,

G. BOHRER,
Alexandria, Madison Co., Ind

P. S.—I can furnish you with one or two Colonies of Bees if you come at once. G. B.

Farming as a Profession;

OR,

HOW CHARLES LORING MADE IT PAY.

BY T. A. BLAND, Editor "North Western Farmer."

Loring, Publisher Boston, 1870.

This work of Dr. Bland's is a novelty in literature, being a most thrilling and romantic story, and practical essay on high farming. The most devoted novel reader will find it perfectly fascinating, while the staid old farmer declares it one of the best essays on agriculture he ever read. There is such a blending of the real and ideal; the romantic and practical, as to attract and inspire the old and young of every station in life.

The book is as romantic as a love story; as practical as an essay on agriculture, and as a tribute to farm life, it is about the best thing we have seen. A capital selling book.

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NORTH WESTERN FARMER CO.,

Indianapolis, Indiana.

QUEENS, BEES AND HIVES.

Italian Queens of the brightest color, warranted pure.....\$5 00
Full Colonies of Italian Bees in McClellan Hives.....20 00
McClellan Hives, best and cheapest Movable Comb Hives made,
(no patent).....4 00

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MITCHELL'S BUCKEYE BEE-HIVE.

Persons desirous of purchasing Farm, Township, or County Rights, for Mitchell's Buckeye Bee-Hive or Moth-Trap, or procure Italian Bees or Sample Hives, in the State of Pennsylvania, will please address

D. H. LINTNER,

Bee-Keeper, Lancaster, Penn.

THE OFFICE OF J. H. CROPPER

Is removed to No. 52 Corner Union and Cherry Sts., Nashville, Tenn.

For the sale of Farm and County Rights, in the States of Tennessee, North and South Carolina, and Florida, for N. C. Mitchell's Patent Buckeye Bee-Hives and Moth Trap. Farm Right and Sample Hive, \$20; County Rights from \$300 to \$1,500. Also, State Rights for sale for Dr. Knapp's Artificial Bee Comb. Send for Circulars;

\$4. ITALIAN QUEEN BEES. \$4.

I will furnish a limited number of Italian Queen Bees, bred in full colonies, at the following price: One Queen, and the *Illustrated Bee Journal* for one year, for *four dollars*. Purity, fertility, and safe arrival guaranteed. Address, for circular, etc,

T. G. McGAW,
Lock Box No. 64,
Monmouth, Warren County, Illinois.

ITALIAN QUEEN BEES.

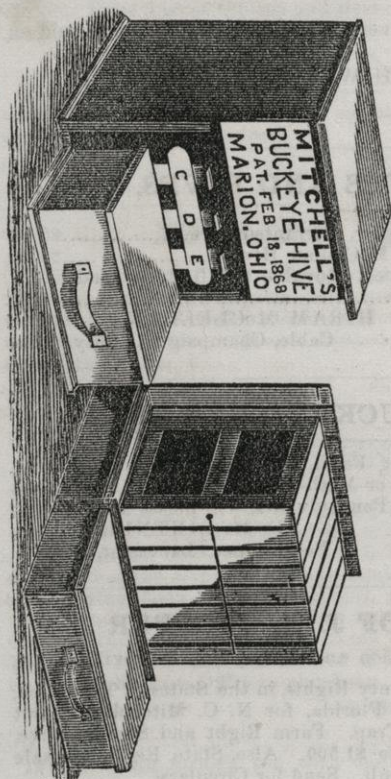
Purity and safe arrival guaranteed. Circular free. Address,
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Illipolis, Illinois.

TESTED ITALIAN QUEENS.

Shipped to May 15, \$8.00; shipped to May 31, \$7.00; shipped after June 1, \$6.00. Safe arrival guaranteed. Circular sent free.

Address

R. M. ARGO,
Lowell, Garrard County, Ky.



Patented February 18, 1868.

MITCHELL'S BUCKEYE BEE-HIVE.

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BUCKEYE BEE-HIVE AND MOTH TRAP,

Or procure
Italian Bees or Sample Hives

In the
STATE OF MICHIGAN,

Will please address

DAVID CADY,
Indianapolis, Ind.

