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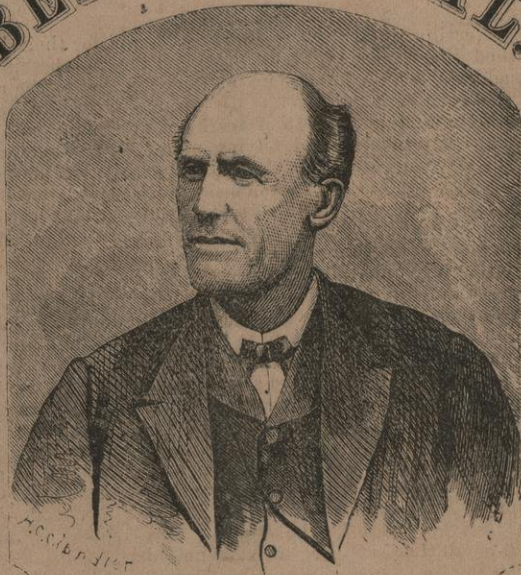
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William Lewis

Dup

THE
ILLUSTRATED
BEE JOURNAL.



DECEMBER, 1869.

N. C. MITCHELL, - **Publisher,**
INDIANAPOLIS, INDIANA.

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FOR CLUB TERMS SEE PROSPECTUS.

REPLY TO

THOSE WANTING TO BUY TERRITORY

Many want territory that I have already sold, and for their benefit I have published the names of States sold, and the purchasers' names, post-offices, address, &c. I have some territory left, but at the rate it is now going, will soon be gone. In the past six months I have sold over seventy-five thousand dollars worth of territory, and many who bought one county are coming back and buying more. If necessary, I could give thousands of certificates certifying to the merits of the Buckeye Bee-Hive. Many worn out Ministers of the Gospel who purchased of me some territory, write me that it was providential that they ever got hold of the Buckeye Hive; and as far as I know, all are well pleased with their purchases, and doing well.

I must say that my unparalleled success, both in the culture of the Bee and the sale of territory, forces me to yield to the many solicitations of my friends and patrons to publish a Bee Journal, giving my experience and system of Bee culture to the world, and in doing so will endeavor to make the *Journal* interesting to all its readers.

Many of my correspondents have asked me questions that I could never answer, and no doubt you have often wondered at it, but had you come to my office, and saw the great piles of letters, all wanting to know something about this and that, all very important questions, none of which I could answer, or if I did attempt to do so, they would not get their answer for six months or one year; but in the *Journal* I will answer every question that you may ask.

I want agents everywhere for the *Journal*. Bee-keepers please send me the names of all that keep Bees in your neighborhood.

Persons wanting to visit Europe would do well to call and see me, as the Buckeye Hive would sell in that country, and the right man could realize a fortune in a short time.

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N. C. MITCHELL, Indianapolis, Ind.

The Illustrated Bee Journal.

DEVOTED TO THE CULTURE OF THE HONEY BEE.

VOL. I.]

DECEMBER, 1869.

[No. 1.

HONEY BEE AND ITALIAN QUEENS.

The culture of the Honey Bee and the raising of Italian Queens in this country, has now become an object of great importance—indeed, it has ever been a matter of importance—but more particularly so now. Within the last few years the Italian Bee has been introduced, and hundreds of Queen Bees are being imported, annually, direct from Italy.

Whilst many of our best and most noted apiarists are engaged in raising the Italian Queens, and they are now being introduced into every county in the United States, the Italian Bees have proved much superior to our common Bees. A feeling of public interest has been awakened on this subject never before known, and this has led many persons to regard the subject of Bee culture as a science worthy of their study and research. People have suddenly awakened from the slumber of ages to the fact that this branch of rural economy is susceptible of the same advances to perfection as the breeding of live stock. The raising of Bees and Queens, as a business sufficient to employ one's whole time, is also receiving some attention, and the desire to ascertain what are the special difficulties in the way to such a business, and how they may be overcome, seems to be prevalent to some extent. Hitherto, but very few persons in the United States have attempted the keeping of bees on a large scale. I do know, however, that such a busi-

ness is not only practicable, but has always paid handsomely when rightly managed.

Bees are certainly profitable when kept even on a moderate scale. Of this there is not a doubt in the minds of those who have tested the question properly. I have, myself, experimented to a considerable extent in keeping large numbers of colonies. I have ever been, from my youth up, fascinated with rural employments, and especially with the culture and management of Bees, and I would here say, that my earliest recollections are associated with the culture of the Honey Bee. My experience has been of that kind that it enables me to speak understandingly on many points.

Perhaps the public may expect that I should give them the reasons why I have concluded to publish the ILLUSTRATED BEE JOURNAL, when we have already a number of journals devoted, in part, to the culture of the Bee, and so many treatises from the pens of our ablest writers upon the same subject.

In the first place, there is no one but will readily allow that our knowledge of Bees, scientific or practical, however it may have increased of late years, is still limited, or that there is at least room for improvement. If this admission be made, it at once follows that there is room for another journal devoted to the interest of Bee keeping. Our aim will be first to recommend a more systematic and, at the same time, improved method of Bee culture than at present prevails; and, secondly, to invite the attention of amateurs to our own peculiar plan of managing Bees on scientific principles, founded on the experience of more than thirty years, assisted by much thought on the subject, and, we believe, there are many persons who, after due consideration and trial of the system (artificial as though it may appear), will approve of it as being both simple and effectual, and better calculated than any other system, in the hands of an attentive and intelligent Bee keeper, to give satisfaction,

as well on the ground of economy as of profit. The fact is, although it may be said with reason that there never was in the whole history of Bee keeping, at least in this country, when the pursuit has so many votaries as at the present moment, and certainly never did success promise so well to the lover of Bees, thanks to the facility with which every kind of information on the subject is diffused through the medium of the press. We believe that the science of practical Bee management is yet but imperfectly developed, after all, compared with what it may yet become, if our apiarists will only give it the time and attention which it deserves. The march of mind at the present day is onward, and progress, of course, is the result; hence, where there is a chance of improvement in anything which exists among us, the opportunity is quickly embraced by the live thinking men of the day.

The rapid growth of our country—cities and large towns daily increasing—the demand for Bees and honey will continue to increase; and hence it is highly important that farmers, mechanics, and all other persons who can keep Bees, should awake to the advantages of procuring the most profitable kinds, and to learning the best methods of management, that they may realize the greatest annual profits.

It will also be my special aim to give the most reliable information in regard to Bees and their management, in all parts of the country, and I will assure the public that no labor nor expense will be spared to furnish a journal in which they can put the utmost confidence. That the *JOURNAL* will have errors of type, of history, and of judgment, I cannot doubt. No human work, on any subject, is free from error of some kind, and I shall not claim infallibility. I shall use the writings of others moderately, when the subject I am treating will be elucidated thereby, and I hope no one will be able to accuse me of not giving proper credit.

I may be permitted, at the close of these remarks, simply and briefly to state, that my great object in publishing the ILLUSTRATED BEE JOURNAL, is to produce facts, not theories; truths not fancies; on an interesting branch of rural economy, and hence to communicate such reliable information as will be calculated to benefit the public. One of the leading features of the ILLUSTRATED BEE JOURNAL will be to teach Bee culture in such a way that not only men but women, girls and boys may keep Bees to advantage and profit.

ADDRESS

Delivered before the Tennessee Apiarian Society, by Dr. T. B. Hamlin, President, of Edgefield Junction, Davidson County, Tenn., at Nashville, September 11, 1869.

GENTLEMEN: This being the first anniversary of the Tennessee Apiarian Society, I would congratulate its members upon the increased interest in the culture of the Honey Bee. As yet we have barely made a start in this delightful and important branch of rural agriculture. Only about three years have elapsed since the introduction of the Italian Bee, and movable frame hives into this State; during the first two years only two persons, to my knowledge, having tested them, are now beginning to realize their advantages.

During the past year, or, I may say, the present season, many others have become satisfied that the time has arrived when we must change our mode and management, in order to attain success and secure profit in Bee culture. When our country was new, with its vast forest forage for Bees, it required but little skill or knowledge to obtain honey and increase of Bees, to satisfy the then

demand; but as the country has become open and populous, a destructive insect has appeared, and seems to multiply and grow with civilization. During the past century, much time and skill, and many inventions in the form of hives have been tried to little benefit, for stopping the depredations and destructive effects of the insect, called the Bee Moth. During the past twenty years, more attention has been devoted to the nature, habits and wants of Bees, and also of Bee Moths, and it is found that by proper knowledge and culture, much can be done to enable the Bees to defend and protect themselves.

We are greatly indebted to L. L. Langstroth, for his truthful and scientific work on Hives and Honey Bees. He may truly be regarded as the Huber of America. The adaptation of the movable frame has enabled any and all of us to test theories—to know by observation what is true and what is false. By this invention we are enabled to know the condition and wants of every stock of Bees at any time. It enables us to assist and supply the wants of our Bees, and has many other advantages and conveniences. Others of this country, and of the Old World, have done much to advance Bee culture in the past few years. Samuel Wagner, with the *American Bee Journal*, and its many and valuable contributors, is fast doing away old prejudice, developing truth and directing our course in the successful culture of the Bee.

There are now many inducements to cultivate the Honey Bee. They gather and store that which otherwise would be lost; "they work for nothing and board themselves," contributing to our purse and palate the richest products from the face of the whole earth. Milk and Honey was the type of physical perfection in the chosen land. In this we are blessed, and is it not our privilege, nay, our duty, to save what God has not only given and placed within our reach, but has furnished organized and effective laborers to gather this harvest,

without money or price? Much of the wealth of our country and nation is annually lost by this neglect. There is no branch of agriculture from which so much money can be realized upon the same investment, as from intelligent Bee culture. But one says, the moth! the moth! and Bees sting.

The Bee Moth is not a cannibal insect or an enemy to the Bee, but seeks the comb of the Honey Bee as food for its young. Their depredations can only be prevented by a proper knowledge and nature of the habits of these insects. We may as soon expect that gravitation will cease to act and perpetual motion be obtained, as to get a moth-proof Bee-hive.

