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VOL. III. NO. 13.

1887

JUNE 22.

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

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Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited. Beginners will find our Query Department of much value. All questions will be answered by thorough practical men. Questions solicited.

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Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL.

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Hasty, Richards, O., March 28, 1887.

It is the best book on the production of comb honey I
ever read.—F. W. Holmes, Coopersville, Mich., March 29,
1887.

I congratulate you on getting up such a complete treat-
ise upon the subject in so small a book.—W. H. Shirley,
Mill Grove, Mich., March 27, 1887.

Your little work on "The Production of Comb Honey"
is a valuable acquisition, and coincides with my experi-
ence.—Dr. L. C. Whiting, East Saginaw, Mich., April 23,
1887.

It is simply at the head in every respect, so far as it
goes. All can say that there are larger books—those that
cover more ground, but NONE that cover their ground
nearly as well.—James Heddon, Dowagiac, Mich., April 2,
1887.

You have given us a valuable work. Though terse, it
lacks nothing in completeness. We need more such
books—those that give facts in the fewest words. For
four years I practised essentially the system you give, and
know its superior worth.—Dr. G. L. Tinker, New Phila-
delphia, Ohio, April 17th, 1887.

Your book received last night and read through before
I could sleep. To be sure I knew the most of it from your
articles in the bee-papers, but it is nice to have it all together
in a neat little book like yours. You just more than boiled
it down, didn't you?—Dr. A. B. Mason, Anburndale, O.,
Mar. 29, 1887.

Friend H.: Have just received your little book. Much
that it contains will be found new, I think, with the
majority. The cost in production must in some way be
lessened. You set out the primary elements by which
such lessening of cost may be made. I say heartily that
I think your little book should be studied carefully by
every producer of comb honey. With kind regards.—
J. E. Pond, Foxboro, Mass., March 28, 1887.

Your lovely little book gave sister and me much pleasure
and the author will please accept many thanks. Since
criticism is invited, permit me to say that we reach the
conclusion too soon. Had the book been less interesting
we might not have discovered the fault—might even have
thought it a merit—but since the book is as good as it is
pretty, its brevity is a serious fault; a fault which will
surely be amended in the second edition. With the hope
that it may receive the cordial welcome that it merits, I
am yours truly.—"Cyula Lipswik."

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VOL. III. No. 13.

BEETON, ONT., JUNE 22, 1887.

WHOLE No. 117

EDITORIAL.

MOST of the readers of the C.B.J. are, we presume, aware that the Dominion Exhibition and the Toronto Industrial have amalgamated for the present year. The consequence is that the fair which will be held in Toronto between the 5th and 17th of September will be of more gigantic proportions than ever before. The directors of the Association have decided to take the building, which we have for some years used exclusively for our honey exhibit, and will use it for the purpose of making a grand display in natural history. They have placed the large building known as the Horticultural Department at the disposal of the Honey and Dairy Exhibits. The directors of the O. B. K. A., who were appointed to act on the committee of the Industrial Association for honey and apiarian supplies, were averse to making any change in our position, but they find that we cannot well help ourselves. We have a card from Mr. Emigh, who, with Mr. McKnight, visited Toronto last week, saying that he thinks the building will do nicely. It is probable that there will be a much larger exhibit in this department than we have yet had. Most assuredly it will be much more tasty, as new plans for staging and arranging have been prepared, much after the pattern of the exhibit as it was at the Colonial and Indian Exhibition, so that our friends on this side of the

water will be able to get an idea of the grandeur of the show which our English brethren were treated to.

OUR OWN APIARY.

MOVING BEES TO OUT APIARIES.

IN last JOURNAL we told you that bees might be moved with perfect safety on an ordinary wagon without springs. We have just taken two loads of over eighty colonies, nine miles on a lumber wagon without injuring a single comb. Colonies may be moved from five to ten miles to a new location in the spring, and returned in the fall at a cost of less than ten cents per colony. It will not be hard to determine the advantage, if your apiaries are over-stocked. Instead of the bees having to go a long distance and then perhaps visit flowers that have been visited a few moments before by other bees, there are many locations where they would have the entire range to themselves and would no doubt gather enough honey in one day in the height of the season to enable them to pay for the moving alone.

NEW SWARM—FOUNDATION DRAWN OUT AND HONEY STORED IN SEVEN HOURS.

The other day we hived a very large swarm in one of our Combination hives placing the queen excluding honey board over the frame and put supers on with sections. This

was done between nine and ten o'clock in the morning and at four o'clock in the afternoon some of the foundation was drawn out and the sections had honey stored in them. As soon as a swarm is hived the perforated metal queen excluding honey board may be placed on at once and the bees get started in the sections. They usually want a place to deposit the honey that they carry with them and they will commence work immediately.

BEATS THE WORLD—SO SAYS THE INVENTOR.

We have just received a new bee-feeder as the inventor calls it. It is three inches wide, seven-eighths of an inch thick and five inches long. It has five auger holes bored in the edge, three inches deep and mortised out to form a box. There is one more auger hole bored in the end that connects with the five and also one bored in the side which connects with the one in the end. Whether this feeder "beats the world" or not, it beats us. We do not know how the bees get in or out nor where the food is placed. If it was a little larger we might patent it for a humming bird's nest. The feeder may be a perfect success, but with our ignorance of the system of management or how to operate the machine we could not use it.

PLANTING BASSWOOD OR LINDEN.