The North Western Farmer.

A SUPERB MAGAZINE OF RURAL LIFE.

Devoted to Agriculture, Horticulture, Rural Economy, Home Culture,
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ITS OBJECTS: The Education of the Working Classes, and Promotion of Rural Interests.

ITS MOTTO: Educated Labor the Hope of the World.

This Magazine is Royal Quarto in form, and containing twenty-four three-column pages to the number. It is beautifully illustrated, printed on fine book paper, and bound in tinted covers.

TERMS.—Only \$1.50 a year. Each new subscriber gets a copy of the Farmer's Annual and Rural Companion for 1869 (price 25 cents) free; also, two or three extra numbers of the FARMER gratis. Now is the time to subscribe and make up clubs. Sample copies sent free.

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BUCKEYE BEE-HIVE,

Manufactured and sold at Des Moines, Iowa.

Bee-keepers residing in the State of Iowa wanting to purchase farm or county rights, for the use of the well known Buckeye Bee-hive, should address

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BUCKEYE BEE-HIVES FOR SALE IN OHIO.

John Miller, of Pierce, Stark County, Ohio, has purchased the Counties of Cuyhoga, Medina, Portage, Stark, Summit, Tuscarawas. Bee keepers in these counties would do well to address as above, or address,

REV. ELI MILLER,

Canton, Stark County, Ohio,

FOR SALE.

The genuine Alsike Clover Seed—80 cents per pound by Mail, or 65 cents by express, where ten pounds or more are ordered at one time.

Address,

COL. JOSEPH LEFFEL,

Springfield, Ohio.

P. S.—Send for my Poultry Circulars of all kinds of Pure Breeds of Poultry.

COL. JOSEPH LEFFEL.

BROCKLESBY'S COMBINED HAND TRUCK,

FOR SACKING GRAIN AND MOVING THE SAME.

A Great labor Saving Machine. Patented April 13, 1869.



The above is a convenience that every Farmer, Miller, and Warehouseman should have; it saves a hand for holding sacks, besides the convenience of having the sack already on the Truck for conveying to the place desired. The above cut shows two positions—one with adjustable braces and foot-board, which may be used to advantage when in a stationary position, such as sacking grain from a threshing machine, &c.; the other stands without the aid of braces, and is more convenient when it is desired to sack and convey grain from one part of a barn (or other building) to another. It will be readily seen that the braces and foot-board fold up in such a position as not to interfere with the working of the machine. Every person that has grain to handle should have one, and would, if they knew the convenience of them, and the amount of hard lifting they save. A Farmer can sack and load up his wagon with grain without ever lifting a sack, by merely having a plank from the granary door to the wagon.

The Truck can be used for conveying other heavy substances if desired—the hopper and braces being adjustable can easily be removed. This invention is highly commended wherever introduced. The undersigned has for sale the whole United States, except a few counties in Ohio, which are disposed of. Territory sold very low. A Model furnished to each purchaser. For further information, address

WM. BROCKLESBY, JUN.,
Caledonia, Marion County, Ohio.

ADAIR'S SECTION BEE-HIVE.

PATENTED AUGUST 27, 1867.

Frames close fitting and forming a hive of themselves, that can be handled like a solid box, and shipped any distance, No unnecessary draft of air through the hive, as in open side frames. No surplus room around the frames to be occupied by idle bees. Can be enlarged or contracted at will in a few minutes. Is the most perfect queen nursery; as the brood chamber can be broken up into NUCLEI of any size, and reformed when desired. It can be arranged so that queens can be fertilized without leaving the hive. Several queens can be kept in the same hive during the winter, and it is believed it can be done all the year, so that each hive may have the services of one or more queens. It needs no winter protection; but if housing is preferred, four times as many can be stowed away in the same space that other hives occupy. Box room unlimited. Supers or laterals, or both, can be used. It is a perfect observing hive. Bees can be fed in it, in the center of the cluster, in any weather, without disturbing them, with both meal and honey; and brooding kept up all the year. It can be built of wood, stone, brick, adobe, concrete, lath and plaster, paper, straw, iron, and other materials.