In-and-in breeding for a few years, tends greatly to weaken the energies of the Bee. The Queen becomes less prolific, the Bees become less active, and weak in numbers; the combs are not covered and protected; the Moth deposits its egg, and, if not soon removed by the Bee, a worm is hatched, and a web and cocoon formed, thus making a nucleus for deposits of more eggs, which hatch in a few days, producing many worms. These devour the combs, until the Queen has no place for her eggs, and the Bees no cells in which to deposit honey or pollen. Again, the loss of a Queen produces great distress in a colony, and if at a time when they cannot produce another, and one is not soon given them, the Bees lose their energy, the colony gradually becomes weak, the combs unprotected are rapidly filled and devoured by the moth worm, and the robber bees take the honey.

By instinct the moth seems to know any misfortune, and is sure to intrude if permitted to do so by the Bees. Thus the importance in having fertile and thrifty Queens in all our stocks, making, as they do, strong and vigorous colonies, cannot be over-estimated. Especially so with our native Bee. The Italian Bees are naturally more vigilant and watchful, have a stronger guard on

duty, and protect themselves far more successfully, and are seldom injured by the moth or robber bee.

We know Bees will sting, horses will kick, dogs will bite, children will cry. Travel, whether by sea, or lakes, or rivers, by rail, in carriages, or even on horseback, is attended with danger. Shall we dispense with all these? or should we not look for an advance, even to the aerial flight? Shall we not cultivate the Bee when its sting can be avoided, when we can make it both pleasant and profitable?

The advancement of Bee culture in the last few years has been rapid. We can now open a hive and see every Bee and cell in five minutes; can see the Queen deposit the egg; can see the egg in the cell and the various changes, even to the perfect Bee coming from its cell. We can cause the Bees to build Queen cells, raise young Queens, and can fertilize them at will; can send Queens a thousand miles by mail; can artificially swarm our Bees, in less time and with less trouble than getting a natural swarm into a hive. In doing this we avoid waiting or watching for their issue, and the danger of going to parts unknown; can swarm them or prevent their swarming; can make weak colonies strong in Bees or Honey; can transfer Bees, combs and Honey, from one hive to another, in a little time and with perfect safety; can remove Honey and feed Bees without disturbance from robber bees; can obtain pure Honey without breaking the combs, thus saving it for further use—all made so convenient and easy that it can be, and is done, by the delicate hands of women.

Mrs. and Miss Tupper, and many other educated and refined ladies, have not only kept up with the advancing improvements, but projected others of great value in Bee culture.

SUPERIORITY OF ITALIAN BEES.

We are often asked the difference or advantages of the Italian Bee. The Italian Honey Bee is the domestic

or tame Bee. In Germany and Switzerland, our native Bee is called the black or wild species. Mr. L. L. Langstroth, who has had much experience in the culture of the Italian Bee, gives us the following:

1. The Italian Bees gather freely from the second or seed crop of red clover, and from other sources of forage not frequented by the common Bees. In regions where late summer or fall forage is scarce, this will often make the difference between a good profit and a heavy loss.

2. The pure Italian Bees are much more peaceable than the Black Bee. The assertion, however, which has been made by some, that they will not sting, is not true; and the crosses between them and the Black Bees are often far more difficult to subdue, if once enraged, than the Black Bees.

3. The Italian Bees gather much larger stores of Honey than the Black Bees. Dzerzon, the great German Apiarist, after many years experience, says that the profits of his Apiary have been doubled since their introduction, and we have received numerous statements showing that colonies of these Bees have in this country secured a generous living, and often a surplus, where common stocks have not gained a sufficiency.

4. The Italian Queens are more prolific, and keep their broods more compactly in the combs than Black Queens, and their swarms are usually earlier and larger than those from Black colonies.

5. In opening a hive, an Italian Queen is much more readily found than a Black one, not only on account of her brilliant color, but because the Italian Bees are much more quiet on the combs than the Black ones, and the Queen is less disposed to leave the combs for the bottom board or sides of the hives.

6. Italian Bees are far more inclined to supersede their Queens, when past their prime, than the Black Bees, and colonies are, therefore, much less liable to become weak and Queenless.

7. The Italian Bees are far less disposed to rob than the common kind. The importance of this peculiarity in an Apiary whose movable comb hives are used, will be readily appreciated.

8. The Italian Bees defend their hive against robber Bees, whether Black or Italian, much more successfully than the Black Bees. In opening a large number of full stocks and nuclei during several seasons from April to November, we have not lost a single colony from robbery. The experience of Dzerzon on this point agrees fully with our own.

9. The Italian Bees protect their combs from the ravages of the Bee Moth much more effectually than the Black Bees.

10. The Italian Bees cling much more tenaciously to their combs than the common bees, so that in handling the combs the young bees which cannot fly, do not, like black ones, drop on the ground or upon the person of the operator.

11. When the position of a colony is changed, the Italian workers acquaint themselves with their new location much more readily than Black Bees, thus greatly facilitating many important processes in the practical management of an apiary.

12. Italian workers are much longer lived than Black ones, and the Queenless colonies, therefore, do not become so rapidly depopulated.

13. Colonies of Italian Bees can be united during the working season, with far less quarreling than would be incurred in uniting Black ones. The first cross between the Italian and Black races is far superior to the Black Bees, which are improved by any mixture of Italian blood.

It is now generally believed since the great loss of the Black Bee the past winter, that the Italian Bee is less subject to casualties and disease than the Black Bee, giving the Italians another superiority. The time is not

far distant when Bee culture will occupy no small or unimportant part of rural life. Although we are behind, and so many are backward in the advancements in this department of industry, still we have much to encourage us.

Our Bee journals and private correspondence of the North and West, give us almost daily accounts of many disadvantages to which we are not subject—their long, cold winters, having to put their Bees in vaults, clumps, cellars, or buildings erected in which to protect them during winter; their late springs and early frosts, short seasons, forage, etc., with none of which we have to contend. Our genial climate, abundant forage, early and warm springs, long seasons, short and mild winters, render it far more advantageous and much less expensive for us to raise Bees than further North. Shall we not wake up, inform and avail ourselves of the vast amounts of wealth and sweets which we do not have to make by the cultivation of the soil, but simply to give God-sent laborers a small cabin in which to deposit their stores? As individuals, and as a society, we have one of the most delightful and interesting studies nature has given. The more we know of the nature and habits of this wonderful insect, the more we will know of the God who also created us. In the culture of the Bee, it is our duty to thoroughly inform ourselves, to disseminate truth, impart such information and give any instruction that will tend to do away with false theories and prejudices—to urge upon others the importance of more information and attention to this subject. L. L. Langstroth, on “Hive and Honey Bee,” and the *American Bee Journal*, may be recommended to all. The *Bee Keepers’ Journal and Agricultural Repository*, and other publications now within our reach, are interesting and instructive in the practical management of Bees.

Correspondence of the Prairie Farmer.

THE BEE WORM OR TRAX WORM.



A, full grown larva; B, cocoon; C, crysalis; D, full view of female moth; E, side view of male moth.

Large hawk moths sometimes enter a bee-hive for what honey they can get, and even mice have been known to enter a hive; while several parasites live upon the bees themselves. In Missouri there is also a large two-winged fly, the *Trupaned Apivora* of Fitch, which seizes the bee while on the wing, and afterwards sucks out its juices. During the months of September and October, I saw hundreds of bees destroyed in this manner, and this bee-killer is really a formidable enemy. But by far the worst enemy the bee-keeper has to contend with, is the bee-moth (*Galleria Cereana*—Fitch). This bee-moth is so well known to bee men generally, that it scarcely needs a description. It is well illustrated above, in all its stages, and it suffices to say, that the color of the moth is dusty gray, the fore wings, which are scalloped at the end, being more or less sprinkled and dotted with purple-brown. The female is generally a good deal larger than the male, though there is not so much difference between the sexes as some writers have supposed. The worms which produce these moths are of ash-gray color above, and yellowish white beneath.

The Reverend L. L. Longstroth, in his work on the Honey Bee, has given such a complete account of the Bee-moth, that it is only necessary for me to mention a few of the most important facts with regard to it, my object being principally to show that there can be no

such a thing as a moth-proof *hive*; that wire-gauze contrivances are of no avail, and that the man who pretends to sell a moth-proof *hive*, may usually be set down as a know nothing or a swindler.

The Bee-moth was first introduced into this country from Europe, about the commencement of the present century, and it was, in all probability, imported with the common bee-hive. There are two broods of the moth each year, the first brood appearing in May and June, and the second, which is the most numerous, in August. During the day time, these moths lay quietly ensconced in some angle of the hive, but as night approaches they become active, and the female uses her best endeavors to get into the hive, her object being to deposit her eggs in as favorable a place as possible. Wire-gauze contrivances are of no avail to keep her out, as she frequently commences flying before all the bees have ceased their work. But even if she were entirely prevented from entering the hive, she could yet deposit her eggs on the outside, or by means of her extensive ovipositor, thrust them in between the slightest joint or crack, and the young worms hatching from them, would readily make their way into the hive.

The moment the worm is hatched, it commences spinning a silver tube for its protection, and this tube is enlarged as it increases in size. This worm cuts its channels right through the comb, feeding on the wax, and destroying the young bees on its way. When full-grown, it creeps into a corner of the hive or under some ledge at the bottom, and forms a tough, white cocoon of silk, intermingled with its own black excrement. In due time the moth emerges from this cocoon.

A worm-infected hive may generally be known by the discouraged aspect which the bees present, and by the bottom board being covered with pieces of bee-bread, mixed with the black gunpowder-like excrement of the worm. It must not be forgotten, however, that in the

spring of the year, pieces of bee-bread at the bottom of a hive, *when not mixed with the black excrement*, is not necessarily a sign of the presence of the worm, but, on the contrary, may indicate industry and thrift. If a hive is very badly infested with the worm, it is better to drive out the bees and secure what honey and wax there may be left, than to preserve it as a moth-breeder to infest the apiary. If put into a new hive, the bees may do something, and if they do not, there is no loss, as they would have perished, finally, from the ravages of the worm.

