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National bee journal. Vol. IV, No. XI [No.9] November, 1873

Des Moines, Iowa: Homestead and Western Farm Journal Print,
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Vol.
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No
XI.

NATIONAL

BEE JOURNAL



A MONTHLY MAGAZINE,
DEVOTED EXCLUSIVELY TO BEE CULTURE.

EDITOR & PROPRIETOR,
MRS. ELLEN S. TUPPER,
DES MOINES, IOWA.

Corresponding Editors:

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Mrs. THOS. ATKINSON, Leesburg, Fla.

NOVEMBER, 1873.

*complete except some advertisements
pp. 1-100*

DES MOINES, IOWA:
HOMESTEAD AND WESTERN FARM JOURNAL PRINT,
313 AND 315 COURT AVENUE.

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NATIONAL BEE JOURNAL.

Devoted Exclusively to the Culture of Bees.

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One copy one year.....	\$2 00	Ten copies, to clubs.....	\$1 60
Five copies, to club.....	1 75	Fifteen copies, to club.....	1 50

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NATIONAL BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. IV.

NOVEMBER, 1873.

No. XI. 18



Correspondents are especially requested to write on one side of the sheet only. Many of our readers doubtless have valuable practical ideas on bee culture, who feel incompetent to write for the public press. Send them to us in your own way, and we will "fix them up" for publication.

HOSMER'S PLAN OF WINTERING.

In the fall prepare for winter. Now is the time to start the bees which are to start the swarm in the spring. If we trust to bees which were reared in August, we shall have trouble even if we succeed in getting them through the winter. They will be too old to succeed in rearing those to take their places. In the spring we often see swarms have a large stock of brood started when we remove them from winter quarters. Before the young bees have hatched in sufficient quantity to carry on the business, the old bees have nearly all died, and the hive is left without warmth sufficient to keep the brood from being chilled. What bees are left, get discouraged, and leave the hive for better quarters, or linger along and finally die.

If honey is scarce the first of September, there will usually be brood enough sufficiently late; but if August and the first of September is extra good honey weather, the comb will all be filled, and no late brood will be reared unless we help them by giving them empty comb, and feeding them a little in October to start the queen laying.

The next thing is to see that all have

sufficient supplies for winter. A good plan is to take from those which have surplus and give to the poor. If you do not have such, a good feed can be made of crushed sugar—equally as good as honey. I have used it more or less every winter, for four or five years, and like it very much.

The last, but not least thing to do for them is to provide a good, warm place, and set them away for the winter. Wherever it is, it should be warm, say 40° above zero, and not more than 50°. It should never be so cold that you cannot hear them when you go into their room, in the dark. The room should be so dark that not a ray of light can enter. It should be dry. If a cellar is used it can be kept dry by passing a two-inch tin pipe through the floor and connecting it with the stove-pipe in the room above. The heat and draft from the stove will draw off the dampness of the cellar, as also the odor of decaying vegetables.

J. W. HOSMER.

JANESVILLE, Minn., Oct. 8, 1873.

WINTERING BEES.

One correspondent says that he puts each hive of bees back on the same stand he took them from in the fall. This has been my rule for years. In the fall, before moving, I take a pencil and number them, and in the spring return them to the same stand, and when they come out it is seldom they attempt to rob the other. This may be imaginary, but I wish some one to number one-half, and misplace the others, and see the difference. We all know that if they are misplaced late in the fall, they will seek the

old place; and I think they do not forget their old station in the spring. Some one try it and report.

MARCELLUS.

A. WILSON.

BEE-KEEPING IN THE SOUTH.

I have thought some facts regarding bees and their pasturage in this part of the country would be interesting to those at the North who are making the subject a study and bee-keeping their business.

There are few here who know anything about bees, and to talk of making the care of them a business by itself would subject a man to suspicions of being insane. My innovations, slight as they have been, are watched with anxious eyes. I see people as they pass my place, stop their teams and "get down," as we say here, look over the fence to ascertain if possible what new machinery I have been buying. I explained yesterday to one man the manner of opening a hive—showed him the surplus boxes—nearly full of honey and finally offered to take out the frames and show him a queen, but he declined standing by while I performed that feat, though he admitted that the boxes made it "mighty handy to rob the bees."

This season the honey has been very abundant. My bees brought in both honey and pollen in February, and there was but little time until August when they did not gather some honey. There are countless varieties of wild flowers coming in February. Wild fruits bloom also of so many kinds that the season is prolonged. Some forest trees afford much bloom, and their perfume fills the air for weeks, yet I have looked in vain to find bees on the flowers; they evidently find something they like better.

The bees here are not black, but grey—larger than the bees I used to see in Ohio. They are much more peaceable; indeed, it is rare that my bees manifest any irritation. They

cling to the comb also, much like the Italians, and they are wonderfully prolific. An increase of 11 and 12 one is not uncommon, though I regret to say that all are not saved by half, and in the majority of cases few bee-keepers of this country hold their own, one season with another. Swarming uncontrolled here makes in the end weak colonies, queenless stocks, and old hives depopulated. Then, of course, the ubiquitous miller comes in, destroys the combs, and gets all the blame for the whole failure. "Bees do no good here," was the universal testimony when I came; "the moth is too bad. Then, too, bees are lazy here: they seem to know that there is not much winter, and so don't work to lay up stores." After two years' experience I find that bees do just the same as where the winters are colder and longer, and except for a short time, when everything was parched, they have worked on. You wise ones among housekeepers know that a colony can't swarm ten times and lay up much honey. Yet because they did not do it, they were accused of indolence. I have secured two good, strong colonies from one of those hives, that would have swarmed indefinitely if let alone, and, in addition, 700 pounds of honey from the three, one old and two new. Several other colonies worked so well in boxes that I let them store there and obtained an average of 90 pounds from four. With regard to the moth miller here, its ravages are simply terrible. I have seen all the hives destroyed in a lot of twenty. There being no frost severe enough to kill eggs and worms, more of the pests live over from year to year; but the same care which your posted bee-keeper takes at the North will soon bring about the same results. The hives which I bought at first were full of them, yet as soon as I transferred them to movable frames, where I could do my duty by them, they were easily subdued. The "Northers" we have

here are very hard on bees, coming as they do so suddenly, and great care should be taken to set the bees in a sheltered situation. The heat does not affect them. I have "smiled audibly" to see how little use are all the patent arrangements for ventilation. I have hives without any such "fixings," and the bees stay in them all summer without a particle of air except what they get at a moderate sized entrance. The hives are large, however. When it grows cool I give them a chance at the top for the moisture to pass off, and fill the caps with chaff, or straw cut fine, that the moisture may pass into that.

You may call me a "novice," and so I am, but I am learning many things, and one is that the bee is the same "critter" here that he is North, needs the same, or even greater care, but pays for his keeping even better. A few scientific bee-keepers down this way would do a good missionary work in enlightening the natives, while they coined money for themselves. Next to these missionaries we need light in the shape of bee journals, so send on yours. No danger of having too many.

TEXAN RANGER.

[The grey bee of which our friend speaks is like the bee we have in the West. We saw some which T. Atkinson brought from Florida, and they are just like the western bee. In other parts of the country bees are black.—ED.]

NOTES FROM A BEE-KEEPER.

Having left the cares of home for a visit to a daughter in Iowa, I embraced all opportunities to know the condition of one of my favorite employments, bee-keeping. I saw in several places bee hives scattered about in the yard. I took the liberty to walk in, and looked, but touched not the hives. Though there were many hives, the most of them had no bees coming and going therefrom, although the day was warm. Upon inquiry of

the owner, or one of the family, found the last long and cold winter had killed most of them, and they were so discouraged they took little or no care of them this season, and in consequence there was but little increase, and no honey to grace the table. This seemed to be the conduct of all that I came in contact with, but hope there are many not so easily discouraged. My good friends, our Heavenly Father has produced the beautiful and sweet flowers profusely all over the face of the earth, and also made the industrious honey bee, with all the capacity and desire to gather the sweets therefrom, and has also given man the capacity and desire to learn all that is necessary for the proper care of and enjoyment of the labors of said insect. Therefore, it is man's duty, as well as his pleasure, to perform the same and save that which otherwise is lost in the air.

The present season has been very good in this part of the great apairian field to those having bees in the spring to realize the advantages placed within our reach by our good and bountiful Creator, in the production of the sweets in the beautiful flowers (excepting white clover), and bees have increased, both in honey and colonies, where the proper attention has been given them.

A. J. P.

INDIANAPOLIS, Ind.

BEGINNER'S EXPERIENCE.

MRS. E. S. TUPPER—*Dear Madam*: In my last I informed you that my better-half had embarked in the bee line, and I now propose reporting progress. On the 15th of May we had eleven Italian queens, or what promised to be such, installed in as many colonies of black. They all raised the pure three-banded bees for three months, when one of them began to show hybrids, and now nearly the whole colony are black. While the other hybrid colonies have almost lost their hybrid characteristics, having degenerated to the common blacks.

How do you account for this phenomenon? I will state in this connection that about the date referred to, it commenced raining and continued daily, and often nightly, to rain for three months, so that all the weak colonies had to be fed to prevent starvation. We find that our pure Italians work twice as well as the hybrids, though I have seen it stated in the books that the latter were as good workers as the former. I find it quite otherwise. I might conclude that the old queens had died off, and a new and degenerate race raised, but the above result has occurred with the young queens of our own raising. At first they—their progeny—were of all grades, some black, some with one, two and three bands, but they have gradually grown to be all, or nearly all, of the black race. So we have only one colony of the pure stock that holds its own, and they are indeed beauties, as well as hard workers, while they are more gentle, kinder and much braver in their defense than the common bee.

We feel under many obligations to you for your excellent productions on bee science, and I can say with a clear conscience that I have gained more useful and practical knowledge about apiculture from your few lucid pages, than from all the other works I have read on the subject, though ten times as large. I. APPLEWHITE.

OSYKA, Miss.

[We leave the problem proposed by friend Applewhite to those who are fond of difficult questions. We have a theory of our own on this point, which we will give when we hear from others. We do not feel sure that we are correct. What says Adair? Let us hear from friend Borher.—EDITOR.]

NOTES FROM GEORGIA.

* * * Yesterday united two very strong colonies of black bees and started them at work on eight empty frames, with orders to them to complete the job in seventeen days. This

they will do, and make combs as straight and even as glass.

At this time, I believe that I can double my colonies in April, 1874, and so arrange them as to keep down natural swarming to not exceed six to ten per cent., all to be used as honey-makers from the 10th of May.

The honey crop has been a failure this season from Kentucky to Middle Georgia. Here they have done better.

We have no sort of disease among bees in this climate, and with the frame system the moth soon disappeared, and only appeared again in queenless colonies, like buzzards around a dead carcass.

A friend in Middle Georgia, who has over one hundred "gums" of bees which he has kept unmixed for thirty years, sent me two colonies of blacks on trial last spring. I took them because he said they were almost as gentle as house-flies. I have found them much more docile than my best Italians. I could handle their frames at all times without veil or gloves, until August; then they were a little cross, and had to be coaxed. Now they are as quiet as house-flies, but they have not the vim and quick movement of the Italians, and are great robbers. I keep them two miles away in the country.