The "OUTLINES OF BEE CULTURE," which gives full description, with illustrations, and much other valuable information, sent for ten cents.

Rights and territory for sale. Competent agents wanted on liberal terms. Send for circulars and terms to agents. Rights free to ministers of the gospel who buy a sample hive. D. L. ADAIR,
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ITALIAN QUEEN BEES

From Mothers, directly from the highlands of Italy, and purely fertilized. Safe arrival guaranteed. Also, small swarms to build up or raise queens.

Address, A. SALESBURY,
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ITALIAN QUEEN BEES.

Queen shipped in June, for \$2.50; after July 1st, three for \$7, or five for \$10. Queens sent by express. Purity and safe arrival guaranteed. Send stamp for Circular. Address, H. ALLEY,

Wenham, Essex County, Mass.

Speciality of Importing Queen Bees exclusively
from Upper Italy.

For one Queen in May, \$14; in June, \$13; in July, \$12; in August, \$11; in September, \$8 to \$10. The money to be remitted in the month previous to the date fixed for the reception. The Queen will be sent from here *genuine*, and safe arrival guaranteed.

CHAS. DADANT, Hamilton, Illinois.

PRICE OF BEES AND QUEENS, FOR THE YEAR 1870.

Full Colonies of Italian Bees, with tested pure Queens of last summer's raising, in a Langstroth movable comb, full of comb, and honey enough to last until May 20th, I will deliver at the express office at Jefferson station, for \$15 each.

6 colonies for \$14 each; 10 colonies for \$135; 20 colonies for \$250; above 20 at \$12 each; any number above 50 \$11 each.

I will sell 100 colonies for \$1000.

Parties that wanted such a large number of stocks, would have to order them under their own risk, and would do well to oversee transportation.

Italian Queen Bees, whose worker progeny has hatched in my Apiary, and shows by its marking that they have met with an Italian drone I, will sell at the following prices:

If sent from April 20th to May 5th, \$8; May 5th to June 1st, \$7; during the month of June, \$6; during the months of July, August and September, for \$4. If from 10 to 20 queens are ordered, a reduction of 10 per cent. will be made; if above 20, a reduction of 20 per cent.

All queens will be sent by mail post-paid. The box or boxes in which the queens are sent must be opened in presence of the Post Master or another witness, and a certificate from one of them must be sent by return mail. If one or more of the queens should have died during shipment, on receipt of this certificate from the Post Master or other witness, another queen will be sent or the money refunded.

Young Swarms of Italian Bees, medium sized with a tested pure Queen of last summer's raising, sent in a common shipping box, with feed enough to stand the journey, if sent before June 25th, will be sent for \$9; between June 25th and July 10th, for \$8; from July 10th to August 1st, for \$7; and after that time for \$6. If a colony with a queen reared from an imported one, or queens of that kind are ordered, one dollar extra will be charged. Express charges to be paid by purchaser.

In some cases, where claims are made on account of losses incurred during shipment, I will demand an affidavit setting forth the facts in the case before I will satisfy the claims.

Safe arrival and purity guaranteed in every shipment. The cash must accompany every order or it will not be noticed.

Jefferson, Wis., February 1st, 1870.

ADAM GRIMM.

ITALIAN QUEEN BEES FOR 1870.

In order to prevent too close breeding, I made two importations of Italian queens last fall—one importation from the celebrated apiary of Dzierzon, the other from Italy. Queens from these importations, at the usual orders. Those wishing queens will do well to patronize my apiary, both for pure queens and promptness in filling orders. Send for Circular.

Riley, Butler County, Ohio, April 1, 1870.

A. GRAY.

QUEENS AND ITALIAN BEES.

Queens reared from queens imported from Italy. Also stocks of Italian Bees for sale. All orders promptly filled. Purity of stock guaranteed. Send for Price List. Address, J. WHEELDON,

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THE GREAT THROUGH EXPRESS AND MAIL ROUTE

From Indianapolis to and from all points East and West.