It should invariably be borne in mind that a strong stock of bees is ever capable of resisting, to a great extent, the attacks of the worm; while a starved or queenless swarm is quite indifferent to its attacks. In a common box hive, a good way to entrap the worms after they are once in a hive, is to raise the front upon two small wooden blocks, and to put a piece of woolen rag between the bottom board and the back of the hive. The worms find a cozy place under the rag in which to form their cocoons, and may there be found and killed, from time to time. Much can be done in the way of prevention, by killing, every morning, the moths which may be found on the outside of the hives. At this time of the day they allow themselves to be crushed with very good grace; and if but two or three be killed each morning, they would form an important item at the end of the year, especially when we recollect that each female is capable of furnishing a hive with at least 300 eggs. In conclusion, I give it as my conviction that immunity from the ravages of this Bee-worm can only be guaranteed where a thorough control is had of both hive and bees; hence the great importance of the movable frame hive.

ALSIKE OR SWEDISH CLOVER.

(*Trefolium Hybridum.*)

I do not wish to be undersood, when I say that alsike will flourish on wet soil, that it will not also succeed on upland. In my own experience it grew luxuriantly on rolling land. The field in which it was sown had formerly been sown in red clover, portions of which had lodged. When the alsike was sown the red clover came up with it, particularly in these spots where it had been lodged, and the seed had not been killed. As the two grew up together, the difference between them could be readily noticed. The red clover lodged early and dragged the alsike with it. The latter put out rootlets at the joints, penetrated the soil, and fed on the fallen clover. It pushed its stems ten or twelve inches above the other clover, and even when the red was only partly fallen, the alsike grew five or six inches higher. The alsike shows its cross with the little white clover distinctly in its running propensity. Like the latter it will fall and take root at half a dozen places along the stalk, and send out a new stem at every joint. This causes it to remain short on poor or thin soil; but on rich loam the stalk becomes strong enough to hold itself up. It is always best to sow it with herd, orchard, Hungarian or timothy grasses, if intended for hay. But for seed it should be sown alone, and, if possible, on new soil to make clean seed. I have not yet subjected it to an analysis to ascertain its properties, though I feel certain that it is superior to red clover, both in flesh and milk producing qualities. It is equal to the little white clover, which has always been considered the richest clover grown. The seed is obtained from the first crop, which should be threshed in cold dry weather when the seed separates easily, and the stalk is not materially injured for feeding. If cut when very dry it should be hauled in a tight wagon bed, or sheets should be spread over

the hay ladders to prevent the blossoms, which break off easily, from being lost. If intended for seed, care should also be exercised in mowing. By cutting it in the morning, or when the weather is damp, the blossoms will not be so easily knocked off and lost as if cut when dry. When cut, once turning will be sufficient to dry it, unless it be very heavy, when it should be turned twice. If it should be mixed with red clover, the seed can be separated in a common windmill by using a fine riddle or screen. The alsike seed being only about half the size of the red, will pass through the screen.

I believe, upon a fair trial, alsike clover will recommend itself favorably to farmers, and will be preferred to red, whenever it can be advantageously grown. It produces a superior hay, which can be threshed with a flail without injury, and will yield from one to two bushels of seed per acre. The seed will sell at wholesale from thirty to thirty-five dollars per bushel, which is a matter of no small importance. Hitherto it has been very profitable to cultivate it for seed alone, which has sold as high as fifty dollars per bushel. I have already mentioned, in a former paper, its superiority over red clover in light or loose soils which are severely tried by frost. In some of the Western States the freezing and thawing of the soil draws the red clover up by the roots and kills it. The alsike not only sends down a long tap root, but also sends out a cluster of side roots which hold fast to the soil in spite of the most trying weather. In this respect it has proved its superiority, here, over the red clover, being almost uninjured when the latter was killed. It is good bee clover, contains more saccharine matter than the red, and can be gathered as easily as from the white clover. The flower continues green about three weeks, during which time a vast amount of honey can be collected.

I do not hesitate to recommend its use to farmers generally, and, if their land is adapted to it, have no doubt it will prove profitable and successful.—*Experimental Farm Journal.*

From the Bee Journal.

THE APIARY—INSTRUCTION FOR BEGINNERS.

THE QUEEN.—Nothing is more interesting to me in the various operations of the apiary than the sight of the Queen, surrounded by a number of the attentive workers. Some persons may take more delight in rearing them or witnessing a battle between two rival Queens, when left to decide in mortal combat which shall gain the victory, and by murdering a sister, in harmony with the ancient law "that might makes right," henceforth remain the sole object of reverence and affection for forty thousand members of this insect family, whose very existence depends upon her welfare. We shall give our artist more time to display his skill in bringing to the view of our readers a picture of queen-rearing, and a fatal battle in the royal family, when spring brings the appropriate season for an illustration and article on the interesting subject of rearing Queens. We intend to give a series of articles with an accompanying illustration for the benefit of beginners and those who have paid little or no attention to this most interesting study. The more advanced will, therefore, bear with us if we do not "leave the first principles and go off to perfection" in this series of articles as soon as they may desire. We refer them to the subject-matter treated of in other columns of our papers, while we have a chat with those who believe there is a "king" in every hive of bees. We shall not deny that there is often found around the outside, one by that name, but we would not covet a dwelling place, even in such a "sweet home." As most Bee-keepers have observed that a swarm of Bees sometimes fills a hive in from four to six days, some have supposed that the combs were not made of honey, but of some other material, perhaps identical with the yellow pellets (of pollen) carried upon the workers' thighs,

and that Bees could change different kinds of sweet *making honey*, even from syrup.

These opinions may be corrected by confining a swarm of Bees in a movable comb-hive and feeding them an inferior quality of syrup; when the combs are examined the syrup will be found unchanged in the cells. If the swarm was destitute of comb the Bees will build comb, consuming about twenty pounds of sweet to produce one pound of comb or wax. For this reason, our best apiarists melt no good comb into wax. Considering the quantity of honey consumed, and the time lost by the Bees building comb, they estimate the value of a pound of comb to the Bees as equivalent to thirty or forty pounds of honey, while the market value of a pound of wax is never more than two pounds of good honey, or three or four of Cuba honey. With these facts the reader can estimate the loss from the "brimstone" practice.

By removing the native Queen from a colony of Black Bees and introducing an Italian Queen in her place, in about three weeks her golden striped progeny will begin to emerge from the cells, and in about three weeks more they begin to gather honey. If the Queen was introduced in May, in about three months all the Black Bees will have died off from natural causes, but if introduced late in the season they will not all have disappeared short of about six months. These oft-repeated experiments beautifully verify the following facts: 1st. That the Queen is not a "king," but a female, and the mother of the whole swarm, laying all the eggs; for if not from the Italian Queen, whence came this yellow girded progeny? 2d. That the workers do not fly out to collect honey from the flowers until about three weeks old. 3d. That the worker Bees are short lived, and where forage abounds and they are industriously gathering stores their span of existence is exceedingly short, and were it not for the astonishing rapidity with which they

multiply by breeding at this season of the year, a single stock could not swarm as often as they do in this country, and especially in Cuba and California.

In strong colonies, having plenty of stores, the Queen will often deposit eggs during every month in the year, the best brood being reared between October and January. During this time the brood often occupies a small circle of the size of a silver dollar, in the centre of the cluster of Bees exactly opposite on each side of a comb. Smaller circles are next occupied in the two adjoining combs. The circle of eggs in the first comb is then enlarged, and more added in the others, continuing to spread to other combs, keeping the distance from the centre or place of beginning to the outside of the circle, about equal on all sides. The effect of this is to produce concentration and animal heat for developing the various changes of the brood. On the approach of spring an increased amount of brood is reared, and as early spring flowers appear the Bees go to work in earnest, to provide limpid honey and freshly gathered pollen for the Queen and her numerous offspring. When the fruit trees unfold their pink and snowy blossoms, rich supplies are garnered by the busy throng of workers. Breeding goes on apace. The latent swarming impulse begins to be felt, and if the weather continues warm and balmy, we soon arrive at the swarming season.

HONEY PUMP.—A farmer near Madison, Wisconsin, has invented a pump for extracting honey from the cells of the comb without destroying it. On one Saturday, lately, he emptied the cells and replaced the box containing the comb, and on Monday he found that the bees had gathered and stored fifteen pounds of honey in the comb.

From the American Farmer.

MOVABLE COMB BEE HIVE.

EDITOR AMERICAN FARMER:—I wish to have a little talk, through your paper, with the farmers about “Movable Comb Bee Hives.”

Farmers—We have divers patentees, each contending for the supremacy of his hive on account of the peculiar construction of the movable comb frames, the object of which is to give complete control of the combs and bees by having the combs made straight and secured in the frames so as to be taken out at will. These inventive gentlemen are very zealous in the defence of their rights, and talk much about infringements. Their hives are doubtless good and their self-defense all right, but we farmers, the yeomanry of the country, also contend for our rights and complain of infringements. We claim the right, which is denied us by some of the patentees, to make the movable comb frame in any way that suits us, provided we do not make it like some of the patents. First let us hear some of the patentees. “Some owning territory in the Langstroth patent have falsely asserted that it covered all movable frames.”

“Movable comb hives, whether they contain patented features or not, when made without the closed top slat, or mortised frames, to avoid our patents, are sure to infringe on Langstroth’s extended patent, and those who use such hives are required to pay dearly for another right, as his patent covers frames having a shallow chamber or space between the frames and honey board, or even between the top bars, and our patent covers the other kind where the top bars form a honey board, with slats to admit the bees to the honey boxes.”—*Bee Keeper’s Text Book, by N. H. & H. A. King.*

It seems from this declaration that the tale is all told—that there are but two patent hives containing the mov-

able comb frames in existence, and nothing of the kind can be made without infringement on one or the other. But what says another distinguished apiarist, K. P. Kidder, of Vermont, who also has a movable comb hive patented. In describing the Langstroth hive, he says: "In outward form it resembles a common cook-stove more than a superior hive." The frame, he claims, "is an old device that was made use of in Europe for over half a century back, and in this country for nearly twenty-five years, by several parties. I believe my frame is the only one in existence, patented or unpatented, that thoroughly dodges the claims of this reverend gentleman."—*In the Bee Keeper's Almanac of 1867.*

Thus far we find three forms of movable comb frames patented, and perhaps there are others. Some of these patentees would deny the people the right to make a movable comb frame of any kind, and thus deprive them of the liberty of experimenting for pleasure or profit, and effectually restrain the inventive genius of the land. This all looks the harder when we reflect that the world did so much before them. This idea of movable comb frames is not exactly new. It was born in the days of Francis Huber, of Europe, in 1795, and was variously modified with success, too, by the hands of Munn, Debeanvay, Taylor, Bevans, Golding, Huish, Dzierzon, and others. Our inventors caught the idea, modified the plans, bought patents, and astonished the world—they think. How can these late patents deprive us of the right of using what existed before them? The inventions of Huber, Munn, Taylor, Dzierzon and others, are all ours to imitate or modify.