My Italians have had several several severe battles with the blacks. In one instance a weak colony was attacked by an army of blacks from a neighbor's. They killed over two quarts of the blacks in two hours, and lost very few of their own fighters.

Every hive that I own in the city is buzzed around and closely examined every day by the blacks owned by others. My Italians do not act in that way; they do not loiter around the hives of other colonies, and do not rob each other.

[We hope our friend will report to us how he succeeds with his early divisions. It seems to us that is the best way to secure surplus in the South. Bees need very different man-

agement there from what is best to give them in the land of snow and ice—late springs and early winters.—
[EDITOR.]

BEEES IN PENNSYLVANIA.

My bees will be a fair average of those in this section. But few of them swarmed, consequently they were strong, but the cool weather and rains have so depopulated the hives, I feel uneasy about them, as I have no beehouse or cellar to put them in. There is abundance of honey in the hives, notwithstanding I took out a thousand pounds with the Extractor this season from thirty-five hives. I find bees scattered through all the hives, and many die by cold. Many are between the combs filled with honey. I had several double hives, from the upper frames of which I extracted honey. The bees would remain in the tops, until the weather got quite cold, and they seemed to be dead. I brushed them into the lower section, yet they were determined to remain in the top, though there was no brood there. Many are dying in all the hives. I have supposed bees would crowd together when cold weather came. How is it? Will report again next May.

A. J. HOOVER.

PLYMOUTH, Pa.

CHIPS.

EDITOR:—A few days ago I received the October number of the NATIONAL BEE JOURNAL. I see by it that Ellen S. Tupper is now editor. Well, I hope she will give us more bee, and not so much agriculture.

With this I mail orders that I have received for bee plant seed, except 2 and 4; have no post-office address for them. [Those sending who have not received seeds, please notice.—ED.]

Bees have not generally done much this season, especially in box hives. Many colonies have died with the disease; some few with moth. My own bees are in good condition. I obtained, this season, from one hive,

over 500 pounds of extracted and comb honey. It is a great curiosity to me that some people prefer to eat filthy comb in preference to pure, healthy, extracted honey. In my vicinity very few will eat the comb; they bring it to me to have it extracted. I take the comb for extracting. Box hive men bring theirs, as I can extract anything in that line, framed or in scraps. The machine will do more than is claimed for it.

Whatever change you make, Ellen, let it be exclusively bee culture.

HARRY GOODLANDER.

LEESBURG, Ind., Oct. 31, 1873.

WHAT A BEE-KEEPER WANTS.

MRS. E. S. TUPPER:—I am happy to see that the NATIONAL BEE JOURNAL has come to me this month with new heading, new editors and a promise of a new arrangement and a responsible editorship. I want a journal that I can consider authority on all matters of apiculture. I am willing to read the letters of Tom, Dick, Harry, and Susy, too, but unless they follow correct principles of apiculture, let them go to a newspaper, a story-book, or anywhere but to a scientific journal. I say *scientific*, for apiculture is a science, and it must be treated as such before it will have the stand that it is entitled to and prosper as it should. Your pledge that the JOURNAL shall be filled with matter relative to apiculture that has your sanction, to the exclusion of a goodly share of advertisements, is just what I want. I want to see one bee journal of a high order, giving place neither to silly tittle-tattle on the one hand, nor fretful slang on the other; where all the personal pledges of the editor may be considered as sacred deposits, and not thrown out merely to allure, not to say deceive. With the expectation that such will be the character of your journal, I shall do what I can to get subscribers for it. I am anxious to get one of your own numbers.

Perhaps I may write a few lines for you now and then, or, at least, ask a few questions of general interest, if I can be assured that all will pass between the blades of your scissors. The ides of October are already past, but ere the 15th of November passes, I hope to give you a specimen, from which you can judge whether you want more. With earnest wishes for your success in the new and arduous undertaking in which you have assumed the responsibility, I remain, as ever,

Yours respectfully,

W. ARMS, M. D.

DEQUOIN, Ill., Oct. 16, 1873.

"APOLLO" ANSWERED.

MRS. E. S. TUPPER:—"Apollo," your correspondent of the BEE JOURNAL, says his bees "take hold of each other" and attempt to carry each other off," and wants to know what is the matter? I think I can tell. The honey bee is an unmitigated savage, and incontinently kills off and carries away all useless members of society, such as the old and worn out, the crippled and deformed—just as human savages do. Sometimes the bees carry the victim away from the hive before inflicting the fatal sting. Perhaps the live bee is more easily carried than the defunct corpus; or, may be, the executioner is averse to shocking the moral sense of the community by open murder, and, therefore, seeks privacy to "do the deed." No doubt if "Apollo" will observe closely he will find that those carried off as he describes are of the useless kind above named. Yours truly,

I. APPLEWHITE.

OSYKA, Oct. 17, 1873.

BEEES AND GRAPES.

I have had grapes and bees for thirty years. I never knew them to injure grapes, neither for myself nor for my neighbors; nor injure sweet apples, but when I am making sweet apple cider, they are constant visitors.

A. WILSON.

MARCELLUS.

WOMEN AS BEE-KEEPERS.

Truly, my subject is an old one, or, at least, many articles have appeared within the past few years with a similar heading; yet I think a few actual facts may prove interesting nevertheless. With your permission I wish to be excused should I ramble a little, as is my wont, promising that, ere I close, to get around to bee-keeping, since, as a writer, I am at home on no other topic.

Many years ago I became interested in the efforts being made by the other sex to earn a livelihood independently, when they chose to, and many times did the thought occur to me that so far as capacity was concerned, nothing stood in the way of women and girls doing excellent work in many light mechanical pursuits, but that it was unusual. A visit to the East showed me that thousands were then employed in the factories, and I easily satisfied myself still further, that among their number were some of the most intelligent, and, in some cases, wealthiest ladies to be found in any community. Somewhat later, when the manufacture of chains and jewelry became a "cherished hobby" of mine, quite a number of the other sex were employed in different capacities, and I can say truthfully to this day, that in no respect have I found them deficient in mechanical ingenuity, *when they applied themselves* to the work in question and became interested in it. Perhaps many of you have heard a similar assertion before, and are ready to ask, "where, then, is the trouble?" There is a trouble, fair reader, and a grave one, and perhaps I can best illustrate it by mentioning an inquiry made by a correspondent to one of our journals devoted to the watch-making and jewelry trade. The question was asked why ladies did not succeed as watch repairers—whether they were lacking in skill and ingenuity, etc. The editor replied that one of the very finest repairers in the city of New York was a lady, but

alas! she "got married." Did she repair watches any more? Not a bit of it. All the skill and nicety of touch, all her mechanical education, the accumulation of years, was dropped in a minute. It really seemed too bad, but I presume it was her duty to consider them "nobly lost." Somebody has said something of the kind, I can't remember who. Sure enough, one fair morning one of *our* girls was missing, and the first intimation we had of being under the necessity of teaching a "raw hand," was that she had "got married." By-and-by another got married, then another, and we soon began to soliloquize thus: "When our sex get married, it doesn't injure their money value as skilled artisans, but, on the contrary, enhances it. But with the other—ahem!"

Notwithstanding this one great trouble, women not only continue to fill many important posts in the land, but they seem to be gaining ground steadily. I believe that most of them at sometime between the ages of fifteen and twenty-five feel a disposition to be independent, to be busy, to be able to prove that they are not dependent upon father, brother, sister, or anybody else; and, most of all, that no one need think or say that they are waiting for a husband to take care of them. Is it not true, my unmarried fair friends, that you would like to feel that the favor conferred be a mutual one—that neither party "took pity" on the other. Almost any woman would look up to and respect a man more were he a skillful watch-repairer or engraver, were he a successful bee-keeper, or were he occupying a high position in any art, trade or profession; and how many men would not look with pride on a wife that had earned a reputation and independence in any of the pursuits mentioned? Would he not feel that she had done *him* a favor and paid him the rarest of compliments in relinquishing all for him alone?

So far as the former occupations are concerned, they are, generally speaking, out of the question with a married woman. Is such really the case with bee culture? From the numerous letters I receive from married women, and from the mothers of families, too, I am inclined to think that skill acquired in early life in this pursuit would prove a source of profit and pleasure all through, for whatever be the occupation of the husband, he could surely, and would, also, think it a pleasure to afford her the little aid that would enable her to at least keep a few bees.

That women can learn to keep bees, rear queens, etc., equal to the best among us, I presume few will dispute, and in regard to the work to be done, and how well they can do it, I will mention a few illustrations:

A month or two ago a lady, who has been for many years a teacher in a prominent seminary in one of our large cities, called on me and briefly proposed the question: "Did I think *she* could keep bees?" and "Could she make it pay?" What do your readers suppose "Novice" answered at such a point blank question, that summed up the whole subject, and a fond one, too, it had been for many years—that women could and *should* be bee-keepers; and, too, that it would pay women of education and culture to take it up, for the amount of profit derived is certainly in proportion to the amount of brain-work applied judiciously to the business. For instance, a skillful woman could do all the manual work necessary to rear 1,000 queens in one season. (I appeal to our editress to know if she thinks the above statement unreasonable.) If these queens only sold for \$1.00 each, the income would be very fair; yet the brain-work necessary to this to the best advantage, might be greater than that required to take charge of 1,000 pupils for the same length of time. One advantage in favor of the bees would be that it would all be

done in the open air, *i. e.*, if some one would be so accommodating as to take the queens and hand over the "dollars," without "ary" troublesome correspondence.

Now, I didn't talk all this lingo to my fair visitor, for her education was such that I presumed an answer not framed of words would be more acceptable. Could all my lady readers go to the apiary for an answer, as did my visitor, I would pay them the same compliment. I informed her that as it was just our hour for the examination of queens, by going with me she could learn as we went along, better than any other way.

After having fully shown and described the queen in her first nucleus, she saw the rest nearly as soon as I did, and before we had finished, her quick eye detected several before I had found them myself. She also, in one brief hour, learned to look for and rejoice at the sight of "tiny white eggs" with almost the enthusiasm of a veteran; and when her friends called to her that it was time to go home, for the *third* or *fourth* time, she had almost forgotten that bees sting, in her delight at seeing, for the first time, the mysteries of queen-rearing unfolded. When I have mentioned that this same lady was suffering from the effects of too much in-door, fatiguing brain-work, is it not plain that a great amount of good might be accomplished by a little wider scope for woman's powers. In the work in my own apiary, a lady, who also owns an interest in the business, assists in queen rearing, goes over the hives in the spring, and supplies the wants of each, ties the grape vines to the trellises in such a manner as to give the proper amount of shade, paints the hives at odd times, takes entire charge of the bee house in summer, and plans and takes charge of the extracting so entirely that we have christened her "Presiding Genius," or "P. G.," for short. Still another one has made all our frames, besides hundreds for my

customers, all our quilts, transferring clasps, queen cages, etc., etc., besides almost the whole of the inside work for our extractors, as well. And when orders for hives are coming thick and fast, they are both able and willing to assist at the buzz-saw, regardless of being covered, like a miller, with the clear pine saw-dust, for its all in the the cause of our "busy, buzzing" friends.