CINCINNATI TRAIN.—Three Trains Daily from the Union Depot for Cincinnati, and connecting at Cincinnati with all the Great Eastern and Southern Railroad Lines and the Ohio Steamers.

LAFAYETTE AND CHICAGO TRAINS.—Two Through Express Trains Daily for Chicago, with the most direct connections in Chicago to and from all points in the North-West.

LAFAYETTE, QUINCY & ST. JOSEPH TRAINS.—Two Through Trains Daily, via Lafayette for and from Springfield, Quincy, Keokuk, St. Joseph, and all points in Iowa, Kansas, Nebraska and the Gold Regions.

CINCINNATI DIVISION.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

Express	4:00 a. m.	Express	2:10 a. m.
Mail	11:50 a. m.	Mail	11:30 m.
Express	7:30 p. m.	Chicago Express.....	7:05 p. m.

LAFAYETTE DIVISION.

Toledo and Quincy Accom	4:10 a. m.	Chicago Express	2:50 a. m.
Chicago Mail.....	11:50 a. m.	Toledo and Quincy Express.....	11:30 a. m.
Chicago and Quincy Ex.....	7:50 p. m.	Chicago Mail	7:05 p. m.

MARTINSVILLE DIVISION.

Accom.....	1:50 p. m.	Accom.....	9:50 a. m.
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Terre Haute & Indianapolis Railroad.

FOUR PASSENGER TRAINS DAILY EACH WAY,

BETWEEN

TERRE HAUTE AND INDIANAPOLIS,

Making close connections at Indianapolis with

Trains for Boston, New York City, Philadelphia,

BALTIMORE, WASHINGTON CITY, CINCINNATI, LOUISVILLE,

And at Terre Haute with Trains for

ST. LOUIS, CAIRO, VINCENNES, EVANSVILLE,

And all points West, South-West and North-West.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

Fast Line Express.....	3:05 a. m.	Fast Line.....	3:50 a. m.
St. Louis Express.....	12:00 m.	Mail and Express.....	9:25 a. m.
Ev. and Cairo Ex.....	2:55 p. m.	Accommodation.....	6:10 p. m.
Night Express.....	7:20 p. m.	N. Y. Express.....	6:45 p. m.

PITTSBURG, CINCINNATI & ST. LOUIS RAILROAD.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

Day Express	4:05 a. m.	Western Express.....	2:20 a. m.
Mail Express.....	9:40 p. m.	Richmond Accom	11:15 a. m.
Night Express	7:20 p. m.	Day Express	4:15 p. m.
Sunday Express.....	7:20 p. m.	Sunday Express.....	2:20 a. m.

INDIANAPOLIS, PERU & CHICAGO RAILROAD.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

Toledo Express.....	1:35 a. m.	Chicago Express.....	5:40 a. m.
Mail & Chicago Express.....	12:50 p. m.	Mail and Tol. Express	9:20 a. m.
Chicago and Tol. Express.....	8:00 p. m.	Chicago Express	5:00 p. m.

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RAILWAY COMPANY,

(Formerly Cleveland, Columbus & Cincinnati Railroad, and Bellefontaine Railway)

GOING EAST THEY RUN

Three Express Trains Daily from Indianapolis.

Over the "Bee Line," on arrival of trains from Louisville, Evansville, Lafayette and St. Louis.

Direct Connection at Crestline with the Pittsburg, Fort Wayne & Chicago Railway, to Pittsburg, and through that line with the Pennsylvania Central Route, to Harrisburg, Baltimore, Washington, Philadelphia, Allentown, New York, etc.

Each and every train also has direct Connection at Cleveland with the Lake Shore Railway, to Erie, Dunkirk, Buffalo and Niagara Falls, and through that line with the New York Central and Erie Railway Routes, to Albany, Troy, Springfield, Worcester, Boston, Providence, Elmira, Great Bend, New York, etc.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis

Fast Express.....	11:25 a. m.	Western Express.....	2:30 a. m.
Accommodation.....	7:45 a. m.	Night Express.....	6:40 a. m.
Eastern Express.....	4:20 a. m.	Accommodation.....	3.20 p. m.
Night Express.....	7:30 p. m.	Day Express.....	5:55 p. m.