We have frequently spoken about the advantages of planting linden or basswood trees on road sides or any other places that might be convenient or suitable. That they will well repay any one inside of ten years for any reasonable expenditure in that direction, is to our mind very evident. As we have given this matter some careful consideration and having planted large numbers of these trees for the last ten years, we can perhaps give a better estimate of their value than those who only give the matter an occasional thought. Six years ago this spring we planted a large number of lindens on some new streets that had just been opened in our village. These trees when planted would be from four to six years old and the tops were cropped off very closely when they were set out in order that large numbers of smaller limbs might start out about the top of the stock and form a beautiful coronal

top. There has been no special care given to them, in fact many of them have been destroyed by the cattle rubbing against them. We have just carefully counted the number of clusters of blossoms on one of these trees. The tree measures eight inches through at the ground and six inches higher up. The top measures sixteen inches and is about twenty-five feet high. The tree contains at the present time over one hundred thousand blossoms or buds that will bloom in July. Allowing each one of these blossoms to furnish only one drop of honey which is very much below the estimate in a good season (in fact when linden is yielding honey well by jarring the limbs the nectar will fall from the flowers, this would make about thirteen pounds of honey which might be gathered from this one little tree during the honey season. After counting the number of blossoms and making the estimate, although it seems large to think of, yet we have no doubt that we are much below the average in a fair season. There seems no good reason why every person favorably situated should not put out large numbers of linden trees, and in ten years they will repay the cost of planting. They may be got in the woods in their wild state for nothing. It appears from a very careful estimate that about fifteen of these trees would contain enough bloom to cover an acre of ground, if spread out, much more closely than it is ever covered with clover. Then 150 trees would represent ten acres of basswood bloom which would be a bonanza to any bee-keeper with one hundred colonies in his immediate locality. It is true that linden does not yield honey every year alike. It is sometimes almost quite a failure, but it is less so with second growth trees than it is with those in the woods, and by planting at different seasons you get a more continuous bloom. If any one has a second growth of small basswood in their locality, and would just take the time to count the bloom, or if this is too great a task let them take an average limb counting all the bloom on that limb then count the number of limbs and that will give you a fair idea of the number of blossoms on the tree, when the size and number of each blossom is computed and spread out it will be

found that some large linden trees represent at least a quarter acre of surface or more. Once they are planted and have got fairly started to grow they will need no further attention. With us they make a very handsome shade tree, ornamental for road-side, school grounds etc., and as they grow more readily than many other trees there is less risk in planting them. If any of our readers have made careful estimates on this subject we would be glad to hear from them.

Prof. N. W. McLain.

APICULTURAL EXPERIMENTS.

BEES VS. FRUIT.

I have, according to your instructions, repeated my experiments of last year for testing the capacity of bees, under exceptional circumstances to injure fruit; adding such other tests and observations as the very severe and protracted drought permitted. The house used last season, 10 feet by 16 feet in size, having sides partly covered with wire cloth and large screen doors in each end, was used again this year. Two colonies of Italian bees, two of hybrids, one of Caucasians, and two of Syrians were confined in this house.

These colonies were without food in their hives and at intervals of three or four days were fed a little syrup for the purpose of keeping up their vigor and to prevent dying from starvation. A wood-stove was placed in the house and a high temperature was maintained for a number of hours each day.

The conditions incident to an unusually severe and protracted drought were present within and without. The bees were repeatedly brought to the stages of hunger, thirst, and starvation, the test continuing for 40 days.

Through the favor of Mr. T. T. Lyon, president of the Michigan State Horticultural Society, I obtained thirteen varieties of choice grapes from A. G. Gulley, of South Haven. Every inducement and opportunity was afforded the bees to appease their hunger and thirst by attacking the fruit, which was placed before them. Some of the bunches of grapes were dipped in syrup and hung in the hives between the combs, some placed before the hives on plates, and grapes were suspended in clusters from the posts and rafters. The bees lapped and sucked all the syrup from the skins, leaving the berries smooth.

They daily visited the grapes in great numbers and took advantage of every crack in the epidermis or opening at the stem, appropriating to their use every drop of juice exuding therefrom, but

they made no attempt to grasp the cuticle with their mandibles or claws. I removed the epidermis carefully from dozens of grapes of various kinds and placed them on plates before the hives. The bees lapped up all the juice on the outside of the film surrounding the segments of the grape, leaving this delicate film dry and shining, but through and beyond this film they were not able to penetrate. I punctured the skins of grapes of all kinds by passing needles of various sizes through the grape and placed these before the bees. The needles used were in size from a fine cambric needle to a packing needle. The amount of juice appropriated was in proportion to the size of the opening in the skins and the number of segments of the grape broken. The same was true in the case of grapes burst from over-ripeness. Bees are not only unable to penetrate the epidermis of the grape, but they also appear to be unable, even when impelled by the direst necessity, to penetrate the film surrounding the berry even after the epidermis is removed. Grapes so prepared without exception laid before the hives until dried up. If but one segment of a grape be broken by violence or by over-ripeness, the bees are unable to reach the juice beyond the film separating the broken from the unbroken segments until further violence or decay permits an entrance for the tongue. Clusters of sound grapes which I hung between the comb frames in hives occupied by strong colonies were unbroken and sound after fifteen days' exposure in the hives. The skins were polished smooth, but none were broken. I also stopped up the entrance to several hives—containing good-sized colonies—in the apiary and in the wire-covered house, by pushing sound grapes into the opening, so close together that the bees could not pass through. By this means the bees were confined to the hives for days in succession, not being able to break down and remove the grapes, and although the skins of the grapes next the inside of the hive were polished smooth none were broken or injured.