Many have been deterred from the use of the extractor because they imagined it laborious, but, bless your hearts, with an extractor such as a woman would always have, had she an opportunity to direct its manufacture, the work is no more laborious than churning, or a hundred other things that women do. Come, all ye wives, mothers, sisters and daughters, there is room enough for all. Honey can never long be a drug in the market, and if the season shall be unpropitious for honey, you can at least save queens, for which the demand heretofore has always been far in excess of supply. Still further, a new industry is just now opening in the demand for good straight frames of empty comb. I have refused to take a dollar each for my best ones, and yet I think they could be produced for about a quarter as much. The growth of combs at the proper season, it seems to me rivals in beauty the growth of flowers. Who could not fail to experience pleasure and delight in watching and directing the process? and, since the invention of the extractor, good combs can be kept and used for a lifetime.

Commence small, and increase slowly, until you have gained experience, and *measured your own powers*. After you are once started, but little capital is required, and woman has ample room, as well as man, to increase her hives to hundreds, or even thousands, if she has the clear head and cool judgment to manage so many.

With a sincere desire to see our

American women successful bee-keepers, wherever they undertake it, and a disposition to aid them whenever a "Novice" can aid, I remain, as ever,
Your old friend,

NOVICE.

It is with much pleasure that I, with many others, announce through the columns of the NATIONAL BEE JOURNAL, the joy that I experienced when I knew that our favorite paper on "beeology" was placed in the hands of one who has for years been known to the reading ones as not only qualified by many years of practical experience in the apiary to teach others, but also one who could so well impart to others that which she knew.

A. J. P.

That short article, "Do Bees Destroy Fruit?" in the October number, page 248, is true and to the point. The complaint that bees injure grapes has been made by those who are not close observers, to call them by no harsher name. And I venture the assertion that no one has ever seen the honey bee puncture a grape, nor extract the juices therefrom unless the fruit skin was first broken by some other cause.

J. A. P.

Who should *not* keep bees :
All those who are made sick by being stung by them.

All those who can not, under all circumstances, move, when amongst them, with slow and steady motion.

All those who think it is too small business.

A. J. P.

TO CORRESPONDENTS.

Communications for the JOURNAL must be sent in by the 15th of each month to appear in the succeeding month. Thus, matter for the January number must be in our hands by the 15th of December to appear in the January number.

SPECIAL PREMIUM.

To any one who will send us six new subscribers, with \$10, we will send an order (accepted) on Bliss, of Rochester, or Lewis Ellsworth, of Napierville, for \$3 worth of choice seeds or plants. We will also send three dollars' worth of choice tulip bulbs for six new subscribers, with \$10.00. We offer this to induce young ladies or any one who loves flowers to work for us.

WE HOPE that renewals for the JOURNAL will be sent in before the close of the year. We are revising our list of subscribers, and it is much easier to continue names than to put them on again after being dropped. This number we send out as an earnest of what we intend to do. We hope to show a marked improvement in following numbers. We have plans for illustrating and enlarging, which only a large list of subscribers can enable us to carry out. Like the queen bee when alone, we are helpless without workers, and the more of them we gather about us, the greater will be the ingathering of stores for our JOURNAL.

OUR FRIENDS and agents will remember that the October, November and December numbers will be sent free to all subscribers for 1874 who send soon—fifteen numbers for one year's subscription. These three numbers, to those who wish specimen copies, will be sent for 15 cents. For 50 cents, three months' numbers and a book on bee culture. Specimen copy mailed free to all who apply. Address,
ELLEN S. TUPPER,
Des Moines, Iowa.

THE Kansas Bee-keepers' State Association passed the following resolution:

Resolved, That we regard the action of the Postmaster General in ruling that bees are not mailable matter, as an unlawful interference with our rights.

Editorial Department



Mrs. ELLEN S. TUPPER, Editor.

Nov.

DES MOINES, IOWA.

1873.

WINTERING BEES.

We know that at present, facts upon wintering bees will be read with great interest, and we make no apology for giving space to reports of experience during last winter, which are worth more than any amount of theory. A writer in the *Chicago Tribune* asserts that "bees do better in a common box hive than in any frame or patent hive that has been put into use." He says:

I do not intend to give any learned reason for this; but I suppose the reason is that the bees know best how to arrange themselves during the cold of winter, when they have had that opportunity, as they always have in those old style hives. And this leads me to another point in the winter management, and that is, where the bees are left to themselves, they close all crevices that can possibly admit any air, except the place of entrance. This to me is plain they need no other ventilation; that is, when they are exposed on all sides to the surrounding atmosphere. If placed in a room, the condition is changed, and it is possible that air might be properly admitted, provided it is not below the freezing point.

We must call to mind that, in the hollow tree, there is generally a large amount of dozy or half rotten wood that absorbs the moisture that arises from the bees; and so does the box-hive or bee-gum absorb more or less moisture; for the pine board which has not been surfaced with a plane, or the soft basswood hollow log which is most in common use, readily take up the moisture, and give it off on the outside, as both are porous.

Now, our experience is directly the reverse of this, and it will be seen in the relations which follow that others

have not found it true that bees winter better in boxes than in movable comb hives. Years ago the late Richard Colvin, of Baltimore—a most practical as well as scientific bee-keeper—gave us as the result of his experience in that climate that bees in movable comb hives (he used the shallow Langstroth) wintered on their summer stands far better than in box hives or gums. He gives us, too, the result of experiments with box hives for successive winters, thus: "I left out six box hives made of lumber as thin as could be safely nailed together. They all contained good strong colonies, with abundant stores. I left in three of them four one-inch auger holes open on the top underneath the cap. These three all wintered well, *but consumed* thirty-six pounds each of honey between November and March. In the other three I closed the holes in the top, and as the hives were very snugly made, they had *no ventilation* and no air except what came in at small fly-hole entrances. In January we had a few very warm days, and bees flew as in midsummer. It turned suddenly cold, and for three days froze very hard. At the close of three days, on examination, these three hives were completely stopped at the entrances with ice, the hives inside were lined with ice, and every bee in every one was dead! Reason: The moisture could not pass off at the top; it accumulated upon the sides. If the bees had been examined while warm they would have been found to be drench-

ing wet, and the bees moist and uncomfortable. The sudden change to cold ruined them. Had they been taken to a warm place in the cellar in the moist state they were in, the combs would have molded and probably the bees died with dysentery. Upward ventilation saved the others. Upon the bench where these sat was an old box hive, the top to which had warped off till the nails were drawn. I could put my hand in anywhere. This hive came through all right, strong in bees, and combs nice and dry." Mr. Colvin afterward made experiments with frame hives and boxes, and invariably reported that the movable combs wintered best, circumstances being as nearly alike as possible.

We think that no amount of "soldering" that bees will do will prevent some ventilation in bee *gums*, or rotten trees in the forest. But as for box hives: if this writer in the *Tribune* will try six of them out of doors, or in "giving no ventilation except the place of entrance," he will have six colonies in the spring that died of dysentery, and six hives full of moldy comb. We know that *too much* ventilation has been often given, and are sure that a draught of air through the hive is dangerous, keeping the bees uncomfortable. The bee quilt or blanket stops this draught effectually, while it allows air to escape. We think it will do it quite as effectually as "dozy or half rotten wood."

Now for the reports:

We have had an unusually dry season during the last three months, consequently my bees have made but little surplus honey, and that was obtained from a few very strong swarms.

I wintered my bees in a cellar last winter and lost none while in the cellar, but lost a few weak swarms after taking out, the last of February. I shall store them away in a dry outdoor cellar this winter. My neigh-

bors who wintered out of doors lost more than half their bees.

HIRAM CRAIG.

FORT CALHOUN, Neb.

Jason Smith, of Kentucky, reports no dysentery among forty colonies of his bees, all in movable comb hives, frames square; all wintered well with no protection. But the bees in four box hives all died of what seemed to be dysentery. At any rate the discharge of fecal matter was excessive, before they were quite gone. He attributes it to their being too full of honey, which he could not remove in those hives. He extracted the honey from center combs in his movable comb hives.

Mr. Faunslar, of Newton, Jasper County, Iowa, reports that he put all his bees into his cellar last winter as usual, except twelve hives, which he left out to "see what they would do." About Christmas he saw enough of what they would do, he thought, and then put them in the cellar with the others. Those put in early, when the combs were free from frost, *all* wintered well and came out strong. The others, having their combs all frosty, died of dysentery. He says, also, that none of his neighbors who wintered in cellars lost bees, while nearly all wintered out of doors in that neighborhood died, though some of these were in double-walled hives.

Mr. Lemont, a Methodist minister living near Des Moines, wintered his bees in a cellar with very trifling loss, though a near neighbor, whose bees were put in a cellar where many vegetables were kept, lost nearly all. Others in the same vicinity who wintered out of doors, lost all.

Charles Sprague, of Coles County, Missouri, put all his bees into a frost-proof cave near his house. They came out in excellent order in the spring, though one colony died in March during a cold storm. Every neighbor lost bees, some all of their

stock, others part. One man who took ten hives of him, and left them out of doors, lost them all of dysentery, while his had no symptoms of disease. He moved his bees after it was quite cold, which, no doubt, injured them, as many, when disturbed, got away from the cluster and died.

Seth Williams, of Southern Nebraska, reports that he left ten colonies in movable comb hives out of doors, protecting only with quilts, and leaving entrances too small for mice. They all wintered well, while four box hives, very heavy, that he considered the best he had, sitting in the same yard, were all lost—combs mouldy, bees diseased, though plenty of honey left. They had no ventilation. His neighbor, Mr. Small, had two movable combs, full of bees and stores that wintered well on their summer stands. He had four box hives, out of which all the bees died of dysentery; the combs very much soiled and worthless; plenty of honey; no ventilation given.

Mr. Hendrics, near Saylorville, has for some time wintered in a cellar. Last fall the daughter, who had been his most able assistant, married, and he divided with her his bees as equally as possible. Mr. Hendrics put his colonies, some 30 or more, into his cellar early in the winter, about the middle of November. They wintered well, with no symptoms of disease. His daughter was not able to move hers until it became quite cold; then they were taken home and put in an out-building, nicely packed in with straw. They nearly all died, and died, as it would seem, of dysentery. This loss, no doubt, was caused by moving them when too cold. Many were disturbed and getting away from the cluster, perished, and the combs being frosty when stored away, the bees were uncomfortable and uneasy, ate more, and could not retain the fecal matter.

Mr. J. M. Dorr, whose wife has been for some time a most successful bee-keeper, being both practical and scientific, was absent in Colorado at the time he should have put the bees in the cellar. Mrs. Dorr, living distant from where the bees were, did not examine them as usual, being overburdened with care, but gave orders to have them put in the cellar, supposing they had filled their hives as usual on the fall pasturage. That had, however, failed for once in Iowa, and she found many of them dead by spring. Cause, starvation. Mrs. Dorr, however, would never trust bees out of doors, having satisfied herself by experience that it pays to house them. She will, however, trust only herself to see if they are provided with stores.