Jeffersonville, Madison & Indianapolis

RAILROAD.

Direct Route to LOUISVILLE, NASHVILLE, CHATTANOOGA,

MEMPHIS, MOBILE, AND NEW ORLEANS,

AND ALL POINTS SOUTH & SOUTHWEST.

Three Trains Daily, Morning, Evening and Night.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

Jeff. and Mad. Exp.....	3:55 a. m.	Night Express.....	3 00 a. m.
Seymour Accommodation.....	5:00 p. m.	Seymour Accommodation.....	9:30 a. m.
Jeff. and Mad. Mail.....	7:15 a. m.	Jeff. and Mad. Mail.....	11:25 a. m.
Express.....	7:15 p. m.	Jeff. Mad. and Chic. Ex.....	7:05 p. m.
Sunday Train.....	7:15 a. m.	Sunday Train.....	7:05 p. m.

Cincinnati, Connersville & Indianapolis

JUNCTION RAILROAD,

VIA RUSHVILLE, CONNERSVILLE, OXFORD & HAMILTON,

TO AND FROM CINCINNATI.

This Road is completed from Rushville to Indianapolis, running

Two Passenger Trains each way every Day,

BETWEEN CINCINNATI AND INDIANAPOLIS.

Trains Leave Indianapolis.

Trains Arrive at Indianapolis.

6:45 a. m.....	Morning Express.....	8:45 a. m
2:05 p. m.....	Accommodation.....	1:15 noon
3:45 p. m.....	Mail.....	11:15 p. m
2:05 p. m.....	Rushville Accom.....	8:45 a. m

MINER'S WEEKLY.

A New Illustrated New York Paper.

Six months for one dollar and a Splendid DOLLAR ENGRAVING FREE!—less in clubs.—To appear June 20th.—*Histories, Travels, Adventures, Tales, etc.*—No trashy matter.—To be sold by news dealers at four cents!—Will open with *Thrilling Travels in Africa.*—*Splendid Engravings.*—No other Weekly like it.—A delightful paper for young and old.—*Magnificent Premiums* to Club Agents, who are wanted every where.—Ladies can obtain an elegant *Gold Watch*, or other valuable article, by acting as agents.—Boys and girls can have the paper *free* one year, or any *dollar book*, for one or two hours' work in obtaining subscribers.—We publish that old, popular Agricultural paper the RURAL AMERICAN—the best in the United States—Will send it to Jan., 1871, for only *two* subscribers to the new WEEKLY! Sample of Weekly and Premium list *free* to all who will get up clubs.—Five cents to others, or two stamps. Editorial Office at New Brunswick, New Jersey, where all letters must be addressed.

T. B. MINER & CO.

ITALIAN QUEEN BEES.

My customers are hereby reminded that I have removed from Walpole, N. H., to this place, where I shall continue to raise Queen Bees at moderate prices. Spring commences very early here, giving me an advantage of several weeks over my former location. I send by mail, having sent hundreds in that way. Satisfaction given. For Circulars address,

J. L. HUBBARD,
Bricksburg, New Jersey.

STILL AHEAD.

The "*Jolly Young American*" is the best, neatest and spiciest paper out. Chuck full of jolly stories, jokes, sketches, poetry, witty sayings, matrimonial and spicy advertisements; in fact everything jolly. Subscribe and sleep well of nights. No humbug. Established 1867. Only 10 cents a year. Ten copies with a 20 picture Photograph Album as a premium for \$1. Specimens for stamp. Address "The Jolly Young American, Wadsworth, Ohio.

PEABODY'S HONEY EXTRACTOR.

Send to J. L. Peabody, Virden, Illinois, for circulars. Extractors sent on short notice. Expressage low. Weight of machine, only 40 pounds, all packed ready to ship.