IRVING BLOOMFIELD.

RED MOUND, Tenn.

BEEES.

To whom it may concern:—Take notice that your Honey Bees require immediate attention. Very many valuable colonies have already suffered death by starvation, and thousands more will soon follow, unless immediately supplied with the necessaries of life.

Here, friend apiarist, allow me to ask, can you conscientiously justify yourself, (saying nothing of the great loss sustained,) in allowing these great, nevertheless little, noble and valuable insects, to die this inhuman death, knowing that the remedy is at hand. And again think, the suffering Honey Bee is to-day, and has been from the beginning of time a mystery and admiration of all mankind; and further, with all the study, research, and experimenting of all the combined talent and ingenuity of the naturalists and historians of the world. To a very great extent these natural habits and laws which govern and control this insect, remains a mystery, and I trust ever will. Bear in mind, brother apiarist, that it is this Honey Bee, (that through your neglect is at this moment suffering the most dreaded of all deaths—starvation,) that supplies the world in such wonderful abundance with the most delicious sweets nature affords. Again, I ask, is there a person existing, so void of all sense of humanity, that can with impunity rest, knowing that this inconceivable suffering exists in his apiary. Civil (not mentioning divine law), would inflict most severe punishment for such gross treatment of animals; then why should not the same law protect the Honey Bee? There is not, nor can there be any doubt, but that the Bee is equally susceptible of suffering from hunger, as all animated matter, the human family not excepted. Then let us imagine how great and terrible are the sufferings of a family of Bees in a state of starvation. All Beekeepers are not wilfully guilty of this neglect, as they

are not aware that Bees, like animals, can be safely fed and wintered upon artificial food.

I have, for the last two winters, kept a number of late swarms, wholly upon coffee sugar, and have now three colonies that are fine and healthy, which comparatively have eaten nothing since the middle of September, but this sugar. One I gave a fine and beautiful Italian Queen, about the 15th of July. Her young workers proved so fine, that I was induced to exhibit them at our State Fair, where they were highly admired for their beauty and size. About ten days previous to the Fair, on examining them (by raising out their frames,) to my surprise I found that they had not one pound of honey. I at once prepared six pounds of sugar, placed it in the feeder, gave it to them, and in a few hours it had all disappeared. I repeated this until I gave them sixteen pounds. All was speedily deposited in their store comb, and nicely sealed over and ready for the Fair. These have since subsisted entirely upon this sugar, and to all appearance have sufficient to carry them through.

Now for this lady Queen, without her workers, I could have taken last fall \$25. The cost of wintering—16 lbs sugar, \$2.24; balance, \$22.76—saved by feeding one stock. Are Bees worth feeding at this estimate? Bear in mind the entire expense for the winter is included. I presume there is not one stock in fifty that now starves to death, but what 75 cents worth of extra feed would save. With the common hives still used by too many apiarists, and clung to with great tenacity, it is almost impossible to feed Bees understandingly; and in fact without a practical Bee-hive, it is impossible for any one to possess, to any extent, a practical knowledge of the working and true condition of the interior of the hive. I recommend to all who desire Bee-keeping to get rid at once of all box hives, and substitute the movable frame. If there is any better hive than the Graves Hive, adopt it. But be always sure that your Bees have a good supply of food.—*J. H. Graves, in American Farmer.*

TO MY NUMEROUS CORRESPONDENTS.

In answer as to whether you are the proper person to engage in Bee culture, the question is not an easy one to answer; and not knowing anything as to your antecedents, you must allow me to talk to you in very plain language. In the first place, you want to get all the information about the culture of the Honey Bee you can, and had better take one or even more papers devoted to their culture, in which you will get the experience and practice of our best and ablest apiarists. You want to follow them as near as possible in everything, and what they tell you can be relied upon. Do not follow the advice of any man unless he is known to be a practical Bee-keeper of the present advanced age. There are two classes to be feared, and should be shunned by all new beginners. First, is the old foggy; he has always kept Bees in the old box hive, and is proud of it. He never would have anything to do with patent hives, they were all humbugs. Go to his Apiary; what do you find Bees in? Boxes, nail kegs, barrels, and in every conceivable thing imaginable. You will find his Bees in the fence corners, under the trees upon which the fowls roost, almost covered up with their dirt. Ask him how his Bees pay, and he will answer—"Oh, jest kind o' sort o' pay; when we want honey, all we have to do is to take up a few scaps by killing the Bees." Ask him why he don't get a better hive, and he will tell you it won't pay; it would never do to put Bees in anything else; if they don't pay when they are kept in nail kegs, etc., how could they pay if put in good hives. New beginners should get as far away from him as possible. He is just as he was when Noah had him in the ark, and he will always remain so; he is joined to idols—let him alone.

The second class are all excitement; everything they hear they believe, no matter how unreasonable. They

are carried away with every humbug that comes along. They will blow and tell you what they intend to do, and what you ought to do to make Bee-keeping pay. They are willing and ready to read you a lecture at any time, and to solve the most difficult questions. New beginners should be very careful how they follow their advice, for in less than two months you will hear them talking with as much grace and assurance as ever upon some other hobby. They are those that are always talking and never doing. Give them a wide berth.

But there is another class that are known to be live, loving, practical Bee-keepers, that have made Bee-keeping a speciality for years. If you are ready to follow their advice, then I will say you are the person to engage in Bee culture, and can safely go into the business without fear of loss. But bear in mind, that in order to be successful, you must use a movable comb hive of some kind. It must be a hive that you can handle and examine your Bees at any time; such a hive that will enable you to tell to a certainty the exact condition of your colony of Bees, as to whether they are ready to swarm artificially or not.

ARE BEES INJURIOUS TO FRUIT.—In answer to this question Dr. A. S. Packard, editor of the *American Naturalist*, observes: "I would reply, that all the evidence given by botanists and zoologists who have specially studied the subject, shows that bees improve the quality and tend to increase the quantity of fruit. They aid in the fertilization of flowers, thus preventing the occurrence of sterile flowers, and by more thoroughly fertilizing flowers already perfect, render the production of sound and well-developed fruit more sure. Many botanists think that if it were not for bees, and other insects, many plants would not fruit at all."

CAN WOMEN KEEP BEES.

The most absorbing of the woman's questions of the present time is, the remedy for the varied sufferings of women who are widows or unmarried and without means of support. As yet, few are aware how many sources of lucrative enterprise and industry lie open to woman in the employment directly connected with the family state. A woman can invest capital in the dairy, and qualify herself to superintend a dairy farm as well as a man; and if she has no capital of her own, if well trained for the business, she can find those who have capital ready to furnish an investment that, well managed, will become profitable. And, too, the raising of poultry, of hogs, and of sheep are all within the reach of woman with proper abilities and training for this business, so that if a woman chooses, she can find employment both interesting and profitable in studying the care of domestic animals.

BEES.

But one of the most profitable, as well as interesting kinds of business for a woman, is the care of bees. In a recent agricultural report, it is stated that one lady bought four hives for ten dollars, and in five years she was offered one thousand five hundred dollars for her stock, and refused it as not enough. In addition to this increase of her capital, in one of these five years she sold twenty-two hives and four hundred and twenty pounds of honey. It is also stated that in five years one man from six colonies of bees to start with, cleared eight thousand pounds of honey, and one hundred and fifty-four colonies of bees. The raising of bees and the management is so curious, and as yet unknown—an art in most parts of our country—that any directions or advice will be omitted in this volume as requiring too much space, and largely set forth and illustrated in the

second part. When properly instructed, almost any woman in the city, as easily as in the country, can manage bees, and make more profit than in any other method demanding so little time and labor. But in the modes ordinarily practiced, few can make any great profit in this employment. It is hoped a time is at hand when every woman will be trained to some employment by which she can secure to herself an independent home and means to support a family in case she does not marry or is left a widow with herself and family to support.—*Catherine E. Beecher and Harriet Beecher Stowe, in the American Woman's Home.*

ITALIAN BEES IN THE CITY.—A gentleman of our acquaintance has lately interested himself in the keeping of bees as a sort of relaxation from severe office labor. He has one hive of Italian bees which sent out two swarms early in the season; later he divided them, taking away one full swarm and sufficient brood for about half another colony—taking four frames of honey and five of brood comb. He has also removed forty pounds of surplus honey, and has now more honey left in the hive than the colony will need until another flower season. This, in the heart of a great city, is a better record than we have before heard. It is not improbable that the Italians are best fitted for city apiaries.—*Prairie Farmer.*

A NEW SPECIES OF CLOVER.—A new variety was exhibited this season at the various State Fairs, called the Alsike, from the fact that it was first brought to this country from the district of that name in Sweden.

It is asserted, by those who have grown it, that it is better in quality and quantity than red clover, either for hay or pasture, and superior to the white for bees. Both clover and seed were exhibited by the importer, J. H. Townley, of Parma, Michigan.

REARING YOUNG QUEENS.

As in swarming, so in rearing queens, certain principles must be borne in mind in order to succeed, but when these are well understood, thoughtful persons can vary the operations as they please, if they do not go contrary to these principles:

1st. The queen-rearing hive must always be well stocked with young bees, since these are the ones that build queen cells or work wax in any way.

2d. As these young bees do not gather honey or water, the little hive should always be supplied with necessaries.