Bee Brown, of Tama County, well known to bee-keepers, buried his bees, some 120 colonies, as he usually does, in clamps. He reported at the bee-keeper's meeting at the State Fair that they wintered as well as usual, all free from disease, but that a sudden rain caused an overflow of part of his trench, which, though it quickly abated, caused mould and a loss of about 40 colonies. He expressed his determination always to bury them, as it paid him for the trouble.

We have had poor success with all that we buried, but think if they could have been taken out of the clamp earlier they might have been saved, and we propose to try it again, on a small scale, this winter, for experiment.

Mr. Wm. Schofield reports serious loss of bees in his cellar by dysentery, and many others may be able to give us facts in the matter. When we have facts we shall be able the better to decide what is the nature of the disease and what the remedy. Our columns are open for *facts* from every body in every locality, who will send them to us. Records of success and failure are the best lessons for bee-keepers, whether novices or veterans.

I have not lost any hives of bees during the past two winters. I wintered 17 hives last winter. I have now 44 hives, all black bees. I winter them in the cellar. T. S. BULL.

VALPAIRAIISO, Ind., Oct. 20, 1873.

From sections east we hope to have before the December number, reports which would seem to prove conclusively that there has been actual disease.

WHAT AND HOW TO FEED BEES.

There are more than a dozen letters before us asking how we make sugar syrup for feeding bees. There is no mystery about this. Simple white sugar, Coffee A is best, dissolved by pouring boiling hot water upon it. It really makes little difference whether it is fed thick or thin, when the bees can fly and get water. We have fed sugar dry, sugar simply moistened, sugar dissolved, and sugar made into candy. But if we must give a rule for the syrup we will say a gallon of water to four pounds of sugar. No glycerine, no cream of tartar. We don't say they are injurious, but they are unnecessary. Fifteen or sixteen pounds of sugar is amply sufficient to winter a colony from November to April, if they had not a pound of honey. It is just as good as honey—we don't say better, but "Novice" does.

It may be fed in shallow tins, with floats in them, or by throwing it into empty comb. "Novice's" tea-kettle feeder, which holds just enough to winter a colony, and from which they take it all in twenty-four hours if the colony be strong, is the best of all arrangements for the purpose. It is better to give them the syrup in October, but it is not too late at any time when they can fly.

WE WOULD ask these who are working for premiums, or cash commissions, to send on all names as soon as they obtain them: registering letters, or sending postal orders, at our ex-

pense. Due credit will be given for the amount. Any one sending names who is not able to secure the whole amount necessary to obtain a desired premium, can, when he pleases, remit the remainder in money, when the premium will be sent. Thus, any one desiring to secure a colony of Italian bees, and obtaining only ten subscribers, will be credited one-half the price, and can send the balance at his convenience; or, three subscribers will secure three dollars toward a premium of a tested queen, and the remaining two dollars be sent in money.

Now is a good time to obtain names, as new subscribers receive three months free, beside the premium of a manual on bee-keeping, and honey-plant seeds.

ALL old subscribers who will send us a new name with three dollars, during the next month will receive the JOURNAL for themselves and the new subscriber, and two works on bee-keeping. Those who send in three new names, with six dollars, will receive their own JOURNAL for 1874 free, and three copies of bee books. The new subscribers will receive the JOURNAL from October. These liberal offers will, we hope, induce all old subscribers to work for us. Send names and money to Ellen S. Tupper, Des Moines, Iowa.

MR. MCPARTRIDGE says that he was not reported correctly in August number. The true statement is this: Twenty-four colonies gave him 3,500 pounds of honey; 1,500 pounds of that was gathered in nine days. He increased from twenty-four to thirty-four. All go into the winter in good condition. He uses the Extractor entirely.

OUR JOURNAL will be in the hands of every subscriber by the middle of each month. We prefer to publish it then, rather than the first of the month, but will spare no effort to have it sent promptly.

IT MAY not be generally known that a new plan is now taken to obtain large yields of surplus honey. Mr. McPartridge, of Indiana, moves his bees twice, and even more, in a season, taking them thirty and fifty miles. After they have secured the honey from fruit blossoms and from poplar, in one location, he removes *all* the honey from their combs, and taking them on wagons made for the purpose, moves them to timber thirty or more miles distant, reaching there just as the linn begins to bloom, and remaining there until the honey from that source is all gathered, empties it all from the combs again, and passes on to where clover and fall flowers abound. He finds this course pays well, and assures us that there is no more danger in moving bees from pastures to "pastures new" than there is in driving cattle from one place to another. Mr. McPartridge has bought all of Mr. Langstroth's bees this fall. We hope to give our readers some interesting particulars of his manner of packing bees away in winter, and of his arrangements for moving.

Mr. Brown, of Tama County, Iowa, gave the Bee-keepers' Convention at the State Fair some items of his experience in moving bees from the South to the North. After the honey season was over in the South he took a number of colonies on a boat on the Mississippi and brought them up stream to Northeastern Iowa in time for the best part of the season there. At the time of the State Fair they were fast storing honey from wild prairie flowers. Mr. Brown expressed his determination to do this every year, and thinks others will follow his example.

Mr. Wilkin moved one hundred colonies from Cadiz, Ohio, after the honey season was over, to Mitchell county, Iowa. We have not yet heard with what success.

SEE our Special Premium offer on page 265.

THIS JOURNAL will be sent to a number whose names have been dropped from the list, of late; also, to many old friends who have not been subscribers to the JOURNAL. We shall be grateful for a renewal from any old or new friends—either of the JOURNAL or its present editor. Send at least for November and December numbers, and help us to carry out our plans for the future. We have not yet had time to revise our list of names, and before December number, hope to hear from many with renewals.

WE URGE all our bee-keeping friends, who store bees in cellars or special repositories, to think of the risk and insure against fire. The expense is trifling. Friend Barbor, of Illinois, can testify how great was the relief of even his small insurance, after the loss of his bees. We recommend THE WESTCHESTER Co., M. O. BROWN, of Indianapolis, General Agent, as prompt and liberal in adjusting losses. We were insured by them, and found them as ready to pay losses as to issue policies.

THE next number of the JOURNAL will contain a full report of the meeting of the North American Bee-keepers' Association at Louisville, Ky. As the JOURNAL is issued the 15th of each month, there will be time for it. If the official report is not ready, arrangements have been made to take copious notes and have them reach us in time for the December number.

THE *Youth's Companion*, published by Terry, Mason & Co., Boston, Mass., is the best weekly for young people in the world. We speak that we do know, for we have read it for forty-six years—ever since it began its mission of good will to children, on a tiny sheet not much larger than note-paper. It was the pioneer child's paper, and still is growing and improving. Liberal premiums for 1874.

Notes AND Queries

I did not raise any surplus queens this season: we have had frost sufficient to put an end to the honey harvest. I am satisfied with what mine have done. My average will be over 60 pounds to the stock; my best stock, 150 pounds; best days' work done, 11 pounds; best week, 45 pounds. I failed on box honey; do not know the reason; had comb in the boxes to commence on. I do not expect to try boxes much more. The last of August and first of September was my best honey-harvest. I would like to get something to produce honey in the first of the season. My stocks went down from the frosts last fall until June 25th this season. That only gives three months' feed and nine months' spend.

ED. WELLINGTON.

Riverton, Iowa.

"C. B.," of Tama county, Iowa, inquires if it will be any use to attempt to winter two nuclei which he has, which have only about a quart of bees each and very little honey. Both contain nice queens, which he does not like to lose.

Mr. Hosmer claims that such colonies as these are best of all to winter, providing the bees are young and there is honey enough. It is too late to make up a deficiency in bees, but they can be supplied with syrup. They must be kept in a cellar that is absolutely frost-proof. With us, such colonies have wintered well, but need extreme care in early spring.

Mrs. TUPPER:—Will you tell me how warm a cellar should be in which to winter bees, and what the harm would be if it was quite warm or too cold? I am a novice in bee-keeping, and am extremely anxious to winter safely the nine hives which I now have.

Pike County, Mo.

If your colonies are strong, the cellar need not be much above the freezing point. We kept bees well for successive years in a cellar where water would freeze *when the bees were not in it*. The animal warmth from one hundred colonies of bees raises the temperature materially. Beginners will do well to attempt wintering only such colonies. Read Hosmer's

article in this number; he tells you about the temperature which he maintains. His colonies, however, are not extra strong ones, as he usually divides late, and believes in smaller numbers of bees kept warm, as consuming less honey and doing quite us well the next season.

I would like to ask you these questions:

I found, on opening two of my stands yesterday, plenty of bees and honey, but no signs of brood eggs or queens. Shall I unite the two stands and put the queen you sent with them?

On examination of other stands I find them in the same condition. Would you advise uniting them with stands having a queen?

I find other stands full of honey. Would you advise extracting from the center combs for the bees to winter in?

A gentleman here who has had considerable experience in bee-keeping says that all the bees he has examined this season act contrary to all rules heretofore laid down for them. What is your experience?

W. S. LEESURE.

Grinnell, Iowa, Oct. 21, 1873.

It was quite common this year at that date (Oct. 21) to find hives with no signs of brood or eggs, and when this is the case the queen decreases in size and is difficult to find. We would not put a choice queen in any hive where we had not seen the queen.

If a hive had plenty of bees and stores, we would let it be until spring, even if we did not find the queen upon examination. If two were lacking in bees we would unite them, even though they had honey enough.

By all means extract honey from the center combs of full hives unless you have empty combs to spare. In that case put them in the place of the full ones, either giving these to weaker colonies or putting away safely till spring.

We agree with the gentleman so far as this: that in queen-rearing this season we have not been able to depend upon any calculations based upon former experience in the business. We have thought, however, that the lack of honey in the early summer caused this, though the yield was abundant later, it came after the swarming season was past.

1. Why do not bees store pollen in drone cells?
2. Do the same bees that gather the pollen, pack it?
3. How would rye-meal feeding do in the fall of the year? Would it sour in the cells?
4. Or, would the bees refuse it this season of the year?

I would try the experiment, but prefer hearing from those who have tried it. J.
Franklin County, Pa.

Bees do sometimes store pollen in drone cells, when the drone comb is built near the center of the hive. Much drone comb is built on purpose to store honey in. When there is an unusual yield and the bees have empty space, they seem to know that they can store more expeditiously in large cells. We have found pollen often in drone cells *when there was bread in the same sort of cells*. When honey is being stored expeditiously, little pollen is gathered, and then whole cards of drone comb may be filled with honey with no pollen in any of the cells.

2. We are not sure, but think that the old bees bring in the pollen, *as a rule*, and the young ones take it from their baskets and pack it. We have often seen Italian bees, *very young*, busy about the loaded thighs of black bees that we knew were old; but then, again, we have seen bees evidently dislodging the pollen they had just brought in. Whether they packed it, we do not know. In an observation hive, any one can judge for themselves, if they are keen observers.