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A New Illustrated New York Paper

My friends have often asked me how I have managed to keep the paper so long in existence. I have no secret to tell. It is the result of the support of my friends and the interest of the public. I have always been guided by the principle of doing good and of being useful. I have never been content with a mere show of business, but I have always sought to do what was right and just. I have always been true to my friends and to the public. I have always been honest and straightforward. I have always been open to suggestion and to criticism. I have always been ready to do what was best for the paper and for the community. I have always been guided by the principles of justice and of equity. I have always been guided by the principles of truth and of honesty. I have always been guided by the principles of kindness and of charity. I have always been guided by the principles of peace and of harmony. I have always been guided by the principles of love and of mercy. I have always been guided by the principles of faith and of hope. I have always been guided by the principles of courage and of strength. I have always been guided by the principles of wisdom and of knowledge. I have always been guided by the principles of justice and of equity. I have always been guided by the principles of truth and of honesty. I have always been guided by the principles of kindness and of charity. I have always been guided by the principles of peace and of harmony. I have always been guided by the principles of love and of mercy. I have always been guided by the principles of faith and of hope. I have always been guided by the principles of courage and of strength. I have always been guided by the principles of wisdom and of knowledge.

T. S. MINER & CO.

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STILL AHEAD

The "Still Ahead" is the best, most and most popular. It is the result of the support of my friends and the interest of the public. I have always been guided by the principle of doing good and of being useful. I have never been content with a mere show of business, but I have always sought to do what was right and just. I have always been true to my friends and to the public. I have always been honest and straightforward. I have always been open to suggestion and to criticism. I have always been ready to do what was best for the paper and for the community. I have always been guided by the principles of justice and of equity. I have always been guided by the principles of truth and of honesty. I have always been guided by the principles of kindness and of charity. I have always been guided by the principles of peace and of harmony. I have always been guided by the principles of love and of mercy. I have always been guided by the principles of faith and of hope. I have always been guided by the principles of courage and of strength. I have always been guided by the principles of wisdom and of knowledge.

PEABODY'S HONEY EXTRACTOR

Peabody's Honey Extractor is the best, most and most popular. It is the result of the support of my friends and the interest of the public. I have always been guided by the principle of doing good and of being useful. I have never been content with a mere show of business, but I have always sought to do what was right and just. I have always been true to my friends and to the public. I have always been honest and straightforward. I have always been open to suggestion and to criticism. I have always been ready to do what was best for the paper and for the community. I have always been guided by the principles of justice and of equity. I have always been guided by the principles of truth and of honesty. I have always been guided by the principles of kindness and of charity. I have always been guided by the principles of peace and of harmony. I have always been guided by the principles of love and of mercy. I have always been guided by the principles of faith and of hope. I have always been guided by the principles of courage and of strength. I have always been guided by the principles of wisdom and of knowledge.

50 Papers and 25 Magazines at Club Rates for Single Subscriptions.



1000 bushels Norway Oats: We are Ramsdell's General Agents.
500 bushels Surprise Oats: These Oats weigh 45 lbs. per bushel.
200 bushels Alsike Clover Seed: Western Grown and Imported.
50 bushels Early Rose Potatoes: From D. S. Heffron's stock.
100 Honey Extractors; *Wood or Metal*: New styles for 1870.
750 Colonies Italian Bees in Langstroth Hives.
1000 Langstroth Hives: Improved for 1870.

Descriptive Catalogue, Illustrated, 10 cents. Price lists free; SECOND EDITION, Illustrated, just issued. Write for it as soon as you read this, then you won't forget it!

Address,

NATIONAL BEE-HIVE CO., St. Charles, Ill.

Read what is said of

THE FARMER'S GAZETTE AND INDUSTRIAL INDEX!

FARMERS, ATTENTION!—The Richmond Whig asks, "Are you subscribers to the Farmer's Gazette, published by S. Bassett French, Richmond, Va., for one dollar per annum?" and adds, "It is beyond doubt the very best Agricultural monthly published for one dollar in America. Try it one year." A correspondent from Dauphin, Pa., says: "I think your Gazette is not only equal but superior to anything of the kind, North or South."

ILLINOIS AND OHIO.

BUCKEYE BEE-HIVE AND MOTH TRAP.