The past season furnished an excellent opportunity to observe the capacity of bees, under so exceptional circumstances, to injure fruit, for the drought was very exceptional both in duration and severity, and I was called to several places by fruit-growers to witness the proof that bees were "tearing open the skins of the grapes" and otherwise behaving in a manner altogether unworthy of an insect enjoying a wide reputation for virtue and orderly living. In each instance I succeeded in convincing the fruit-grower that the bees were simply performing the office of gleaners; that violence from other sources, or over-ripeness and decay had preceded the bees

and that he would be acting the part of wisdom in following the example of the bees in gathering the grapes before further violence, or the action of the elements, rendered them worthless.

After grapes have been subjected to such violence, or have so far burst open and decayed as to make it possible for bees to injure them, and the circumstances are so exceptional as to lead the bees to seek such food, unless they are speedily gathered they would soon become worthless if unmolested. During the past season I made many visits to vineyards, one located near the apiary I visited every day, and my observations and experience with bees in confinement and those having free access to the vineyards furnishes abundant proof to convince me that bees do not and cannot under any circumstances injure sound fruit. If from any cause the pulp is exposed, such as the attack of birds or wasps—the most common source of injury—or from the ovipositing of insects, or bursting of the berry from over-ripeness, and if no other resources are available, the bees appropriate and carry away the juice, and the extent of the injury depends upon the degree to which the pulp is exposed, the sweetness of the juice, and the number and necessities of the bees.

BEE FORAGE.

If excellence in the bee is the chief factor in successful honey producing, next in logical order is abundant, persistent, and cheap bee-pasturage. Abundant pasturage is the amount necessary to satisfy the requirements of the number of colonies kept within a given area. Persistent pasturage is that which contemplates a variety of perennial honey bearing flora of hardy constitution and rugged habits whose terms of blooming follow each other in succession continuously from early spring to late fall, thus lengthening out the season in which bees may gather surplus honey. Cheap bee-pasturage may be such as is furnished from natural sources produced in forests or by self-propagating plants growing in waste places or upon lands of little value and requiring little or no labor. Or cheap bee-pasturage may be secured by cultivating fruits and field crops, the blossoms of which are valuable for honey bearing.

As the forests of the country disappear and the waste lands are being reclaimed, as the necessity for other honey-producing resources is felt, as the industry assumes more importance and as the influence of competition is more sharply felt, great interest is shown in the subject of bee-pasturage. The number of days in each year in which bees can gather and store surplus honey will not average, except in exceptionally favored localities, above thirty or thirty-

five days; the remaining time and energies of the bees being employed in gathering sufficient for the sustenance of the colony, and enforced idleness or non-productiveness. Enforced idleness, and the consequent waste of time, stores, and energies sometimes result from a failure of the flowers to secrete nectar, even though honey-bearing flowers are blooming in abundance, but usually the reason why the time is so short in which bees are able to store surplus honey is the lack of abundant pasturage. I have not had the time or the means to devote to bee-forage that the importance of the subject demands, but I have made a beginning in this department of experimental work which I hope to continue. Among all the trees and shrubs which are cultivated generally throughout the United States by fruit-growers, the raspberry is commonly conceded to possess more value to bee-keepers than any other. A quarter of a mile from this station a market gardener has four acres of raspberries. These bushes continued to bloom for ten days, and during that time, with the exception of two or three rainy days, a continuous procession of bees could be observed going and returning to and from the apiary, and a fine showing of honey was made in the hives and the honey was of superior quality.

On account of the superior quality of its nectar, the ease with which the plant is propagated, its adaptation to all kinds of soil and its value as a forage plant for grazing, white clover has, until of late years, stood without a rival in the estimation of honey-producers. About twenty years ago Alsike or Swedish clover was introduced into this country, and since then has been thoroughly tested both as a honey plant and also for hay and pasture for all kinds of stock.

Mr. J. M. Hicks, of Battle Ground, Ind., says: "Alsike clover has no superior as a honey-producing plant, yielding the best and richest honey known, and as a hay crop it is not surpassed, often producing three tons of good hay per acre. The stems and stalks are much finer than those of common red clover, and cattle, horses, and sheep feast on it, eating it clean without waste. As a pasture of all kinds of stock it has no equal. It will grow on all kinds of land, clay, or sandy, and does not freeze out as easily as red clover. It is quite similar to red clover in appearance. The first crop each season is the seed crop. The seed is about one-third the size of red clover and four pounds is sufficient to sow an acre. The bloom is a beautiful pale pink color. I have no hesitancy in saying that Alsike clover will produce 500 pounds of the richest and best honey per acre in a good season. I would recommend every bee-keeper to sow at least a few acres of

Alsike clover." Mr. W. Z. Hutchinson, of Rogersville, Mich., says that it will pay to raise Alsike clover for honey alone upon land worth \$50 per acre.

Mr. C. M. Goodspeed, of Thorn Hill, N.Y., says: "I have grown Alsike on my farm and watched its habits closely. It is very hardy, of extra quality as hay and a heavy seeder, reaching in rare cases ten bushels per acre. In this locality the second growth seldom yields much honey, but the first growth just swarms with bees for about three weeks, or from the time the rich blossoms open until the seed is ripe. In my locality it begins to yield honey shortly after white clover, and continues well into the basswood season. It yields twice as much honey as white or red clover." Mr. D. A. Jones, of Beeton, Ontario, says: "I think too much can scarcely be said of Alsike as a hay and honey crop, and many of our farmers are waking up to the fact that it is to their interest to cultivate it largely in preference to almost any other crop. Red clover will soon be a thing of the past, as Alsike seed is now in great demand, not only for seeding purposes but also for use in dyeing. I am informed that large quantities are being shipped to Europe for that use." Mr. A. I. Root, of Medina, Ohio, and Mr. L. C. Root, of Mohawk, N.Y., both speak of Alsike as the most valuable variety of clover for hay and pasturage and recommend its cultivation as being of the first importance to bee-keepers. Statements testifying to the unequalled value of Alsike clover, both for hay and grazing purposes, and as a most valuable honey-bearing plant, might be indefinitely multiplied. I cannot too strongly urge the bee-keepers of the United States to provide abundance of this forage for their bees, both by sowing the seed on their own premises and also by inducing their neighbors to cultivate this variety of clover as the best for all purposes.