3. We have often placed rye meal for the bees in the fall, but never knew them to notice it but once. Then, for a week they carried it in eagerly, and it seemed to be all used up, for the combs were almost destitute of pollen by spring. In some localities, we doubt not, bees suffer for want of pollen during winter. Yet they do not seem to realize in the fall that they will need it.

—
Wilt thou please right me in regard to upward ventilation. Last fall I closed all up as I took the honey boxes off, thinking it was best; but when

I put them in the cellar some of them were quite frosty. I have been told since that I should have left two openings. I notice in the last magazine thou advises to place over the frames a quilt, but dost not say whether to leave an opening or not; but I suppose not, as the idea seems to be to keep them as warm as possible.

The queen I got last spring proved to be good. Her progeny is well marked and much admired. I raised several good ones from her, the first as pure as herself. From eight I obtained thirteen good swarms and about 400 pounds of surplus. Am very sorry I let the summer pass without getting an Extractor; feel sure I lost enough to have paid for one.

I have one double hive; the queen got in the upper part, although the openings were quite small. I have tried different times to drive them down, wishing to reserve the upper frames for spring. What would be best to do with them? Will it do to put them away as it is? The hive is very strong, and had I a spare queen, would try dividing it.

Coal Creek, 10th mo.

S. L. VAIL.

If the frames are close-fitting tops it is best to remove one comb, which will give room to move the center frames a little apart. Over the frames lay the quilt. If the frames are made with space between the tops, take off honey boards and lay the quilt directly on the frame. The quilt would do no good unless there were spaces between the frames. In this way ventilation and warmth are both secured.

We would advise putting the hive away as it is. Probably the bees will then take possession of one part or another, and do well.

—
I have two colonies of bees that have not stores enough to winter on. Can I feed them now, as it is cold and late (Nov. 2)? Why is it not as well to feed them in winter as in fall?

If you feed them now, take them into a warm place below the freezing point, and give them all they will need at one time. They may be fed in winter by laying candy over the cluster of bees, but we prefer the syrup in fall.

There are two reasons why it is best to feed bees in the fall:

1. They can then fly occasionally during the warm days, and discharge the fecal matter which accumulates

after taking up the syrup and storing it.

2. During the winter they should be in a semi-torpid state, and feeding disturbs and excites them.

Will you tell me if you know of any one who has succeeded in keeping bees on the open prairie, miles away from timber, and if they do well? Also, if I can keep them near a lake? I want to try if possible.

Platte County, Nebraska.

You will have no trouble from the lake unless your bees have to fly across it in search of pasturage. In that case many would be lost in windy weather. Bees are kept with excellent success in many prairie sections, far from timber. The best reports sent us in 1872 were from bees kept on new prairie. We think the succession of wild flowers in such localities will be abundant until so many cattle are kept as will eat the herbage short. By that time clover will be "set," the farmers will have fruit trees, and buckwheat will be raised, and a wise bee-keeper will have an acre or two in white clover. Every year more attention will be paid to setting out trees whose blossoms afford honey.

I have six stands of pure Italian bees that seem to be in fine order for winter. I have prepared them according to your directions. I have also four colonies of black bees. Now, how can I unite them so as to have no black bees next spring? Will it do to put the four colonies in with the Italians, and trust them to unite so as to keep the Italian queen alive? If they are so much more vigorous than the blacks, I judge this would be safe.

CLARKE COUNTY INQUIRER.

There is no certainty in uniting bees this way, but a good chance to replace four Italian queens with four black ones, however vigorous the Italians are. Keep all your colonies until spring. You will have Italian drones two weeks earlier than black ones. Then as soon as drones appear, destroy your black queens and replace with young Italians. Directions for doing this will be given in season for spring

work. In the meantime keep every colony as safely as possible.

1. How shall I know on what combs to use the Extractor, or how much honey to take?
2. Does the extractor injure the brood?
3. How late can I empty combs?
4. Can I empty small pieces of comb with the Extractor?

1. In most cases, when the yield of honey is abundant, there are frames at the side which contain honey alone. You are safe in taking all of this; and if there are frames on top of hives that have honey, empty them as often as they are filled.

2. "Novice" and others claim that the brood is not injured by the motion of the Extractor; and they, when honey is abundant, take all the honey even from combs that have brood. We find by experiment that the sealed brood is not killed by the Extractor, if carefully used, nor the larvæ thrown out, though we think it is oftener killed than people believe; but we have seldom any occasion to remove honey from brood combs, as all there is stored there will be needed for the food of the young bees. We believe more honey will be obtained during the season by leaving the brood undisturbed.

3. By taking the comb into a warm room for a few hours, the honey may be extracted any time during the fall or even winter. If you mean how late will it do to "rob bees," we answer, the later the better, if you are able to take honey and still leave the bees a winter's supply. Or, if you prefer, take all the honey, and feed the bees syrup.

4. You can empty small pieces of comb in any of the Extractors, though some are designed more especially for that purpose, and are very convenient to have when you are transferring bees.

When is the best time to buy bees, and when can they be moved most safely?

A BEGINNER, IN KANSAS.

Buy bees just when you can get

them cheapest. The risk of wintering is not great, if you are careful.

Bees can be moved safely at any time, except in extreme cold weather. Then the comb is brittle and breaks down easily, and every bee that is disturbed and gets away from the cluster, perishes. It is easy to ventilate, if the colony be not too strong, in warm weather, but almost impossible to prevent injury in cold.

Have you ever used maple sugar to feed bees, and is it good for that purpose?

We have used it, but not with good results. Others have succeeded better. One man tells us that he kept a colony a whole winter by simply feeding them light bread soaked in maple syrup. With us there is no object in feeding maple sugar, as it costs more than Coffee A.

1. Do you send queens by mail, or by express, and which way is the best?
2. Can a queen be sent any great distance?
3. Is there any doubt about my being able to find the old queen?
4. Can I build up a colony from one queen.

JANE COOMBS.

Clinton County, Iowa.

1. Queens can be sent by mail and express both. Since the Postmaster General has declared queens not mailable matter, they are sent at some risk, and many are lost. To some places it is much easier to send by mail than by express, and we hope that at the next meeting of the National Convention an urgent petition will be sent to the Postoffice Department to allow queens to go through the mails, as seeds do, and, if possible, to provide some system whereby they may be registered. The queen business is increasing in importance, and should be aided instead of discouraged. Queens can be so packed as to have no honey leak, and no danger of stings.

2. Queens are sent to any distance where they can go in a reasonable time. We often send, where they are two weeks confined.

3. We have sent many queens to

persons who never saw a queen until they received her, and have never yet heard from one who did not succeed in finding the old queen when they they set about it in earnest. It is always better, if you can, to have an experienced hand help you put in your first queen. But if obliged to do it alone, you will find no trouble.

4. You cannot build up a colony from a queen; but if you put an Italian queen into a colony of black bees—removing their queen—you will soon have a colony of Italians there. And this reminds us that we sent a queen this season to a customer, who informed us after a week or two that she was "not fertile." We knew this was not so, unless she was injured on the way, and wrote for further particulars. It then appeared that our friend had put the queen and the few workers sent with her, into a hive, and expected them to fill up and make a colony!! He wrote us, "it will be a loss to you as well as me if this queen does not do well, for many are waiting to see if bees can be got in this way, and expecting her and the eleven bees left of those that came with her, there are no others in this county!! If colonies could be built up from a queen alone we would soon have bees in all parts of the country.

We are receiving new names, with the money, by every mail, and those who are getting up clubs send cheering reports. If they succeed before seeing the improvements we have made in this number, there will be little trouble when it is in the hands of the canvassers. We expected to double our subscription list before the first of January, but now are fixing on figures beyond this even. Send on the names.

THE whole art of bee-keeping consists in so managing colonies that all may be strong in numbers *when honey is abundant*: for a hundred large, strong hives will fill up rapidly in the same time and place where a weak one will barely live.

MICHIGAN BEE-KEEPERS' ASSOCIATION.

We have received an interesting report from the Michigan Bee-keepers' Association, which held its annual meeting at Grand Rapids during the State Fair. The proceedings are of so much general interest that we regret we cannot give them in full to our readers; but want of space prevents. We condense the report:

First subject of discussion was

BEST BEE-HIVE.

H. A. Burch had experimented largely with a view to ascertaining what constitutes the best hive, and advises a one-story hive, properly constructed, as offering most advantages. Would make them large, holding from four to five thousand cubic inches; make the entrance in one end, so that the frames will be parallel with it. J. Heddon had tried these hives, but had not attained satisfactory results, and believed the two-story hive preferable; would have small hives, and then pile them up, even to four stories high, if necessary. Mr. Wiedman had used different hives with varying success; had been threatened with prosecution by Otis for using movable frames, but he had failed to do it. Mr. Palmer had tried one-story hives, on Adair's plan, to prevent swarming, but it failed to prevent it, but he has good yields of honey on that plan. Mr. Heddon thought such hives objectionable, because so difficult to take out and bring in the cellar. Mr. Palmer used small hives for wintering, while Mr. Everard preferred two-story hives and the Extractor. He extracted all the honey from below in the spring to give the queen room for brood. When honey comes freely, pile them up. Mr. Benton used strips of iron at the bottom to keep out moths, and thought 2,500 cubic inches best size for wintering. James Heddon thought this too large; would allow no more than 1,700 cubic inches. Mr. Balch saw no good in

Mr. Benton's iron; and Mr. Everhard said if he kept Italian bees there would be no trouble with moth. He had, for experiment, put in combs permeated with worms, and the Italians cleaned them out. James Heddon said he had spent over \$300 testing hives, and had a dozen different styles in use. He found that it was not objectionable to have a board between two stories of a hive. He found it irritating to bees to shake combs to get them off, and brushing them off with a feather still worse. [A small new broom we find far the best weapon for this purpose.—EDITOR.] Mr. Tomlinson used a frame six inches deep and twenty long. In this kind of hive he had increased six swarms to twenty, and obtained 400 pounds of extracted honey. [We shall be curious to know how bees wintered in frames only six inches deep.—EDITOR.] President Balch used frames eleven inches deep by fourteen in length. He recommended great caution in spreading combs early in the season, as there is danger of killing brood.

ON ARTIFICIAL SWARMING.

James Heddon said that circumstances must govern the time when it was done. He put the young queen with the new swarm. Mr. Balch said the quickest way was to find a queen in the morning on a comb, put it in an empty hive, which he set on the old stand, taking the old hive away. It is well to have queen cells ready to give to new colonies. To get the largest amount of honey, make one new swarm from each old one. Jas. Heddon said in making new swarms we should remember that young bees secrete wax, old ones gather honey. For new swarms that are to build comb, he aimed to get bees from seven to twenty-one days old, as these were the wax builders. Mr. Everhard thought the most reliable plan was to start a nucleus, and when the queen was fertile, build it up from other colonies. Have combs built in full

hives. Mr. Balch would wait till bees are crowded for room before dividing, and Mr. Benton would wait until basswood harvest, and get new combs built of buckwheat honey. [In some localities each hive would need a man to watch it, to prevent natural swarming until this time.—EDITOR.]