3d. No eggs from any queen but a pure one should be allowed in the small hive until after the queen cells are sealed over. Bees can and do move eggs from one cell to another.

4th. Never give an unimpregnated queen, or one that is not laying, to a new colony. She will surely be killed.

5th. When you leave a young queen in a small hive until she commences to lay, about the time she hatches, give that hive a comb with a little brood in it. Many complain that when the queens leave those small hives to meet the drones, the bees all go with them and do not return. If a little brood be given them, it will be found a sure preventive of this loss, as bees never desert combs containing brood.—*Bee Journal.*

ILLINOIS HONEY CROP.—M. M. Baldrige, St. Charles, Ill., under date of August 24, says: "We have taken upwards of one hundred pounds surplus honey from each of several hives in our apiary. One hive has given at date one hundred and eighty pounds since July 1—forty pounds box honey and the balance taken from the combs with the honey extracting machine."

For the Illustrated Bee Journal.

THE QUEEN NURSERY.

MR. EDITOR: The Queen Nursery is a *new invention* for raising Queen Bees at less than one-fourth the former expense of raising them, besides securing their perfect safety, up to the period when they should pass out to



DR. JEWELL DAVIS, of Charleston, Ill., Inventor of the Queen Nursery.

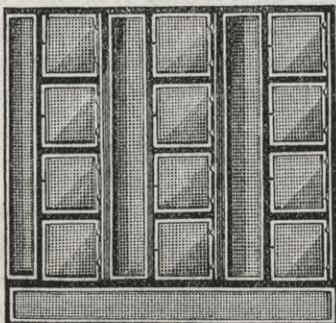
meet the drones. It is secured to the inventor by letters patent, dated November, 1869. It is composed of a frame made of the size of a frame in any movable comb bee-hive, divided into compartments, consisting of one or a series of cages, covered and open ways. The cages, (permanent or removable at will from the frame,) are

made in a square form, with a right-angled triangular piece of tin on each side of them, making a place between the tins to secure the feed for the young Queens, while in confinement. This feed consists of honey in the comb, or a sponge saturated with it.

One side of each compartment is covered with fine wove wire cloth, tacked fast. The other side of the Nursery, over a part of the ways, is covered in the same

manner; but the cages on this side of the Nursery are covered with the wire cloth, cut into pieces, two and one-eighth inches square, rimmed with tin and hinged, and hung as doors. The open ways are for the purpose of letting the worker bees

pass from comb to comb on each side of the Nursery, when it is placed in the centre of a strong colony of bees in place of one of the centre combs removed for its reception. The cages and ways are covered with the wire cloth to secure and protect the Queen cells, incipient young queens and their food,



The Queen Nursery.

as long as they are required to be kept in confinement; also to secure the equal dissemination of the required heat to hatch and mature the young Queens. The apertures from the cages into the covered ways are for the purpose of liberating the Queens at the proper time. This is done by removing the tin slides which close the apertures. But one Queen should be liberated at a time. They may also be liberated by opening the doors of the cages, or if the cages are removable from the Nursery, they can, whenever desired, be removed to any hive where a Queen is wanted, and there liberated.

The covered ways are thus arranged so that the young Queen can pass clear to the entrance of the hive, without danger of being destroyed as she goes out to meet the drones. And as she thus passes out for fertilization, can be caught in the "Queen Catcher," and confined with choice drones, as described in the *American Bee Journal*, page 19, No. 1, vol. 5; *Bee Keepers' Journal*, p. 50, No. 7, vol. 1; and *Annals of Bee Culture*, page 47, for 1869. To operate the Nursery, cut from the combs as many sealed Queen cells as required to put one into each

cage, (with the sealed end downward as found in the combs); place also the honey for feed between the tins in the cages; close the doors; remove a centre comb from a strong colony of bees, and put the Nursery into its place, letting it remain there until all the Queens are hatched and matured, ready for fertilization. Then they can be liberated as above directed.

Refer to figure for further explanation.

JEWELL DAVIS.

Indianapolis, Indiana.

BEST WAY TO KEEP BEES—A recent writer says, so far as dollars and cents are concerned, the best way to keep bees is in hives containing from two thousand to two thousand one hundred cubic inches of space, in the clear, in the lower sections, with space above for caps, that will contain about six pounds of honey each. There should be eight caps, two tiers of four each, with passages to connect. We refer to hives made as follows:—twelve inches square in the clear, and fourteen inches deep, which gives two thousand one hundred and sixteen cubic inches, and a space of four caps in the super, or upper part of the hive, or double tier. Such a hive, with movable combs, or otherwise, will enable the bees to be more profitable to their owner than any non-swarmling hive in existence, because, in one case, no increase of families occurs, while in the other case two or three swarms issue, worth about five dollars each, besides obtaining as much surplus honey, in most cases, as is stored up in non-swarmling hives.

G. W. Z., of St. Paris, Ohio, writes that he is going into the culture of Italian Bees and Queens extensively next spring. He has a good stock on hand, and has had many years experience in the culture of bees. Success to him.

BEE KEEPERS' GUIDE BOOK,

Written by E. Kretchmer, of Red Oak Junction, Iowa, is upon our table. The author is known to be a practical Bee Keeper, and writer upon Bee culture. Every owner of Bees should possess one of his books. We select the following recipes from it:

“*How to Separate Candied or other Honey from the Comb by Heat.*—After as much honey as possible is drained from the comb, candied and liquid honey, yet adhering, may be removed by the following process: Put all the pieces of comb in a tin vessel and set it in a pot or kettle containing water, heat the water gradually over a fire, until it begins to boil, but not longer, as the impurities may impart a bitter taste to the honey; as soon as the water boils, take it from the fire and set it to cool, at least sixteen hours, so that the bee-bread or pollen may adhere to the bottom of the wax. After it is cooled, take off the layer of wax at the top carefully, the remainder is pure honey. As there is usually a large portion of honey adhering to the layer of wax, it should be boiled in water, and the sweet water be used for making metheglin or vinegar.

“*How to Keep Honey a Number of Years.*—After the honey has been separated from the comb, put it in clean jars and cover it up; in two days take a spoon and skim all impurities from the top; take a sheet of common writing paper, double it, and tie it over the mouth of the jar; set it in a cool place, which must be free from dampness, or else the honey will sour.

“*Two Recipes for Artificial Honey in Beautiful White and Tender Combs.*—Take one pound of pure white sugar and as much hot water as will dissolve it; thoroughly mix one-half of a pound of good flavoring honey with it; put this in a box a little smaller than a honey-box, and set it in an empty honey-box on the hive, and have

it stored in glasses or tumblers for choice table honey. Or, take a bucketful of the juice of sugar maple, evaporate one-half, mix in two pounds of sugar and one pound of honey. Take a box a little smaller than a honey box, pour melted wax in the corners, pour in the juice, put on fine cut straw to keep bees from drowning, and put this in a honey-box on the hive. From this preparation a number of beautiful white combs will be built, and if stored with the preparation first described, honey of unequalled taste and attractive beauty will be produced.

“To make Wax from Comb.—Take all combs emptied of honey, and all wax obtained by separating honey from comb by heat; put all of it in a pot or kettle, pour water over it, boil and stir ten minutes; have ready a kettle with a little cold water in it, and a board perforated with a number of inch holes, over it. Now take the wax from the fire, pour it in a bag, put it on the perforated board over the kettle, put another board over the bag, and weigh it down with a stone. In a short time the wax will be in the kettle below, and if there should be some wax left with the impurities in the bag, it may be boiled and pressed again.

“Bagster’s Process of Melting Honey Combs.—The combs are placed in a conical earthen vessel, filled with a mixture of one ounce of nitric acid to a quart of water. This is set over an open fire and stirred till the combs are completely melted, when it is removed from the fire and allowed to cool gradually. The product is divided into three layers, the upper one pure wax, the lowest chiefly impurities, and the middle containing sufficient wax to be added to the next melting. A marketable wax is thus obtained at a single operation, without straining or pressing.

“Chemical Process of Bleaching Beeswax.—Add to one pound of melted wax two ounces of pulverized nitrate of soda, and stir in by degrees a mixture of one ounce of sulphuric acid and nine ounces of water. When

all the acid is added, it is allowed to become partly cool, and the vessel is then filled up with boiling water and allowed to cool off slowly. The wax, when cold, is put into boiling water to remove the sulphate of soda and the acid. It is then quite white, and should be perfectly freed from nitric acid, which tends to render it yellow."

WHAT AMOUNT OF HONEY IS IT POSSIBLE FOR ONE STOCK TO PRODUCE IN A SEASON?

If it were a fact that a colony of bees could, in course of time, increase to any number that their hive would hold and furnish with working room, of course the amount of honey would only be limited by the number of bees and time. We frequently hear fabulous tales of bees lodged in caves in inaccessible cliffs, that after a great number of years have increased to millions, and in some instances, where some daring and fortunate person has succeeded in reaching the stores, he has been rewarded with barrels of honey and wagon loads of wax. Such tales are simply absurd, or naturalists have studied the honey bee to little purpose, and the abortive efforts of hundreds of persons who have built large bee houses and bee palaces, based on the idea of unlimited increase teach nothing.

During the period of active honey gathering all of the worker bees in the hive die inside of forty-two days, and the population at no time can exceed the number of eggs the queen can lay in that time. Dzierzon counted the number of cells, containing eggs and brood, in a populous hive, and found 60,000; and as it takes about twenty days for the bee to mature from the egg, she must have laid at the rate of 3,000 per day, and in for-

ty-two days she would have produced 126,000 bees; but as in that time all of the bees in existence at the beginning of the forty-two days, would be dead, of course that would indicate the greatest number that could be alive at any one time.

The Baron of Berlepsch, in his work on "*Bees and Bee Culture*," recites four experiments that he had made, to ascertain the productiveness of the queen. In the first experiment made in 1846, when the rape fields were in bloom, the queen laid 1,604 eggs in twenty-four hours.

The second experiment made in 1850, was by counting all the brood in a populous hive. He found 38,619 cells supplied with eggs and brood, and assuming twenty days as the average time required for their development the queen had laid at the rate of 1,913 eggs daily.