Sweet Clover (*Mellilotus alba*) abounds in this locality. This is a hardy plant, of wondrous persistence, continuing in bloom from about July 1st until killed by frost. It is adapted to almost any kind of soil. In this part of Illinois it grows in rich soil by the wayside, or in deserted stone quarries with equal luxuriance. As the plant will grow without any cultivation in by-ways and waste places, wherever the seed can obtain a foothold, and is a perennial, it is rightly reckoned among the number of excellent and cheap bee-forage plants. Sweet clover will endure drought well. During the long drought of last season bees in this neighborhood would have been entirely without resources for many weeks together had it not been for Sweet Clover. The quality of the honey is excellent, and under

ordinary conditions the yield is altogether satisfactory. Much apprehension has been felt among farmers lest it become a noxious weed. Observing how readily the seed is carried in the mud on wagon wheels and horses' feet in the spring, when the roads are bad and the entire space in the highways is used for travel, belief has obtained that the fields would soon be invaded. Careful and continuous observation of the facts for five years past has convinced me that fears of trouble from this source are groundless. In but one instance have I seen Sweet Clover invade a plowed field, and that was for a distance of three rods on both sides of an old road leading into the field and the seed had been carried in on wagon wheels. This plant being a biennial is easily exterminated when desirable. I would recommend bee-keepers to provide abundance of this forage by scattering the seed in waste places and by the roadside. Sweet Clover is much more sightly and useful, and less objectionable, in every way, than the weeds which ordinarily cover the roadsides.

Pleurisy-Root (*Asclepias tuberosa*) is a honey-bearing plant indigenous to nearly all parts of the United States, but its growth has not been encouraged for the reason that its value to the honey-producer has not been generally known. The plant is a perennial; the top dies and rots, a new growth springing up each year. It is commonly regarded as a harmless prairie weed. The deep red blossoms hang in clusters. The plant is very hardy and of rugged growth, growing luxuriantly in all kinds of soil. The honey is of the finest quality both as to color and flavor. Mr. James Heddon, of Dowagiac, Mich., speaking of Pleurisy, says: "If there is any plant, to the growing of which good land may be exclusively devoted for the sole purpose of honey production, I think it is this; I would rather have one acre of it than three of Sweet Clover. It blooms through July and the first half of August, and bees never desert Pleurisy for basswood or anything else. The blossoms always look bright and fresh, and yield honey continuously in wet and dry weather. Bees work on it in the rain, and during the excessive drought of the past season it did not cease to secrete nectar in abundance." I have had some observation and experience with the plant, and, having secured seed, I expect to test it in different kinds of soil next season.

For two years past I have cultivated a plot of Motherwort (*Leonurus cardiaca*), and I prize it highly as a honey plant. Bees work on it continually all day, and every day, unless it is raining quite hard. The summer of 1885 it continued in bloom six weeks. Last summer it

bloomed but was soon ruined by drought. At the annual meeting of the North American Bee-Keepers' Association held in Detroit in December, 1885, a committee, of which I was a member, was appointed by the association to investigate the merits of a new plant being cultivated by Mr. Chapman, of Versailles, N. Y., who was present and represented that the plant was of unusual value to honey producers. Being instructed by you so to do, I met with other members of that committee at Versailles, on the 28th of July. I herewith enclose a copy of the report which I prepared in behalf of that committee, together with a letter of Mr. A. E. Manum, president of the Vermont Bee-Keepers' Association, which I presented to the North American Bee-Keepers' Association at its annual meeting held in Indianapolis, Ind., October 12, 13, 14, 1886.

My experience with the plants furnished for observation at this station was nearly identical with that of Mr. Manum. Fifty-two plants arrived here by express, fifty-one of which came to maturity. Plants were furnished to Prof. A. J. Cook, Lansing, Mich.; T. F. Bingham, Abronia, Mich.; W. F. Clarke, Guelph, Ontario, and Mr. Van Dom, Omaha, Nebr., each of whom highly recommend it as possessing unusual value as a bee-forage plant.

From the Rural Californian.

BEE-KEEPERS.

THE number of persons engaged in bee-keeping in this vicinity is diminished year by year, and from various causes there is reason to believe that the number will still grow less. One reason is that honey commands so low a price that even the efficient and successful bee-master can realize much more on the time and money expended in almost any other calling or industry. But the great drawback is the scarcity of skilled, reliable help in the apiary. To successfully work bees, the work must be done in time, and exactly on time and must be done neatly and expeditiously, otherwise heavy and irreparable losses occur. To find an educated bee-keeper, I mean educated in and to the business, is quite a task, and judging from our exchanges the same state of things exist throughout the United States.