To an inquiry if buckwheat was a suitable honey plant, there was much difference of opinion—conclusions undoubtedly drawn from different standpoints. The same difference of opinion was expressed as regards the value of linn and white clover, but all agreed that Alsike was valuable.

An article on the

HONEY EXTRACTOR,

prepared by A. G. Root, called forth much difference of opinion. One idea advanced was new, viz: that cold water was better than hot to use upon knives when uncapping honey.

WINTERING BEES.

Prof. Cook, of Michigan University, read a paper on this subject. He claims that successful bee-keeping depended: First, on good food; second, an abundance of young bees; third, an even temperature in the winter repository. Mr. Palmer used large hives in wintering and packed them in straw; gave no ventilation below, and very little above. H. A. Knapp practised outdoor wintering. Filled the caps of hives with straw; found them in good order in winter, even when the thermometer was below zero, but in spring they dwindled away. [The remaining testimony on this topic was so similar to that reported in another part that we omit it.—ED.]

The officers elected for the ensuing year were: President, N. A. Balch, of Kalamazoo; Vice President, H. A. Burch, of South Haven; Secretary, Mr. Benton, of Hart; Treasurer, T. F. Bingham, of Allegan.

Mr. Bingham said that the continual abuse of patent rights men was a bad feature; that these men were the

first to demonstrate the possibility of profitable bee-keeping.

Prof. Cook thought that though some had failed to succeed in bee-keeping, that there was money enough in bees if rightly managed. He called on Mr. Burch for information about his hives, as he was known to be successful in obtaining honey.

H. A. Burch said that after repeated experiments he had adopted one-story hives, as they gave the best results. In order to secure the largest possible amount of honey, we must obviate the swarming fever. To do this, use long hives, have an entrance in one end, and keep the brood nest in the rear end. Fill up with empty frames. In this way I get twice as much brood, and much more honey.

After some further discussion, the Convention adjourned, to meet in Kalamazoo, on the first Wednesday in May next.

H. A. BURCH.

SOUTH HAVEN, Mich.

INFORMATION received as we go to press announces that arrangements have been made for reduced fare to the National Bee-keepers' Convention at Louisville, Ky. The Toledo, Peoria and Warsaw; Indianapolis, Bloomington and Western R. R. for 1½ fare, tickets good from Dec. 1 to 10. The Louisville & Cincinnati Short Line Road; and Louisville & Nashville R. R. will give reduced fare.

The United States Hotel will reduce rates to \$2.00, and the Alexander House to \$1.75 per day.

Negotiations are pending for a reduction on other railroads.

LET bee-keepers unite in a petition to the Post Master General, urging him to legalize the sending of queens through the mail; and also to provide some simple way by which they can be registered. There is no reason why queens cannot be sent with safety, and without causing any annoyance to post office clerks.

Miscellaneous.

CURIOSITIES OF BEES.

[From the Belgravia Magazine.]

There are few hobbies which a man rides more eagerly, when he has once mounted it, than bee-keeping. It is not merely the pleasant occupation and continual change of interest which these industrious creatures provide for their master, that so engross his thoughts; but luckily for human nature, always glad to engage in a fray, there are many vexed questions connected with the life and economy of the bee-hive, which evoke the love of controversy as well, in all properly enthusiastic apiarians. From the days of Aristotle and Pliny to those of Swammerdam, Huber and Kirby, naturalists have wrangled over the bee. In the very last book published on bees, the dissensions of rival bee-keepers on disputed points in their life-history are still brought forward as prominently as ever. The object of this paper is to advocate no theory, nor to dilate on the wondrous instincts of the bee, but simply to recount some of the more curious lore connected with the little insect in ancient and modern times.

According to Virgil, Jupiter gave the bee its marvellous habits, because bees fed him with honey when, as an infant, he lay concealed in the Cretan cave from his father's search. The Curetes, a Cretan tribe, used to dance around the babe and drown his cries by rattling brazen cymbals, whence comes the origin of swarms of bees at the present day being pursued by housewives with much clanging of keys against frying pans, the belief being universal that the noise is agreeable to them. Indeed Pliny, with questionable logic, argues, because this clatter is always made when bees swarm, therefore they must be gifted with the sense of hearing. Kirby, who wrote a most valuable monograph on bees,

estimated that there are about 250 species of them in England. It is generally supposed that those bees which are peculiar to the New World are destitute of all offensive weapons. Humboldt, however, explains that they have stings, though comparatively feeble ones, and they use them very seldom—only, in short, when irritated and forced to defend themselves. While seated on the peak over Caraccas, in South America, he tells us, "determining the dip of the needle, I found my hands covered with a species of hairy bee, a little smaller than the honey-bees of the north of Europe. These insects make their nests in the ground; they seldom fly, and from the slowness of their movements I should have supposed they were benumbed by the cold of the mountain. The people call them *angelitos* (little angels), because they very seldom sting." (Cosmos, i. 435.) Among the numerous tribes of leaf-cutting and mason bees common in England, most possessors of a garden must have noticed the ravages of the *megachile centuncularis*, one of the former class. It is much smaller than the bee-hive, and cuts little segments, as clear as if punched out by a machine, from the leaves of roses and peas. The operation is very speedily performed when the bee has once made her choice; the strong mandibles go to work, and soon the bee flies off with her green load. If followed, it will be found that her nest is situated in some pallsade or gate post. The creature runs her tunnels into the wood by means of these same powerful jaws, and then lines them with the pieces of leaf. They are not fastened together, but the cells are honey-tight, and as fast as they are lined with leaves, an egg is dropped into each. Perhaps Virgil, Pliny and the other ancient writers who speak of bees carrying ballast to steady themselves in windy weather had witnessed the doings of leaf-cutting bees, and confounded them with hive bees.

What we know as the queen bee was

always with the ancients, in treating of hive-bees, called the king, and was regarded as the absolute master of the community. They describe him, truly enough, as being twice as large as the common bee, more glittering in aspect, and (says Pliny, with a touch of imagination) "on his brow glitters a whitish spot, like a diadem." Dryden shall translate from Virgil how he is obeyed :

The king presides, his subjects' toil surveys :
The servile route their careful Cæsar praise ;
Him they extol, they worship him alone,
They crowd his levees and support his throne.
They raise him on their shoulders, with a shout,
And when their sovereign's quarrel calls them
out,

His foes to mortal combat they defy,
And think it honor at his feet to die.

The king is stingless ; "armed only with his majestic port." Modern science regards this so-called king as mother and monarch of the hive. It is found that she lives four years, and is hatched from the egg in fourteen days, while the workers require twenty-one days, and the drones twenty-four. These strange figures are part of the mystery attaching to bees ; but a still more curious fact connected with this point is, that the bees have the power at will of developing common eggs into queen bees. This is done by removing an egg into a royal cell, and feeding the little grub with a substance of a milky gelatinous appearance, known as "royal jelly." These facts have been ascertained without doubt by Mr. Pettigrew, one of the most successful bee-keepers of the day ; though what the exact analysis of this royal jelly may be is utterly unknown. The chief function of the queen in the hive is to lay eggs, from which the future population will spring. A healthy queen, during her life, is estimated to lay the enormous number of 800,000 eggs ; often in the heat of summer, for months together, she will lay 2,000 a day. Whether these eggs are all alike, or whether some are distinctly worker-eggs, and others as distinctly

drone-eggs, is one of the numerous questions on which all bee-keepers are at issue.

The working bees form the life and prosperity of the hive. To them belong industry, labor, patience, ingenuity—in short, all the virtues of the race ; and while each knows his own duty, and does it, the efforts of all are directed toward the weal of the community.

Some o'er the public magazines preside,
And some are sent new forage to provide ;
These drudge in fields abroad, and those at home
Lay deep foundations for the labored comb ;
To pitch the waxen flooring some contrive,
Some nurse the future nation of the hive.
Studious of honey each in his degree,
The youthful swain, the grave experienced bee.

The working bee never lives longer than nine months ; they labor so incessantly that it is supposed they never sleep. The daily consumption and waste of a large hive of bees in summer may be taken at two pounds of honey ; it will show the industry of the working bees to bear in mind that, beyond this, such a hive in favorable weather will often accumulate honey to the amount of four and six pounds daily. Indeed, it is upon record that a hive once gained twenty pounds weight of it in two days ! It is curious that even a wild hive of bees can soon be taught to recognize and refrain from attacking people who approach them. No wonder that the ancients esteemed them divine ; that their poet laureate, according to the Platonic philosophy, assigns them a "participation in the Supreme Mind and in heavenly influences ;" and that another speaks of their powers of presaging wind and fine weather. Modern science points out that the fructifying of many flowers is due to the labors of bees in mingling the pollen ; and most gardeners must have noticed the difficulty of preserving a pure strain of any plant when these active workmen have access to other varieties of it.

Within the nectaries of many flowers the bee finds the thin sweet juice

which we know as honey; but when this is carried home and deposited in wax cells, it requires to be swallowed again by the bees, when it undergoes a thickening process, and becomes honey proper. Honey gathered almost exclusively from one kind of plant or flower acquires its special flavor. Thus clover honey is clear and pleasant both to the eye and the palate, but that made from sycamore and gooseberry flowers far exceeds it. Heather-honey is much darker than other kinds. The blossoms of many of our trees furnish excellent honey, which Virgil has not forgotten. When celebrating the Corycian bee-master, who was the first of his neighbors to

Squeeze the combs with golden liquor crowned,
he is careful to add,

His limes were first in flower.

Few blooms are more grateful than this to bees.

At certain times in spring the leaves of sycamores and kindred trees are covered with a species of clammy substance which bees collect greedily. Unfortunately, its dark color and disagreeable flavor do much damage to the honey, and it would be a blessing to bee-keepers if their charges never heeded its attractions. Wonderful views were held regarding it before science took it in hand. Pliny supposed it to be "the perspiration of the sky, the saliva of the stars, or the moisture deposited by the atmosphere while purging itself, corrupted by its admixture with the mists of earth." Countryfolk deem it a deposit of the east winds, and talk of it as "John Honeydew." It is nothing more or less, however, than the product of apides, which in spring are frequently largely generated on trees of the sycamore family.

Drones were anciently esteemed imperfect bees—the slaves of the true bees. They work but little, says the great naturalist of old days, but that little and the heat they cause is useful

in a hive. It is now known that drones are really the males of the community, the gay young bachelors that woo the queen when swarming time arrives. They have ever served morality as an awful example to hold up to the young; for they never think of working, and it is questioned whether, in the midst of plenty, they even take the trouble to feed themselves. Certain it is, that working bees have frequently been seen feeding them, much as a bird supplies her gaping young ones. Virgil characteristically calls them *ignavum fucos pecus*: and again, *immunisque sedens aliena ad pabula fucus*. A suitable Nemesis always pursues them: they are, after a time, thrust out of the hive to perish of starvation, or else actually murdered. Stingless and lazy, every one must have seen them just before winter sitting torpidly on a bough, or feebly catching the last rays of the sun. Death is then laying his hand upon them.