He says that these experiments were not conclusive, from the fact that the first was a swarm just hived, and it is not to be presumed that the queen went to laying the minute she was put into the new hive, but had to wait until cells were built in which to deposit her eggs. In the second instance, the bees had to build the cells also, and it can not be supposed that she always found as many empty cells in readiness as she could supply.

The third enumeration was made in June, 1856, in a hive that seemed to be well supplied with brood. The cells were not counted, but they were calculated by the number of square inches occupied by the brood. He found 48,000 cells stored with brood, which gives an average of 2,400 per day.

The fourth experiment was made in the same year, by placing an empty comb a foot square in a hive that had a prolific queen, and placing the queen on it. He waited until the queen was seen to deposit eggs, which she did at the rate of six in a minute. He then closed the hive. After precisely twenty-four hours, he took the piece of comb out and found 3,021 eggs in its cells. Whether

she laid any in any other sheet of comb was not ascertained, but this was decisive, and confirmed Dzierzon's estimate. He saw her lay six eggs in a minute; if she had continued at that rate, she would have laid 360 in an hour, or 3,021 in about eight and a half hours, leaving her fifteen hours and a half for rest.

The Baron estimates that, under ordinary circumstances and management, the queen lays an average of 1,200 eggs per day, while honey is being gathered. But is it not possible that, under intelligent management, the queen may be kept up to the maximum of these experiments, by always keeping her supplied with brooding space, and by that means keeping the population of the hive up to 120,000? By the use of the Melextractor and properly arranged hives, and sufficient attention, I can not see why it can not be done. If it can, what quantity of honey may we reasonably expect them to collect in a season, when honey is abundant.

An ordinary colony of bees contains from 15,000 to 25,000, or say an average of 20,000, except for a few days at swarming time; or about one-sixth of the number I have estimated as the maximum.

Von Berlepsch experimented in weighing his hives daily, and found that in a good season, hives in good condition increased about 11 pounds daily. Mr. Kaden, of Mentz, Germany, reports as much as 21 pounds gained by a single stock in one day. Rev. Mr. Stein of the same place had days when one stock brought in 28 pounds.

Mr. Root, of Ohio, in 1868, used the Melextractor, and reports, the record he kept of the yield of one hive. The first time he emptied the honey he obtained 15 pounds; in six days more he got 36 pounds; five days after 45 pounds; six days after 25 pounds; five days later, (July 13,) 42 pounds additional, in all 163 pounds in 23 days, or seven pounds and nearly one-half per day, or leaving out the first 15 pounds, over six and two-

thirds pounds daily. He further says: "We have good reason to think that if we had taken out the honey more frequently we should have obtained a still greater quantity; for we twice found the comb so full that the bees had begun to fill up all the little cinks about the hive; and a similar hive which we emptied only three days before the last time had nearly as much honey as the one mentioned." (*Bee Journal*, Vol. 4, page 36,) and this in a locality, he says, "where it is generally supposed that bees can not be made to pay expenses." On page 64, same paper, he reports up to the 21st of July, as having taken out 40 pounds more from the same hive, which made 303 pounds in forty days, an average of over 5 pounds per day for that time. In 1867 Mr. Root put a swarm in a hive, supplied with empty comb, which increased 30 pounds in two days.

From these statements, all of which are reliable, we may make some sort of an answer to the question at the head of this article. Assume that Mr. Root's was a very strong one and contained 30,000 worker bees, and that it could have been increased to 120, as I have shown, which would have been equal to four such swarms, and taking five pounds daily as the product of Mr. R.'s colony, the other would produce 20 pounds per day, which is 8 pounds less than Mr. Stein's actually produced, and that the bees will gather honey only two months in a year, we find that our 120,000 bees would furnish 1,200 pounds of honey.

Let us calculate a little further, to show that this is no unreasonable estimate. The German paper *Binen Zeitung* tells us that the honey bag of the bee holds one grain when full. There are 7,680 grains in a pound, and 153,600 grains in 20 pounds, so that if only 77,000 bees were engaged in collecting honey leaving 43,000 for other purposes about the hive, they would only be required to make two excursions a day to gather 20 pounds of honey, while Reaumur, who investigated the matter,

estimates that there are at least four trips made daily for each bee in the hive when honey is plenty; at which rate our 120,000 bees would collect $62\frac{1}{2}$ pounds each day, or in two months 3,650 pounds of honey.

With a hive properly constructed so that the queen can always be supplied with cells in which to deposit her eggs, and the worker bees with comb to hold all the honey they can gather, to be emptied as often as filled by means of the mel extractor; by sowing honey-producing crops, to furnish pasturage for the bees when the ordinary supply fails; and by bestowing the proper attention and care, it is not unreasonable to suppose that whole apiaries of hundreds of stocks may be made to yield an average of one thousand pounds each, yearly.—
Annals of Bee Culture.

J. R. H., of North Madison, Ind., writes: "I now have fourteen colonies of Bees. I expect that will be all I will have to start with in the Spring, as Bees are very scarce and dear here. I hope you will tell me how to increase them to the best possible advantage, so it will pay me to devote my time to Bee culture. I would buy more, but am not able. Can I make it pay anything with fourteen colonies. Please send me the ILLUSTRATED BEE JOURNAL."

Answer—You certainly can make a nice thing out of your Bees, as fourteen colonies will give you a good start; and if you devote all or most of your time to your Bees, and follow the directions laid down in the ILLUSTRATED BEE JOURNAL, they will easily return you one thousand to fifteen hundred dollars next year. If your Bees are not all Italianized, see to that in early Spring.

EDITOR'S SANCTUM.

WINTERING BEES.

I am aware that there is a diversity of opinion existing among practical apiarists, as regards the protection of bees from the inclemency of the weather. Some will tell you to keep them warm; others will say, keep them cold. Some prefer to bury them in the ground, or put them in the cellar; another will advise carrying them in the chamber, wood-house, and about forty other places. Enough to puzzle the inexperienced bee-keeper. Yet, no doubt but what bees have been successfully wintered in all of these contradictory methods. Yet, it is also true that some of these methods are much superior to others. But what the common bee-keeper wants is the most practical method.

I will now endeavor to examine, without prejudice, the different methods. Warmth is the first and main requisite. By this we do not mean that they should be kept uncomfortably warm, nor below the freezing point. An even temperature is most desirable, at about the right degree of heat; and whatever method produces that, that is the one to accept. Dryness is another essential to the successful wintering of bees. These are the two great essentials in wintering bees—dryness, and an even temperature, something a little above the freezing point.

We will now proceed to examine the different recommended methods. First, Mr. Corner recommends letting them stand on their summer stands, with these

shielded from the north and west winds. He says nothing is gained by taking them into the cellar. Let us view this. It might do for a more southern or warmer climate, but certainly it is not enough for our latitude. One day the air is balmy, inviting an out-door exercise; the very next day piercing cold. These rapid changes from warm to cold have a bad effect upon the bees—it paralyzes them, and causes certain death.

WINTERING IN THE GROUND.

Burying bees in the earth, before the frost, has been recommended by many as being a superior method for small families. This may be a saving to bees, but it leaves the comb in a very moldy and unfit condition for use, there being in the earth no chance of escape for the vapor, or breath of the bees.

WINTERING BEES IN CELLARS.

Although this plan may have some objections, yet they are not so serious as the others. It is to be preferred to the other two, provided we have a suitable cellar. The cellar should be dry, dark, and well ventilated. The temperature should be kept as near 36 degrees as possible. The hives should be elevated some distance from the floor, so they will not receive any dampness from the bottom of the cellar. The hives should have proper ventilation; if the box-hive, bore a hole or two on the top, and cover over with wire-cloth.

Mr. Cary, in the *American Bee Journal*, says the advantages of wintering in the cellar are, that one-half less honey is consumed than when wintered in an unprotected place; and if properly cared for, no swarms are lost, and but few bees die.

WINTERING BEES IN HOUSES.

This is recommended by several writers. Mr. Flanders recommends the construction of winter quarters for

bees, of straw, of any requisite size, building two walls, that is, an outer and an inner wall of straw; the straw is confined by stakes, and the space between the two walls to be filled with sawdust, or something of that nature; a cheap roof, and one door. Such a place might be made cheap, and very warm and comfortable. It need not be very large. It can be modeled to suit your own notions and taste as it is built. I do not deem it necessary to lengthen remarks on it.

Mr. Quinby recommends a room built as follows: "The room for this purpose is eight by sixteen feet, and seven feet high, without any windows; a good coat of plaster is put on the inside; a space of four inches between the siding and lath was filled with sawdust. Under the bottom I constructed a passage for the admission of air, another over head for its exit, to be closed and opened at pleasure in moderate weather, to give them fresh air, but closed when cold, and so arranged as to exclude all light. A partition was also extended across, so that when putting in or taking out, we need to disturb only one-half at once."

He arranged them around the walls, inverting them, &c. He says he has wintered bees in this manner for the last ten years. Such a room will accommodate about one hundred stocks of bees.

FREEZING BEES AS A MODE.

There are some inhuman writers, if so I may call them, recommending freezing them up in the fall, and if possible, keep them in that torpid state till spring. The colder the better, they claim; that they will not eat anything, and so much saved. I say I think this is inhuman. Reasons: Experience and civilization will not uphold such a doctrine. I believe in wintering bees in the best manner possible. And as we have gone over most of the methods, I will make a few suggestions, and leave the reader to judge for himself.

HOW A FAMILY OF BEES WINTER.

A family of bees, at the approach of cold weater, crowd together in a globular form, to economize the animal heat. If the cold is intense, they pack the closer. Then, suppose all the honey in the vicinity of the cluster of bees has been exhausted, and all the combs are covered over with frost, and we have a long and severe cold spell, is it not certain that if any bees leave the mass, and venture among the combs for a supply of honey, their fate is certain death?

WHAT IS NECESSARY.