To find some one who claims to know all about bees, and ready to go to work at two dollars a day and boarded would not be difficult; but when you examine the candidate and it turns out that his father kept the bees, and that all the candidate for two dollars a day and board ever did with the bees was to drum a tin

pan in swarming time to keep the bees from going to the woods. One begins to think that the dark ages are coming instead of the millennium promised. It seems to us that the U. S. Experiment Stations ought to turn out annually a class of young men educated in the business, and the several State Universities so richly endowed by the Government, both State and National, could aid somewhat in this direction and furnish a good supply of intelligent workers for the apiary.

From the British Bee Journal.

Honey-producing Flowers and Plants.

DOUBTLESS most of the readers of your valuable and esteemed *Journal* are aware that much has appeared in its columns in reference to many kinds of flowers and plants which are more or less valuable as honey-producing plants, and some of the accounts given appear very contradictory. I think if our friends were to give us a few more particulars respecting the kind of soil and the treatment the various kinds of plants require to make them honey-producing, the apparent contradictions would be much lessened. I may add that I take a very great interest in the *Journal* and also in growing many kinds of plants which have been recommended from time to time in its columns, some of which I find entirely useless as bee-plants in my soil.

With your permission I will illustrate, in some small measure, my meaning, and to do this I will describe the soil, and follow on with a few different kinds of plants. The soil, then, is a rather strong and stiff kind of clay, top soil, and clay subsoil; it is very bad to work if much is done to it in wet weather; but if dug up rough and allowed to get well frosted, it works very well. I find that a good coating of burnt earth of any kind answers better than manure for a time and makes it work much better and prevents the cracking which often occurs in dry weather.

Now let me give a few remarks respecting the plants which I have tried upon this kind of soil. First, Borage; this I find to be the best kind of all plants which I have tried; it grows very strong, each plant growing to about 3 ft. high, and many of them, where they have room, will measure 5 ft. through, and this will be always in bloom from the middle of June until the sharp frosts come and kill it, and it is also very thickly covered with bees all the time the weather permits them to fly; there is no slackness, and they visit it from morning till night; I have often heard them flying about it when it has been too dark for me to see them, and I believe they col-

lect large quantities of the very best samples of honey from it. I find the bees leave nearly everything for it. Just to prove this; there is a meadow between my apiary and where these said plants are grown, and last summer when the Dutch clover was in full bloom I walked about the meadow several times, but I could see there were very few bees upon it, while the borage was one mass of bloom and bees, as though there were many hives hidden beneath the plants.

Next to the borage I find *Nepeta Mussini*, This is also a very excellent plant for bees, and is visited nearly, if not quite, as much as borage. It does not grow so high as the borage, and would suit those who had not much room to grow plants, but it grows very strong with me. I have several plants which measure 4 ft. across, and only 6 in. high; the masses of bloom and bees working upon it from morning till night would surprise those who had not seen it, and I can highly recommend it to those who wish to grow flowers which will look pretty and suit their bees at the same time. I have been told that cuttings of this plant were advertised in the *British Bee Journal* at 1s. 6d. per dozen, but I did not see it myself; be this as it may I think it a very high price. To those who would like to try its value, I shall be pleased to send them a few cuttings, but not at 1s. 6d. per dozen; but I must ask them to enclose me a stamped and addressed envelope to C. H. W., Aylesford, Maidstone, or their requests cannot be attended to.

Next in value comes *Limnanthes*, which I find a valuable plant for the time it lasts in bloom, which is only about a fortnight, and then all is over until another season.

Next comes crocuses and snow drops; these are also valuable: I grow them close to my hives in large masses, and they are very pretty when in bloom. It is a pleasing sight to see the bees roll and sport in them in early spring when they cannot get anything else. This spring I took some pea-flour and put it into a bottle with a wide mouth and a perforated cap, and shook the flour over the crocuses. It was surprising to see what large quantities the bees would take away when found by them in this way. I have grown large quantities of pea-mint, but it is not worth much to the bees. I have also grown largely of wood sage; it is a rare thing to see any bees on it. *Clarkia* is also neglected by the bees, but white arabis is fairly visited until the fruit blooms appear when that is also neglected. Thyme is also a fair plant while in full bloom, but the bees only visit it for a few hours in the day. Rue: I have often watch-

ed to see if I could find a bee to settle upon it, but I never could, although it is surrounded with the bees in visiting other plants. There are many other plants which I could speak upon, but I fear I have already trespassed too far upon your valuable columns, so I beg to sum up by saying that I find my bees neglect nearly, if not quite everything for borage and *Nepeta Mussini*, the latter is quite hardy and the cuttings strike readily with a little care in the open ground.

I have a little borage and plenty of *Limnanthes* seed and shall be pleased to send a little to any one on the aforesaid terms. I may also add that in very dry weather I always give my plants, when I think is necessary, a good soaking with water such as runs from sinks and wash-houses, and the effect is very remarkable.

I beg pardon for trespassing so far upon your columns, but I hope it may be some little use to some of our bee-keeping friends, which I am sure will give you all the satisfaction you require and I shall be well paid also.

—♦♦♦—
Cuyaga Advocate.

Haldimand Bee-Keepers' Association.

THE Haldimand Bee-keepers' Association met at Nelles' Corners on Tuesday, May 31st, when the following members were present:—Wm. Kindree, President, Jas. Armstrong, A. Vanderburg, Robt. Coverdale, H. Smith, Owen Fathers, John Kindree, Elijah Kindree, Jas. Grogan, Jos. Evans, D. Rose, F. Rose, J. D. Rae, John Best, Jas. Jack, J. D. Rutherford, Geo. Best, and the Secretary.

The minutes of previous meeting were read and adopted.

The first question discussed was the marketing of honey. The President thought the best way of marketing honey was to put it up in small parcels in an attractive shape, and to offer none but the best quality.