It has always been a matter of doubt whether the community in a hive should be deemed a republic or a kingdom, and many writers have decided according to their own political views. Pliny judged it to be a republic, with chiefs, affairs of state, and (most wonderful of all) national character; and Virgil almost verbally agrees with him. Shakespeare, who never forgets to touch upon the surroundings of home, adopts, naturally enough, the view that bees live under a monarchy. His ideas are so beautifully expressed that the reader will be glad to have them recalled to his mind:

So work the honey bees;

Creatures that, by a rule in nature, teach
The act of order to a peopled kingdom.
They have a king, and officers of sorts;
Where some, like magistrates, correct at home;
Others, like merchants, venture trade abroad;
Others, like soldiers, armed in their stings,
Make boot upon the summer's velvet buds;
Which pillage they with merry march bring home
To the tent-royal of their emperor;
Who, busied in his majesty, surveys
The singing masons building roofs of gold;
The civil citizens kneading up the honey;

The poor mechanic porters crowding in
 Their heavy burdens at his narrow gate;
 The sad-eyed justice with his surly hum
 Delivering o'er to executor's pale
 The lazy yawning drone. (Henry V. i. 2.)

Wonderful stories concerning the production of bees were current in ancient times. Some thought that bees gathered their young off the leaves of trees, or from the flowers of the honeywort, the reed, or the olive. Pliny speaks of them as sitting on their eggs like hens. It was a very general opinion that bees were produced from the putrid bodies of cattle. Virgil gives a recipe for the purpose with the greatest gravity. All will remember the story of Samson and the honey that he took from the slain lion in the vineyards of Timnath. Naturally Shakespeare remembered this fact:

'Tis seldom when the bee doth leave her comb
 In the dead carrion. (Henry IV.)

The truth of such stories is that occasionally the bee lays its eggs in such carcasses, trusting that the warmth engendered by decomposition will hatch them. There were enthusiastic bee-keepers in old times, as at present. Aristomachas did nothing else but attend to bees for fifty-eight years; another amateur was surnamed "the Wild," from dwelling in the desert in order to superintend his favorites. The habits of bees are indeed wonderful, even if we refuse to credit the ancient legends of their taking up stones to ballast themselves in their flight during high winds, or lying on their backs when belated, to protect their wings from the dew. We have ourselves seen a pair of bees employed at the entrance to the hive in creating a vigorous draught, by perpetually moving their wings, in order to ventilate the hive. Few people are aware how heated the atmosphere of a hive becomes in hot weather.

Besides honey, wax is a regular constituent of a bee-hive. This is a secretion from the bodies of the bees: though it is hard to explode the ancient and modern fables concerning it

by one stroke of the pen. A substance termed "propolis" is also found in hives. It is a kind of resin used by the little artisans to fasten up any chinks in their combs or hives. Bee-bread (the pollen of flowers) is also carried in to serve as food for maggots when the eggs are hatched. Comb, according to old tradition, has been seen in Germany eight feet long. Other articles of popular belief respecting bees in ancient days were, that morning and evening, like a camp in time of war, sentinels were fixed over the commonwealth, who hummed in a peculiar manner at change of guard, like trumpet sound, as Pliny observes. The same voracious authority states that only clean persons physically and morally could take the honey from a hive; a thief is specially hated by bees. A swarm of bees, it was said, had settled upon the mouth of the infant Plato, as an omen of the entrancing sweetness of his language and philosophic speculations; much in the same way, we suppose, as Byron said that a nightingale must have sung on the head of the bed when Moore was born. Bees were supposed by the ancients to detest strong scents; the smell of a crab near a hive, would half kill the inmates. If winter killed your bees, ancient Latin folk-lore directed you to expose them in spring to the sunshine, and to put hot ashes of the fig tree near them, when they would come to life again. If a bee stung a person, it was thought that it lost its sting in the wound, and either perished at once or became a drone. Multitudinous were the enemies supposed to be. Swallows, bee-eaters, wasps, hornets, gnats, either seized bees on the wing or stole into the hives and made free with the honey; frogs and toads laid wait for them at the water's edge as they came to drink; even sheep were thought baleful, as the bees entangled themselves hopelessly in their wool. The popular voice at the present day adds to this black list of their foes, sparrows,

tomtits and hens. It is certain that mice are among their worst enemies: happy is the bee-keeper who has not fancied his hives unusually still some winter, and on opening one, discovered that a colony of mice has taken up its abode among the combs, laying waste to the honey. Snails, too, frequently enter and plunder the honey: as the bees have a great repugnance to touching such cold slimy creatures, they are allowed to come and go at will. The death's-head moth is also said to enter, deceiving the bees by imitating the buzzing of their queen, and so getting at the stores unmolested. Many are the stories told of the bees immuring such robbers in cells of wax, and so destroying them. The truth, however, seems to be that, when the door is once forced, bees yield the rest of their fortress up to the invader in sheer despair.

Great as is the difference between the facts which modern science and more exact observation have established with reference to bees, and the vague popular ideas on their economy which, as we have striven to show, were entertained respecting them by antiquity, not the least curious circumstance is that ancient and modern bee-keepers alike meet on the common ground of bee-superstitions and folk-lore. Some of the old beliefs respecting bees have already been given. Their hatred to an echo, which was an ancient article of the bee-master's faith, seems not to be confirmed on investigation. Much modern folk-lore on bees may be picked up by any one who converses with the peasantry in almost any part of England. From some reason or other, they are looked upon as peculiarly "uncanny" creatures. Thus we were told in Lincolnshire that bees would desert a hive on the occasion of a death in the family, unless some one knocked at their hive and told them of it. The same superstition we find to prevail in Essex, and even Cornwall. Similarly the be-

lief that after a death hives ought to be wrapped in crape or mourning of some kind is current in Lincolnshire and East Anglia generally. It is even found in Lithuania, and is probably connected with an ancient idea that honey is a symbol of death. In Yorkshire there is a custom of inviting bees to the funeral. If a wild or humble bee enter a Northamptonshire cottage, it is deemed a certain sign of death; if a swarm of bees alight on a dead tree, or the dead branch of a living one, there will be a death in the family within the year. It is curious why the bee should in Europe be so connected with death, whereas in Hindoo mythology the bow-string of Kama (the Hindoo Cupid) is formed of bees, perhaps as a symbol of love strong as death. It is worth while mentioning one or two more bee superstitions. They will never thrive, it is said, in a quarrelsome family, nor when they have been stolen. There can be no greater piece of ill-luck than to purchase a swarm; it must always be given, and then the custom is to return something for it in kind—a small pig, say, or some other equivalent. Money should be avoided in the transaction, as much as possible. In Hampshire it is a common saying that bees are idle or unfortunate in their work whenever there are wars. At the risk of being esteemed credulous, we may remark that the martial year (1870) was an unlucky honey year. East winds and drought seemed in that year to have repressed the secretion of honey in the nectaries of many flowers.

We will conclude with some statistics of the profits that may be made from bee-farming, extracted from a published letter of Mr. Pettigrew, perhaps the most successful bee-keeper of the day. In 1868 his income from bees was £32, expenses £5, profit £27. In 1869, income £43, expenses £13, profit £30: 43 hives kept. In 1870, income £70, expenses £20, profit £50. Mr. Pettigrew values his stock,

we may add, at £1 8s., per hive. He uses nothing but straw bee-hives, and strongly recommends bee-keeping to cottagers, and all who wish to increase their income, as an unfailing source of profit with the expenditure of a little care. It is but just to add that we have seldom read a more interesting and instructive work on the whole subject than his "Handy Book of Bees." For details of management, etc., it is simply indispensable to all who would study or keep bees.

IN a word, if you desire to have your bees thrive and prosper, keep them well from wind and wet, heat and cold; destroy their enemies; and let them enjoy a sufficiency of food gotten by their industry; and if there be a want in some, timely supply them, and doubt not of, by God's blessing on your endeavors, the increase and prosperity of your bees.—*Purchas.*

THE postage on the JOURNAL is twelve cents a year, paid quarterly or yearly in advance at the post office where it is received. We prepay postage to Canada, and those subscribing there, will please remit twelve cents extra for that purpose.

IN THE Island of Madagascar, and the Mauritius Islands, a species of bee is found (*Apis unicolor*) of a bright shining black, without spots or colored bands. The honey, which is highly spoken of, is at first of a green, but becomes reddish-yellow with age.

THE prosperity of a colony depends much on the age of the queen it contains. After the second summer the laying of the queen decreases, and though she may live ten seasons more, it is better to replace her with a young one.

IT IS stated from experience that an application of spirits of turpentine is a certain relief for the pain of a bee sting.

A STRONG colony of bees has been known to build one hundred square inches of comb in twenty-four hours; at that rate over sixty sheets of comb a foot square could be constructed in three months. The editor of the *Annals of Bee Culture* has had a report of a swarm that built nine sheets of comb, ten by thirteen inches, in ten days.

THE word honey is undoubtedly derived from the Hebrew *ghoneg*, which means "delight;" an appropriate title.

ON page 272, in the first column, the word "bread," in italics, should read *brood*.

NEW PUBLICATIONS.

Old and New.

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A very pleasant number of this excellent magazine. Mr. Trowbridge continues "Doing His Best," and contributes besides "The Rat Hunt," with eight spirited illustrations.

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Books, pictures, and other works of art—musical instruments—a trip to Europe—tuition; or tuition and board for girls and boys at school, etc., etc.—Given as premiums to those who will procure subscribers for St. NICHOLAS, SCRIBNER'S ILLUSTRATED MAGAZINE FOR GIRLS AND BOYS. Price, \$3 a year. Send 25 cents for premium list and specimen number.
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Those wishing good early Italian Queens would do well to send for my circular. Address
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THE HOOSIER FLY-TRAP.

Patented by Mrs. Harriet E. Farnam, South Bend, Indiana. Address, for all information, the patentee or
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ANNALS OF BEE CULTURE

An Apicultural Magazine.

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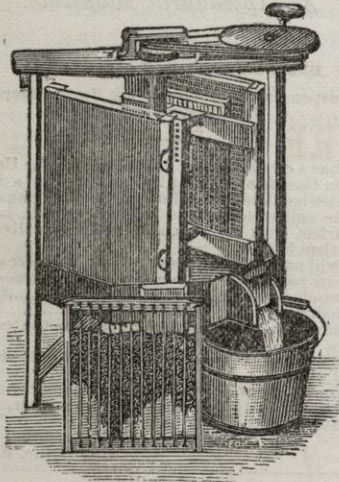
FREE for last year to all who at office of delivery ask any one to paper until they are to get. IT ITSELF. Price Year. Small structor is a that tells in just how to grow ance for home

MAKE WAY—For Atkinson's New Honey Extractor. The cheapest and the best. Any one can make it. Every one must have it, as I have it, as I have long known economy is wealth. Enclose eight dollars and you shall have one.
 novtf

ATKINSON'S OCTANGULAR

HONEY EXTRACTOR!