To winter bees in the best possible manner, considerable care and observation are necessary. Recollect that warmth and dryness, and we may add, ventilation, are the requisites to be remembered. If we can go to the expense of building a room on Mr. Quinby's plan, it probably meets the most ends. His plan is very good. I only disagree with him in one respect, and that is in inverting the hives. It is true, they need ventilation to carry off the animal moisture, but I would do this by either lifting the cap a little, or, a better plan is to have an aperture in the top of the hive, with a slide and hair cloth. My objection to inverting the hive is, that all the filth, dead bees, &c., lodge in the hive, and are there next spring. If the hive was right end up, this would all fall clear, as the combs are always built in reference to this.

But it is not all bee-keepers who will take the trouble to build a house like Mr. Quinby's, or even like Mr. Flanders's. Those who will not, I say, think of your bees; are not your bees as good servants as your horse? Is there not some analogy between them and some of the warm-blooded animals, which require a constant supply of food and attention? Then I ask you, kind reader, if you have not a cellar, or neglect to build a

suitable house, then kindly devote a small bedroom to their use during frigid winter, remembering that you will not lose your reward; for bear in mind, that one early swarm is worth two late ones. The condition of the stock during winter and spring always decides this point. If they are well wintered, they will commence an early brood.

The man now-a-days (if possessing the means of purchasing food) is laughed at, or is counted silly, who would let his only team, for which he was dependent on to put out a good crop, run down and get poor, so he would have to wait to recruit in the spring before he commenced farming. It is equally so with bees; for only give them the proper protection, and they will keep themselves.

I have now given you the mode of wintering bees, as practiced and recommended by some of our most successful bee-keepers; but not one in fifty will ever follow either plan, but let them remain on their summer stands, exposed to the cold and chilling frosts of winter, without any protection whatever from wind, rain, sleet or snow. To you careless ones, I wish to ask one question: If I will tell you what to do to save your bees from perishing with cold, that will not cost you anything, will you do it? You certainly can and will do that much. As soon as winter has set in, remove the surplus honey-boxes from the hives, and fill up the empty space with corn-cobs. They will absorb all the moisture as it rises from the bees, keeping the hive free of any moisture whatever, and we will hear no more of bees freezing when the hive is full of honey. I would say to all, use corn-cobs, no matter where you winter your bees, indoors or out. Try the experiment, and you will never neglect it afterwards, as the bees will come out fine and healthy in the spring, and will cast swarms earlier and much stronger.

Every hive should be thoroughly overhauled before

cold weather sets in, so as to ascertain their exact condition. If you are using movable-comb hives, it is an easy matter to attend to it. Every hive should be opened up, every comb examined carefully. Look for moths, or the work of them. If any are found, cut them all out. See that they have honey enough to last them during the winter. Twenty-five pounds is enough in our latitude. If they have not, change a frame or two with a colony that have honey to spare. See that your hives are not full of honey. If they are, your bees could not live in such a hive, with a cold wall of honey on each side. You must give your bees empty comb to winter in, or else they will certainly freeze. Where you have a number of movable-comb hives, equalize your colonies by exchanging frames, and by that means you benefit all.

After looking over stocks, should you find some that you had no honey to give, and had not enough to do them, you should at once get some honey; but should you fail to get it, then take at the rate of four pounds of white sugar to one quart of water; put all in a pot, bring to a boil and skim; then, as soon as cold, pour into pans or saucers, drop some shavings or straws upon the syrup to keep the bees from drowning; set it in the surplus honey-boxes, and continue to feed until they have enough to do them all winter; then remove the boxes and put in the corn-cobs. Always feed in the top of the hive. There is danger, in feeding in the bottom of the hive, of attracting robbers. I would advise every one, be careful how you drop honey around your hives. If you cannot give it to them in the boxes, you had far better let your neighbors' bees have a part, by placing it away from your own bees.

IN REPLY

To my numerous patrons and correspondents, I have at last concluded to publish a monthly journal devoted entirely to the culture of the Honey Bee; and to Bee-keepers, I wish to say that every effort will be made to make the ILLUSTRATED BEE JOURNAL a success. Our new system of Bee Culture will be published monthly. Ourselves or reporters will visit Bee-keepers of every State, and what we see or hear will be published in the Journal.

The ILLUSTRATED BEE JOURNAL will be published in the city of Indianapolis the first of every month. The first number will be published on the first of December, 1869. The contents of each number will be new and original, and will embrace contributions from some of the best American apiarists. The Journal will not be published in the interest of any particular hive, and will be free to all to describe their respective hives.

The Journal will tell you how to increase one colony of Bees to almost any number in one season, and at the same time keep them strong in numbers and honey enough to winter. The Journal will tell every man how to handle his Bees without getting stung; the Journal will tell the ladies how to handle Bees without danger, and at the same time pay them handsomely for it; the Journal will tell the rich how they can while away many a pleasant hour to advantage; the Journal will tell the poor widow how she can support herself and family, and have money to loan; the Journal will tell the poor hard-working man how to better his condition, and buy him a good home; the Journal will tell you how to make more money from one colony of Bees than any dairyman can from ten good cows; the Journal will tell you how to make more money from ten colonies of Bees than any farmer can make from a good farm of one hundred and sixty acres; the Journal will tell you how to make one to ten thousand per cent. by engaging

in Bee-culture; the Journal will tell you how to raise the Italian and Egyptian Queens and keep them pure; the Journal will tell you how to Italianize all your common Bees; the Journal will prove to you that there is more money in Bee-culture than any other enterprise; the Journal will show you there is no danger of overstocking the country with either Bees or honey; the Journal will prove to you that you must use a movable comb hive of some kind to be successful in Bee-culture; the Journal will prove to you that you should never allow your Bees to swarm naturally; the Journal will keep Bee-keepers posted, and will answer all questions cheerfully; the Journal invites all Bee-keepers to contribute to the ILLUSTRATED BEE JOURNAL—tell us what you are doing, and how many Bees you have, and what you are making; the Journal will have an able corps of reporters, both in America and Europe; the Journal will make every effort to advance the interest of the Bee-keeper.

BEE KEEPERS

Will find the portraits of one to three of our ablest writers on bee culture, in every number of the ILLUSTRATED JOURNAL. Bee-keepers have read many interesting letters written by the noted Western apiarist, E. Gallup, and we might name many men if we had space to do so.

Gentlemen, your letters have done much good, and Bee-keepers owe you a debt of gratitude which I fear they will never be able to pay, and still they are not satisfied. Numbers have said to me, "get their pictures and put them in the ILLUSTRATED JOURNAL." Gentlemen will confer a great favor by sending me their photographs. All Bee-keepers are invited to send photographs, and every one is invited to contribute articles for the ILLUSTRATED BEE JOURNAL.

TO INVENTORS

And Manufacturers of Bee-Hives I have to say that you shall all have an opportunity to fully describe your hive in the ILLUSTRATED JOURNAL. To all having cuts of their hives it would be well to send them to me, and after one publication they will be returned. To those who have no cuts if they send me a true photograph of their hives I will have them engraved at fair prices, and after publishing once I will send them to the owner.

Every inventor believes his hive to be the best and thinks his mode of handling bees superior to all others. Gentlemen, give us your mode of handling bees and the advantage of your hives over others. You shall all have fair play. Many of our inventors say they are too poor to advertise their hives or they would sweep everything before them. Gentlemen, the JOURNAL is yours to describe your hive, and that without pay. Bee-keepers are waking up everywhere. Bee associations are being formed in many counties and States, all wanting the best hive, and all wanting to learn of the bee culture. Bee-keepers, will you support a live Bee Journal, fully up to the times? Go to work in every township and county in the United States; get up clubs; you shall have the worth of your money. Every number shall be worth to you more than the whole year's subscription. The ladies would do well to get up clubs and write for the JOURNAL. The ladies shall have a separate department in the JOURNAL, and all who are handling bees are invited to write me. Send me your photograph, tell me how many bees you have, what you are making out of them and everything you may think interesting to Bee-keepers. Ladies, send the names of Bee-keepers and their post-office address. To all sending me two dollars for the BEE JOURNAL before January 1st, 1870, I will send Mitchell's Guide to Bee Keeping, post paid. Every Bee-keeper should have Mitchell's Guide to Bee-Keepers. Sent post paid for fifty cents.

NEW BEGINNERS.

New beginners in Bee culture should remember one thing, that there is but one road that leads to success in Bee culture, and that is to do everything at the right time; to know the exact condition of your Bees at all times, and when they are ready to swarm divide them at that time, and not wait until to-morrow. If the caps or small frames are filled, and the honey sealed up, take them off at once; never wait one moment; that is the only way to get large returns in surplus honey and good stocks. Every Bee-keeper's motto should be to do every thing at the right time, and do it now. I have a fair illustration at hand. When I was a boy, my parents were making maple sugar, and while we were carrying and hauling sap, a lady, who was a widow, and had but lately moved into our neighborhood, and had doubtless never seen anything of the kind, as she remarked to my parents that they were now too busy to make sugar, but as soon as corn planting was over they would open their camp, and make what sugar they wanted for their own use; and when my parents said to her that now was the only time to make sugar, she seemed to be astonished that she could not make sugar as well at one time as another. There are too many keeping Bees that are like the old lady, that as soon as they have a little leisure they will see to their Bees. Reader, will you allow me to say, that if you can't attend to your Bees when they need attention, you had better let Bee culture alone.

R. M., of Rochelle, Illinois, writes that he has forty-five colonies of Hybrids. He took 2,239 pounds of surplus honey—117 pounds from one colony. This is his first year in getting surplus honey—average 53 pounds. That will do very well for a beginner. You can more than double that next season.

BEES PROFITABLE.

All of my colonies averaged me a little more than three hundred and twenty dollars each in cash for Bees sold; and could I have had more time to attend to my Bees, giving them every attention necessary, I could have doubled that. In this calculation I make no account of Queens sold. What I have done can be done by any one that will give his time and attention to his Bees, doing everything at the right time. Bee culture is now in its infancy. The day is at hand when Bee-keepers will get from each colony five hundred to one thousand pounds surplus honey annually.

I look upon the use of the Melextractor as a step in the right direction, and the practical use of it in apiaries will increase the amount of surplus honey ten-fold.

In future numbers, I will give you our method of swarming Bees artificially, so that any Bee-keeper following the direction may make almost any number of colonies from one in one season, and have every colony strong with both Bees and honey.