Mr. Jack gave his views, saying that until honey was bought by large dealers the same as cheese and other produce, the price would be low.

Mr. Armstrong said marketing honey was like anything else—the best article sold more readily and brought the best market price. The best packages for the local market were pint and quart sealers, and for shipping the 60 lb. tin cased in wood was the best. Comb honey should be put in cases holding not more than 24 sections.

BEE PASTURAGE.

The President advocated the planting of alsike clover for bee pasturage; it was our best honey plant and was excellent for cattle. He did not

think it paid to plant anything for bees. Buckwheat was good for fall feeding.

Mr. Armstrong said that according to the report of the Commissioners appointed to report on the Chapman honey plant, it was the plant we needed. It was the best honey plant known for yielding honey.

The Secretary advocated the planting of sweet clover in waste places and on the roadside; it was an excellent honey plant and was decidedly nicer looking than thistles and mullein stalks.

Mr. Vanderburg advocated the planting of basswood for shade instead of maple; it was a good shade tree and one of the best for honey.

Several members expressed themselves in a similar way.

HOW TO PREPARE FOR WINTER.

The President had prepared his bees for winter in one way for several years, and had been generally successful, but this last winter he had not been so successful, and he thought he would have to change his plan. He thought he would have to resort to cellar wintering or some such plan.

Mr. F. Rose said one cause of loss in wintering bees was in putting the packing too close on top, so that the bees could not pass over the tops of the frames to their stores.

Mr. Armstrong said the first mistake in preparing for winter was in beginning preparations too late. When bees are disturbed late in the fall they fill themselves with honey and are very liable to be troubled with dysentery. If bees are prepared early, have sufficient stores and are properly protected, they will generally come through all right. The bees should be put as close together as possible; if the colony was weak the bees should be crowded on to as few frames as possible; they should be provided with good stores and well protected from the cold. He put some in a clamp, packed with sawdust and others were wintered in double walled hives, and he had not lost a single colony this winter.

REPORT OF LOSSES.

	Fall, '86	Spring, '87.
Jas. Armstrong,	80	80
W. Kindree,	64	34
H. Smith,	10	0
Robt. Coverdale,	34	18
E. Kindree,	17	9
James Jack,	13	0
A. Vanderburg,	60	26
J. D. Ray,	6	4
Jas. Grogan,	2	2
D. Rose,	80	65
John Kindree,	6	3
J. D. Rutherford,	5	2

E. C. Campbell,	23	3
G. S. Best,	4	4
W. Best,	18	12
Jos. Evans,	4	3
Geo. Windocker,	4	4
J. Vanderburg,	18	15
O. Fathers,	14	11
Edmund DeCew,	13	1

QUESTION DRAWER.

Mr. Jack said he had a lot of old comb with sour honey and mouldy, and wished to know what to do with them. Mr. Armstrong said he would give one frame at a time to a strong colony, and in 24 hours the frame would be as good as new.

Mr. Jack asked how to put in foundation so as to keep it straight. He fastened it at the top of the frame and one side, and the combs were crooked. Mr. Armstrong said it should be fastened only at the top, and the bees would fix it all right.

Mr. Fathers wished to know which is preferable, natural swarming or dividing? Mr. Rose preferred natural swarming.

On motion of Mr. Armstrong, seconded by Mr. Jack, Mr. W. Atkinson was appointed Director for Wajpole in place of Mr. Smith, removed.

Moved by Mr. Best, seconded by Mr. Fathers: That the next meeting be held at South Cayuga, on Saturday, 27 August. Carried.

E. C. CAMPBELL, Secretary.

QUERIES AND REPLIES.

UNDER THIS HEAD will appear Questions which have been asked, and replied to, by prominent and practical bee-keepers—also by the Editor. Only questions of importance should be asked in this Department, and such questions are requested from everyone. As these questions have to be put into type, sent out for answers, and the replies all awaited for, it will take some time in each case to have the answers appear.

Comparing Apiculture With Other Businesses Financially.

QUERY No. 160.—Does apiculture at this time contain any special attractions, that is, from the dollars and cents point of view, when comparing with farming, mart or other avocations?

G. M. DOOLITTLE, BORODINO, N.Y.—No.

H. COUSE, CHELTENHAM, ONT.—Nothing very special.

DR. C. C. MILLER, MARENGO, ILL.—In some cases, yes; in some, no.

M. EMIGH, HOLBROOK, ONT.—The men that have made large fortunes in bee-keeping are but few.

O. O. POPPLETON, HAWK'S PARK, FLORIDA.—To properly answer this question would require too long an article for the query columns.

PROF. A. J. COOK, LANSING, MICH.—I think it fully up with general agriculture, and have facts to sustain the opinion.

H. D. CUTTING, CLINTON, MICH.—In a strict dollar and cent view of this subject at the present time, many avocations are far ahead of bee-keeping.

S. T. PETTIT, BELMONT, ONT.—It has for those who are specially adapted to bee-keeping, just the same as the other professions have special attractions for those specially adapted to the other professions. A dollar made at bee-keeping has to be earned just as well as a dollar made at ditching or driving the pen.

ALLEN PRINGLE, SELBY, ONT.—To the man with strong tastes and special gifts in that direction, apiculture certainly has strong and special attractions esthetic as well as financial. But nine out of ten of those who have no special gifts for the vocation, attracted to it merely for the dollar and cents they think they see in it, will make a failure of it and lose money. I should think there is about one man in every 5000 on an average who has the special natural gifts for a first-rate apiarist.