PATENT



PENDING.

Necessity the Mother of Invention.

Having in my travels experienced great inconvenience to procure castings and other materials suitable for Extractors, I have invented something new and cheap, that any man can make, doing the work as easily and efficiently as any in the market. Single Extractor, \$8.

County and State Rights for Sale.

For Northern States, apply to
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THOS. ATKINSON, Live Oak, Fla.
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We can furnish everything needed in the Apiary, such as Italian Bees and Pure Queens, Honey Extractors, Knives, New System and Champion Hives, six styles, Bee-Feeders and Ventilators, Bee-Velvs, the American Bee-Keeper's Guide, 244 pages, paper cover, 50 cts.; bound, \$1.00; Wax Extractors, \$3.00; Alsike Clover Seed, Black Spanish Chickens, &c. Send for our large illustrated PAMPHLET, containing information for Bee-Keepers, FREE to all. E. KRETCHMER, Coburgh, Mont. Co., Iowa.

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We will buy honey of all those in the country who have no home market. We can sell 10,000 pounds in this place. We will sell on commission or pay cash at wholesale price, 15 cents per 100 pounds extracted honey, or 20 cents for honey in the comb. Those having honey, to dispose of will find it to their advantage to correspond with
ITALIAN BEE CO.,
Des Moines, Iowa.

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In enumerating the articles below, which we consider valuable as apiarian appliances, we have mentioned nothing that we have not used sufficiently to be able to recommend them unhesitatingly to all our

American Women

who contemplate or are already engaged in bee-keeping.

SIMPLICITY BEE-HIVE, one-story, unpainted, without frames, \$1.00. These hives will be made to order to take any sized frames; but we only keep in stock, ready to ship on short notice, those made for the Standard Langstroth Frame.

Frames, with metal corners, any dimensions, each, 6 cents. Sample frames, by mail, with section of metal rabbet, 15 cents. Metal corners, put up in packages of 100, \$1.00. As four corners are required for each frame, the above package is sufficient for 25 frames only. Common frames may be used in the Simplicity Hive, or metal corner frames may be used in common hives, but considerable care is required to avoid cutting bees in two, but with the metal corners and metal rabbets it is almost impossible to injure a bee, no matter how rapidly the combs are handled, and as they are never gummed fast, we can work with one in each hand.

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Honey Extractors, for any sized frame, \$10.00. These frames were built under the direct supervision of both Novice and P. G., and are light, strong, easy running, and durable. The pivots are all of the finest tempered steel. The case being stationary, no strength is required to turn it more than is really necessary to bring the comb itself up to the proper speed.

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For further particulars see our circulars, sixth edition for 1874. Mailed free on application.

Photograph of Novice's Apiary, by mail, 30 cents.
Address, A. J. ROOT & CO.,
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Fall stocks, \$15; Tested Queens, or Queens fertilized in confinement, \$4; two Queens, \$4. Purity and safe arrival guaranteed.
Address novif A. N. DRAPER, Upper Alton, Ill.

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Pure Italian Queens and Bees.

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For extracting Pure Honey from old or new comb, without breaking or injuring them, which are afterward returned to the hive to be again refilled by the Bees.

For further information, send stamp for our 16-page Illustrated Circular and Apairian Supply Price List, and address all orders to

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No. 132 West Fourth st., Cincinnati, O.

N. B.—Stocks of Pure Italian Bees for sale in frame hives—

FROM WEST TENNESSEE.—Full Colonies of Italian Bees or Queens, Extractors, Hives and Honey for sale. S. W. COLE, Andrew Chapel, Madison County, Tenn.

ITALIAN QUEEN BEES.

I am now prepared to fill orders for a limited number of choice tested Queens, bred from imported Stock. Also

Pure Bred Poultry,

And Berkshire Swine. For circulars, etc., address

L. H. B. WOODY,
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Three Millions of Acres.

Situated in and near the Arkansas Valley, the finest portion of Kansas. Eleven years' credit. Seven per cent. interest. Twenty-two and one-half per cent. reduction to settlers who improve.

FREE PASS TO LAND BUYERS.

THE FACTS about this grant are: Low Prices, Long Credit, and a Rebate to settlers of nearly one-fourth; a Rich Soil and Splendid Climate; short and mild winters; early planting and no wintering of stock; plenty of rainfall, and just at the right season; coal, stone and brick on the line; cheap rates on lumber, coal, etc.; no land owned by speculators; homesteads and pre-emptions now abundant; a first class railroad on the line of a great through route; products will pay for land improvements.

It is the best opportunity ever offered to the public, through the recent completion of the road.

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Or, W. A. SCHOFIELD, Indianapolis, Ind.

PURE ITALIAN QUEEN BEES

Reared on Kelley's Island, O.,

12 MILES FROM NATIVE BEES

I would say to my former patrons and others that I have made arrangements to return to this Island, for the purpose of rearing pure and reliable Queens, and would solicit a liberal share of patronage.

My Queens will be bred from mothers imported direct from Switzerland, Italy, where they are claimed to be the most uniform and bright in color.

This beautiful Island, two by four miles in extent, is situated twelve miles out in the Lake, opposite Sandusky City, Ohio; and as there are no black bees kept there, undoubtedly the Queens I shall rear will be as pure as those reared in Italy.

For further information, price list, etc., address

AARON BENEDICT,
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After fifth month (May) 20th, to ninth month (September) 20th, address me at Kelley's Island, Ohio.

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NAPERVILLE, ILL.**

*Special and Abridged Wholesale List
—Autumn 1873.*

	Per 100	100	1000
Apple trees, standard, 4 to 7 ft, good	\$1 25	\$10 00	\$50 00
Apple trees, standard, 4 to 5 ft, lighter	65	5 00	25 00
Apple trees, crabs, 4 to 6 ft	1 50	5 00	25 00
Pear trees, standard, 2 to 3 years, 4 to 6 ft, selected	5 00	35 00	
Pear trees, standard, 2 to 3 years, 4 to 5 ft, lighter class	4 00	25 00	
Pear trees, dwarf, 2 to 3 yrs, select'd	4 00	25 00	
" " " 2d class	2 50	17 00	
Cherry standard and dwarf, 2 to 3 years, selected	3 50	25 00	
Cherry standard and dwarf, 2d class	2 00	15 00	
Plums " 2 to 3 years	3 50	25 00	
Grapes, Clinton, Concord, Ives' Seedling, 2 years	1 25	7 00	50 00
Grapes, Delaware, 2 years, medium good	3 00	18 00	
Blackberries, Kittatiny	50	2 00	10 00
Currants, Black Naples and Red Dutch, 2 years	1 00	4 00	30 00
Currants, Cherry Red and White			
Grape, 2 years	1 25	6 00	
Gooseberries, Houghton Seedling, 1 yr	75	3 00	25 00
" " " 2 and 3 years	1 00	6 00	
Raspberries, Doolittle, Black Cap, Davidson Thornless	40	2 00	10 00
Raspberries, Ellisdale	75	4 00	
Strawberries, Wilson Albany and Green Prolific	25	1 00	5 00
Asparagus, Giant, Conover's Colossal, 2 years	48	1 00	5 00
Ornamental—Ash, White American, 6 to 8 feet	2 50	15	120 00
Birch, White, American, 7 to 12 feet, very fine	6 00	35	
Birch, White, American, 5 to 7 feet	3 00	18	
Chestnut American, sweet, 5 to 8 ft (bearing trees)	5 00	30	
Elm, American, 8 to 12 feet	5 00	30	230 00
Larch, European, 5 to 8 ft, extra fine	5 00	30	
" " " 3 to 5 ft	3 00	20	
Maple, Ash Leaved, 8 to 12 ft	3 00	20	
Maple, Scarlet, 7 to 12 ft	4 00	25	
Maple, Silver Leaved, 10 to 12 ft	2 50	18	140 00
Maple, Silver Leaved, 12 to 14 ft	4 00	25	200 00
Mountain Ash, 6 to 9 feet	2 50	15	
" " " 6 to 7 feet	2 00	10	
Poplar, Lombard, 10 to 18 feet	5 00	30	225 00
Flowering and Climbing Shrubs in variety,			
Evergreens, by the million at very low rates.			
Ash, American, 10 inches, to 8 feet			
Balsam Fir, 10 inches to 8 feet			
Pine, Austrian, 10 inches to 8 feet			
Pine Scotch, 10 inches to 8 feet			
Norway Spruce, 4 inches to 5 feet			
Roses, Hybrid, Perpetual and Tea, medium size	2 50	15	
Roses, Hybrid, Perpetual and Tea, larger size	3 00	20	
Roses, Bourbon, Noisette, China and Bengal, medium	2 50	15	
Roses, Bourbon, Noisette, China and Bengal, larger	3 00	18	
Roses, Moss	3 50	25	
Roses, Climbing	2 50	12	
Dahlias, in variety	1 50	8	
Bulbous Flowering Roots, in variety at low rates.			
Green House and Bedding Plants at low rates.			
Prices given on application.			

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The partnership between Atkinson & Barber has been dissolved by mutual consent, and for the sale of the following territories in the above hive, apply to E. H. Barber, Indianapolis, viz: Kansas, Missouri, Illinois, Arkansas, Iowa, Minnesota, Washington and Oregon.

For all other unsold territory in the Queen Bee Hive and Atkinson's Honey Extractor, apply to
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Will hold its first annual exhibition at Cedar Rapids, commencing Dec. 16th, 1873, and continuing until the 19th. Competition open to the world, the best birds to win. All Breeders and Fanciers in this and adjoining States are requested to send fowls to the Exhibition for show and for sale. For premium lists and other information, address
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Also, young, well-grown, perfectly marked Cocks, at \$5 each, partridge.

Cochin Partridge Cocks, \$6 each. Trios of these birds at \$15.

A few pairs of Red Game Bantams, \$10 per pair. Address
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Or others going southwest to enter lands in the beautiful Arkansas Valley, through which runs the great

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Route to Chicago.**

**The Indianapolis, Peru & Chicago
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Are now running two through Express Trains daily to Chicago, via Michigan City, without change of cars, making close connections

At CHICAGO for Milwaukee, Janesville, Madison, Lacrosse, St. Paul, Rockford, Dunleith, Dubuque, Peoria, Galesburg, Quincy, Burlington, Rock Island, Des Moines, Omaha and San Francisco.

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BETTER THAN EVER.

It is the unanimous and unsolicited verdict of the hundreds of thousands of readers of THE TRIBUNE, that the paper was never so good as at the present time. During the past year it has enlarged its field and improved its facilities in every direction, and enters upon the year 1874, which is to be one of the most important in public and political affairs, with most encouraging prospects. THE TRIBUNE, however, believes in deeds rather than in words, in results rather than in promises. It points to its records and its columns for the past twelve months as the best evidence of what it has done, and the most satisfactory pledge of what it will do. All the distinctive features of the paper will be preserved and strengthened; the "extras," whose sale has reached hundreds of thousands, will be continued; the front of the new building completed, and the present admitted pre-eminence of the paper, not only maintained, but further advanced.

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