EGYPTIAN BEES.

To the many who have written to me about the Egyptian bees, what they are like and how they have done, &c., I would say that I did not receive mine until the last of July, and am not prepared to say anything about their merits as workers, and will not be able to report until next season, but I have to say they are the prettiest bees I ever saw, can be handled without fear of stinging, being as kind and gentle as pets. As to having them for sale, I will promise none only those who get up clubs for *THE ILLUSTRATED BEE JOURNAL*. After they are supplied, I may possibly have some to spare. The Egyptian will be fully described in my next issue.

THE ILLUSTRATED BEE JOURNAL.

Published on the First of every Month.

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One square, ten lines, one month.....	\$ 1 00
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Persons sending us clubs of five and more will be furnished one copy for one year, free of charge.

A live man or woman can easily get up a club in every neighborhood, and by that means get a good Italian or Egyptian Queen, and Italianize all the bees of the neighborhood. Italian and Egyptian Queens sent as early in the season as possible. Parties getting up clubs, should send the money along as fast as collected, saying at the time, that they are working for a premium; and whenever you are entitled to a Queen, we will enter

your name on our books, by this means you may get your Queens much sooner than if you delayed sending at once. Our motto is "first come first served."

Agents Wanted in every county for the Illustrated Bee Journal.

We will pay a commission in cash that will enable a good agent to make \$5 to \$10 per day, selling "Mitchell's Guide to Bee Keepers," and taking orders for Italian and Egyptian Queens. Send for particulars. We appoint no agents unless they have the best of reference as to honesty, etc.

Advertisers take notice that our rates are very reasonable. You would do well to patronize our columns. We commence with ten thousand copies, and at the rate we are now receiving subscribers, will reach fifty thousand during the first six months. The ILLUSTRATED BEE JOURNAL will be read by the most enterprising apiarists, farmers, etc., in every state in the Union.

N. C. MITCHELL, Editor,
Indianapolis, Indiana.

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The *Illustrated Bee Journal* will be sent to News Dealers at cost.

Sample copies sent to News Dealers free.

Sample copies sent to Train Boys free.

Train Boys selling papers on all Railroads can have the *Illustrated Bee Journal* at cost.

The *Illustrated Bee Journal* for sale by all News Agents at 15 cents per copy.

All persons will bear in mind that they can find a copy of the *Illustrated Bee Journal* at any News Dealer in any City or County Town in the United States; and should they find a dealer that has not a copy, have them to order one immediately.

News Agents will oblige by sending us their address, upon the receipt of which we will send a few copies free.

News Boys upon Railroads will oblige by sending their address; we will at once send them a few copies of the *Illustrated Bee Journal* free.

News Agents would do well, when visiting Indianapolis, to call at our office, No. 14 North Delaware street, second floor, room No. 2.

Everybody stopping in Indianapolis that is interested in the culture of the Bee, is invited to call and see us at our office, No. 14 North Delaware street, second floor, room No. 2.

Agents for the *Illustrated Bee Journal* are authorized to take subscriptions for three or six months, counting two six-months subscribers for one, or four three-months subscribers for one.

Postmasters and others receiving the *Journal*, will oblige by handing them to Bee Keepers.

Postmasters, Farmers, Mechanics, Merchants, Women, Girls, Boys, and everybody, are asked to get up clubs for the *Illustrated Bee Journal*. Send Drafts or Post Office Orders to Editor,

N. C. MITCHELL,
Lock Box 137, Indianapolis, Ind.

LIST OF PREMIUMS

OFFERED TO CLUBS FOR

THE ILLUSTRATED BEE JOURNAL.

SUBSCRIPTION, \$2.00 A YEAR IN ADVANCE.

We send to any one getting up a club any of the following named Premiums, the subscribers to pay freight:

For a club of ten and \$20, one Egyptian Queen Bee, worth.....	\$10
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For a club of twenty and \$40, one pair of either of the above named Pigs, with.....	20
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For a club of ten and \$15, one pair of Golden Pheasant Fowls, worth.....	5
For a club of five and \$7, one Dozen Eggs of either the above named Fowls, worth.....	2
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The above offer of Premiums are very liberal. An Agent in every neighborhood can get up one club at least, and may, by making a little effort, get up a number of clubs, and in that way secure Bees, Queens, Fowls and Stock, and never miss the time.

Agents are not obliged to send all at once; one name may be sent from each post-office in the United States, and at any time until January 1st, 1871, and be counted to the Agent. The Queens, Bees, Fowls and Stock are all bred by our best Apiarists and breeders of Fowls and Stock in the United States, and are all guaranteed to be pure. We expect to raise the Egyptian Queens. The Italian Queens, Fowls and Stock, will be bought of our best breeders.

We wish to say to those engaged in the breeding of any of the above offered premiums that we would be pleased to have you patronize us in the way of advertisements. We will make the terms reasonable, and would be pleased to take our pay in Queen Bees, Fowls, Eggs and Pigs; and should any breeder have anything not named in the above list, we will be glad to extend the same offer to them. We want to pay our Premiums in the best, and that we will have, no matter what they cost.

THE ILLUSTRATED BEE JOURNAL

Presents especial advantages to those wishing to advertise widely and profitably, as it reaches thousands of the most wealthy and enterprising Farmers, and is one of the best advertising mediums in the country—ten thousand issued the first month, and daily increasing.

OFFICE, No. 14 North Delaware St., 2d Floor, Room No. 2.

Address,

N. C. MITCHELL,

Lock Box 137, Indianapolis, Ind.

Names of Parties Owning Territory for the Buckeye Bee-Hive.

Any one wanting to use or purchase territory in the following named States, should address the owners as follows:

Southern Indiana and the State of Illinois, Robert Dunavan, Indianapolis.

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Kansas, William Barnes, Indianapolis.

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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.

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QUEEN NURSERY.

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

DR. JEWELL DAVIS,

Indianapolis, Ind.

MITCHELL'S BUCKEYE BEE-HIVE.

INDIANAPOLIS, IND., Sept. 1, 1869.

SIR:—In presenting to you this subject it is not my intention to discuss minutely the subject of Bees or Bee culture, having fully discussed that subject in my "Guide to Bee Keeping." My object is to answer the numerous questions that are daily asked me in reference to the Buckeye Bee-Hive. I am happy to inform the Bee keepers that the Buckeye Hive has been before the public nearly two years, and has, in every case where tried, given universal satisfaction.

What kind of Hive should Bee Keepers use?

It is not my purpose to attack any particular inventor or his hive. I have kept bees for more than thirty years, commencing with the round Gum Hive, then the old Box Hive. The last fifteen years I have used movable-comb hives of different kinds. I found them a great improvement over the old hive. Bee keepers seemed to find but one objection to the movable-comb hive, and that was it took too long to get into the body of the hive, having first to remove the top; second, surplus honey boxes; third, honey board; fourth, frames loosened and all taken out. After all that is done the work is but half done, as all have to be returned to the hive. Those hives were considered good in their day,

But not fast enough to meet the wishes of the Bee Keepers of to-day.

The American people want a movable comb hive that they can get into without removing anything. Take the Buckeye Hive full of honey-bees; the keeper can open the Hive, examine every comb, and return to the hive without killing or maiming a single bee, in less than one minute.

The Buckeye Hive Moth Proof.

"But," says one, "a moth-proof hive is a humbug; as a moth-miller can pass in where a bee can." That is true, but let us look at the moth-miller one moment. They are smaller than a bee, and can pass in where a bee cannot. In that way we capture the miller and her progeny, and hold them until they perish.

Description of the Buckeye Bee-Hive.

The Buckeye Hive is divided into three compartments: one for the moth-miller, which is in the bottom of the hive, and separated from the main hive by woven wire, the moth-miller passing beneath the wire, while the bees pass above the central portion of the hive, which contains the bread and store-comb for the colony of bees. Immediately above is the small frames containing the surplus honey, that may be taken out as fast as filled and capped over, and empty frames put in their places. All bee keepers know how difficult it is to get bees to store honey in surplus boxes, for this reason: there has to be a large number of bees in the surplus boxes, in order to generate heat, before they can make comb. In the Buckeye Hive the surplus arrangement is complete of itself, being in the warmest part of the hive. Bees will store four pounds of surplus honey in the body of the hive to one in surplus boxes. "But," says one, "this, perhaps, is only a spread eagle advertisement, and may be a bore." I would refer you to my certificates, and the reports of the committees upon Bee-Hives at the late State Fairs. If you want to know anything of myself, read my references.

FIRST PREMIUMS.

Buckeye Bee-Hive took first premiums at the Ohio and Indiana State Fairs, 1868, and took the first Premiums at the Indiana, Illinois and Kentucky State Fairs of 1869, over many competitors.

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CHANGE OF TIME!

On and after Monday next, November 15, trains on the above line will leave and arrive at the Union Depot, as follows:

CINCINNATI TRAINS LEAVE.		LAFAYETTE AND CHICAGO TRAINS ARRIVE.	
Baltimore Express.....	2.50 A. M.	Lafayette Accommodation.....	2.10 A. M.
Cincinnati Mail.....	10.15 A. M.	Chicago Express.....	2.30 A. M.
Chicago Express.....	8.50 P. M.	Chicago Mail.....	5.50 P. M.
TRAINS ARRIVE FROM CINCINNATI.		LAFAYETTE, SPRINGFIELD AND ST. JOE TRAINS.	
Baltimore Express.....	3.10 A. M.	Leave at.....	3.50 A. M. and 8.20 P. M.
Cincinnati Mail.....	11.50 A. M.	Arrive at.....	2.10 A. M. and 10.05 A. M.
Chicago Express.....	8.00 P. M.	FAIRLAND, FRANKLIN AND MARTINSVILLE TRAINS.	
LAFAYETTE AND CHICAGO TRAINS LEAVE.			
Chicago Mail.....	12.20 P. M.	Leave at.....	1.50 P. M.
Lafayette Accommodation.....	2.00 P. M.	Arrive at.....	9.50 A. M.
Chicago Express.....	8.20 P. M.		

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