WM. T. GIBSON, an old and reliable resident of the city of Indianapolis, has purchased of myself and others the entire right of my "Buckeye Bee-Hive and Moth Trap" in the following counties in the States of Illinois and Ohio:—

ILLINOIS—Alexander, Bond, Boon, Brown, Bureau, Calhoun, Carroll, Cass, Christian, Cook, Clark, Clay, Coles, Crawford, Cumberland, De Kalb, Du Page, DeWitt, Douglas, Edgar, Effingham, Edwards, Gallatin, Green, Grundy, Hamilton, Henderson, Hardin, Jasper, Jersey, Jo. Daviess, Johnson, Kane, Kendall, LaSalle, Lawrence, Lake, Lee, Livingston, Logan, McHenry, Macoupin, Marshall, Mason, Massac, Menard, Mercer, Marion, Montgomery, Moultry, Ogle, Peoria, Piatt, Pike, Pope, Pulaski, Putnam, Richland, Rock Island, Sangamon, Schuyler, Shelby, Stark, Stephenson, Saline, Scott, Tazewell, Union, Vermillion, Wabash, Wayne, White, Will, Whiteside, Winebago and Woodford.

OHIO—Adams, Ashland, Ashtabula, Athens, Clark, Clinton, Darke, Delaware, Fayette, Gallia, Geauga, Green, Highland, Hocking, Jackson, Lake, Lawrence, Madison, Mahoning, Meigs, Morgan, Noble, Pike, Sciota, Vinton and Washington.

Persons wishing to purchase County, Township or Farm Rights, procure model or ordinary Hives, or gain information relative to bees in the above named counties, will do well to address,

WM. T. GIBSON,

5 Odd Fellows Hall, Indianapolis, Ind.

FOUR MONTHS FREE OF The Bee-Keepers' Journal and National Agriculturist,



It is a large Illustrated, double quarto, eight page paper, containing five different Departments, viz: Bee-Keeping, Agriculture, Home and Fireside, Ladies' and Youths' Departments, making it the cheapest and the best family paper in America, for only \$1 a year. One sample copy **Sent Free** to every applicant and to all enterprising Bee-Keepers. Address

H. A. KING & CO., 240 Broadway, N. Y.

EARLY ITALIAN QUEENS.

The advantage of climate enables me to furnish *Italian Queen Bees* much earlier in the season than parties further north can do. My early raised queens will supply any deficiency in drone brood, and if introduced in colonies of black bees before preparations are made for swarming, will, without doubt, supply drone brood for that purpose in proper season.

PRICE. Queens from first of May to first of July, \$5 each. Purity and safe arrival guaranteed.

DR. W. McK. DOUGAN,
Randolph Co., N. C.

ITALIAN QUEEN BEES.

Italian Queen Bees taken from full colonies. Purity and safe arrival guaranteed to all parts of the country, sent by mail or express.

A premium sent free to every customer. Send in your orders early, as my list is rapidly filling up. No money required until queens are ready for shipment. Send for Circular. Address, HENRY NESBIT,
Cynthiana, Kentucky.

I NDIANAPOLIS, CINCINNATI & LAFAYETTE RAILROAD.

(S AVING OF TIME !

On and after Monday next, February 21, trains on the above line will leave and arrive at the Union Depot, as follows:

Trains Leave.

Trains Arrive.

CINCINNATI DIVISION.

Express.....	4:00 A. M.	Express.....	2:10 A. M.
Mail.....	11:50 A. M.	Mail.....	11:30 P. M.
Express.....	7:30 P. M.	Chicago Express.....	7:05 P. M.

LAFAYETTE DIVISION.

Toledo and Quincy Accom.....	4:10 A. M.	Chicago Express.....	2:50 A. M.
Chicago Mail.....	11:50 P. M.	Toledo and Quincy Ex.....	11:30 A. M.
Chicago and Quincy Ex.....	7:30 P. M.	Chicago Mail.....	7:05 P. M.

MARTINSVILLE DIVISION.

Accom.....	1:50 P. M.	Accom.....	9:50 A. M.
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W. H. L. NOBLE, Gen'l Agent.

A. E. CLARK, Gen'l Ticket Agent.