DR. J. C. THOM, STREETSVILLE, ONT.—Have thought over this question for at least ten minutes and my pen is powerless to transcribe the golden visions that have come and gone in days of yore, when Adam Grimm, Harbeson and Hetherington obtained their tons of honey, and sold it for 25 or 30 cents per pound. These were so "special" that I was attracted into the business. Anyone coming here next week may purchase my apiary for a very reasonable sum and I will throw in a whole pile of special attractions and the balance of my unrealized golden visions.

POSITION OF BROOD IN CELLS.

QUERY No. 161.—In what position is the young brood placed when in the cells?

M. EMIGH, HOLBROOK, ONT.—Don't know.

H. COUSE, CHELTENHAM, ONT.—With the back downward.

G. M. DOOLITTLE, BORODINO, N. Y.—In the bottom of the cell.

H. D. CUTTING, CLINTON, MICH.—"Head on," but not standing on their heads.

PROF. A. J. COOK, LANSING, MICH.—The young larvæ lie coiled parallel to base of cell.

S. T. PETTIT, BELMONT, ONT.—In different positions according to age and development. Their last position is on their backs.

DR. C. C. MILLER, MARENGO, ILL.—At the bottom when first hatched, gradually occupying the

whole cell. But why don't you look for yourself and see?

DR. C. THOM, STREETSVILLE, ONT.—Examine a card of hatching brood for ten minutes and report in next number of JOURNAL. Heads first is the general rule.

ALLEN PRINGLE, SELBY, ONT.—The egg has no fixed position and the position seems to vary considerably from the larvæ to the perfect bees emerging from the cell. In the latter stage the position is undoubtedly horizontal. Take a frame from one of your hives, containing eggs, larvæ, and young bees hatching and make investigation for yourself, which will be more satisfactory.

SUNDRY SELECTIONS.

THE AGE OF LARVAL BEES.

GEORGE LAMBKIN.—Would you kindly inform me through your question department the way and means to acquire the age of a bee at any time from the "grub" until fully developed. I am green at the business, having but two colonies. I saw a mention made of the "grub" at four days old, on page 173 of the C. B. J., and I wish to learn how I may ascertain the age by looking at them.

We forwarded the above to the Agricultural College, Lansing, and appended is Prof. Cook's reply:—

There is no way to tell the exact age of a larva bee, any more than that of a calf or colt. The larvæ keeps growing during its five days of feeding, and that it may do so, sheds its skin at least five times. At the lapse of four days the larva is curled up in bottom of cell, and is deserted by the adult or imago bees. The only way to see and know just the age and dates is to put a piece of comb into a hive, note just when the eggs are laid, watch very closely and see when they hatch, then look every twelve hours and note size, etc. When the larva is full grown it weighs considerable more than will the bee, which it will soon become.

A. J. Cook.

Lansing, June 11th, 1887.

DEAD BROOD.

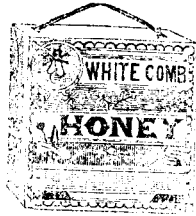
J. H. DAVISON.—I enclose and send by today's mail a small piece of brood and comb for your opinion as to the cause of the sunken brood. It is in a prosperous colony with eleven cards, ten of which are filled with brood in all stages, with queen cells and eggs in them preparing to swarm. This occurs in several of my colonies and does not show until ready for sealing or has been sealed over. You will see I have opened some caps, but frequently they will have small holes in them and slightly sunken in.

Mount Forest, June 9th, 1887.

We have thoroughly examined the piece of comb you sent containing the dead brood, which is not foul brood, and it seems it could scarcely be con-

sidered chilled brood as only a portion of the brood is dead in the cells and the strong colony you mention would not have chilled brood in it. It is not an unfrequent occurrence to get combs with dead brood in such as you found, and it has sometimes puzzled us to know why this brood is dead. Perhaps they have some larvæ and unwholesome food which has caused the difficulty. Some of the dead larva retained its shape perfectly in the sample sent. Some was almost ready to cap, some capped and some only a few days old. When the section was broken a watery substance came out varying from black to a light slate color. In some of the cells we found the larvæ almost dried up, yet not having any of the odor of foul brood and none of the sticky, stringy, elastic brown matter always found when foul brood is present.

We have just received from our lithographer, several hundred thousand labels of the various kinds, so that those who had labels on order will receive them at once. The price of these is much cheaper this year and we anticipate a larger sale than heretofore.



We have just received from the manufacturers a large lot of cartons for holding the 4 1/4 x 4 1/4 section, something similar to the engraving. Our catalogue price at the present time is \$14 per thousand, but we have purchased these at a figure that

will enable us to make them \$9 per thousand, \$1 per hundred and 13 cents per ten. When the comb honey labels A. and B. are used on them they make a handsome package for comb honey. The illustration shows you label A. None of them have tape handles, and we make the price \$1 per thousand less than if they had. A 3 cent stamp will secure you a sample by return mail.

THE CANADIAN BEE JOURNAL

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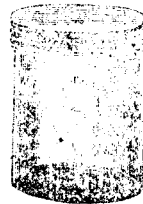
BEETON, ONTARIO, JUNE 22, 1887.

BUSINESS DEPARTMENT.

We have at Plantagenet, Quebec, two thousand sections 4 1/4 x 4 1/4 x 1 1/2 with slots top and bottom only. We will sell them at \$4. per thousand F. O. B. cars there. They are not the size which should have been sent our customer hence the reason for our offering them for sale.

In our circular we state that odd sizes in sections will be furnished at the advance of ten per cent on regular prices if ordered in quantities of a thousand and over. This of course has reference to odd sizes ranging from 3 1/4 x 4 1/4 to 4 1/4 x 4 1/4 for sections which are designed to hold about a pound. We have never until the present season manufactured any two pound sections and we have just sent out the goods in execution of two or three orders for sections 5 1/4 x 6 1/4. Sections of this size, of course we would not think of manufacturing at ten per cent on price of regular sizes of pound sections, and lest there be any misunderstanding we mention this fact. The price for any size of sections over 5x6 will be \$7 per thousand.

ONE POUND GLASS JARS, SCREW TOP.



We are just advised that these have been shipped from the glass works, and we expect them in a few days. To save breaking bulk as much as we can, we append below a table of the quantities in which the shipment is put up, with

prices per barrel. In estimating the price we have calculated the same as for full gross lots, an allowance of 15c. being made per barrel.

NO. OF BARRELS	NO OF DOZEN	PRICE
1	9	\$6.35
7	9 1/2	6.55
Bal. of Shipment	9 1/2	6.75

PRICES CURRENT

BEE SWAX

Beeton, June 22, 1887.
We pay 35c in trade for good pure Beeswax, delivered at Beeton, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 25 per cent. on Wax coming into Canada.

FOUNDATION

Brood Foundation, cut to "Jones' size" per pound...51¢
over 50 lbs.48¢
Section " in sheets per pound.....55¢
Section Foundation cut to fit 3 1/4 x 4 1/4 and 4 1/4 x 4 1/4, per lb. 60¢
Brood Foundation, starters, being wide enough for Frames but only three to ten inches deep...48¢

HONEY MARKETS.

BEETON.

Extracted.—Very little coming in. For A 1 clover or linden, 8 cents is paid; mixed flavors, 7 cents; darker grades, 5 cents—60 lb. tins, 30 cents each allowed.

Comb.—None offered, with market dull. We have about 200 lbs. on hand, No. 1 will bring 14 cents; No. 2, 12 cts. per pound. See special notices.

DETROIT HONEY MARKET.

There is no good comb honey in the market Beeswax 23 to 24c.

M. H. HUNT.

NEW YORK.

Sales of comb honey the past two months exceeds largely sales of corresponding period of last year. The large stock in dealer's hands is becoming less every day, and the present outlook is that all the better grades will be closed out before the new crop arrives. There is quite a large stock of dark and off grades of white, which we apprehend will be carried over. Prices are ruling low, we quote:—White comb, 9 to 12c.; dark comb, 5 to 7c.; California extracted, 5 to 6c.; California comb, 8 to 9c.; beeswax, 23 to 24½c. We beg to inform you that we have removed our place of business to 28 and 30 West Broadway, near Duane St., where we have better facilities for handling honey.

McCAUL & HILDRETH BROS.

EXCHANGE AND MART.

NOTE HEADS AND ENVELOPES.—We offer a special bargain just now. 20lb note heads with printed heading, \$1.75 per 1000. Envelopes, \$2.00 per \$1000. See advt. THE D. A. JONES CO., Ld., Beeton, Ont.

SMOKERS.—We have 10 No. 1 smokers and 26 No. 2 smokers in stock, which we will sell cheap to clear them out. They have the old style inside spring, but are otherwise just as good as new ones. Price, No. 1, \$1, by mail, \$1.40; No 2, 75c., by mail \$1.00. The D. A. JONES CO., L'td., Beeton, Ont.

OUR 60 LB. TINS.

We have already sold enough of these to hold a crop of over 100,000 lbs of honey. They are better made than ever, and are encased in our new style of wooden case. Have a large screw top, as well as a small one, and are thus excellent for granulated as well as liquid honey. The prices are:

Each.....	\$ 0 50
Per 10.....	4 80
Per 25.....	11 25
Per 100.....	42 00

"Charcoal" tin used in these. As a rule "coke" tin is used.

THE D. A. JONES CO., LD., Beeton, Ont

CANADIANS

Want to supply their wants at home as much as possible, but heretofore they have not been able to do so, at least for bees by the pound, frames of brood, and nuclei. We have decided to furnish them at the prices as found in the following table:

BEES BY THE POUND.

	May	June	July	Aug st	Sept.
Bees, per ½ pound	1.75	1.50	1.00	1.00	.90
" " pound	3.00	2.50	1.85	1.75	1.70
Frame of Brood	1.75	1.50	1.00	1.00	.90
2-frame nucleus..	4.00	3.50	3.00	2.75	2.50
3 " " "	6.00	5.50	4.75	4.50	4.50

Frames of brood cannot be sent alone.

Queens are not included in above prices. Choose the kind you want and add enough to price found here to cover cost of queen.

Two frame nucleus consists of ½ pound bees, two frames partly filled with brood and honey, and a nucleus hive. If wanted in either "Jones" or "Combination" hive, add price made up, and deduct 40c. for nucleus hive.

Three frame nucleus, same as two-frame, with the addition of another half pound of bees, and another frame of brood, etc.

All prices here quoted are for frames that will fit the "Jones" or "Combination" hive.. You may have whichever style you desire. Be sure to specify when ordering.

Of course the only way for the above to go is by express.

QUEENS.

	Honeybeed	Untested	Tested	Selected	Virgins
May	2 00		2 50	3 00	
June	1 50	1 00	2 00	3 00	0 60
July	1 00	90	2 00	2 50	50
August	1 00	1 00	2 00	2 50	50
September	1 50	1 50	2 50	2 75	
October	2 00		2 50	3 00	

FULL COLONIES.

	Italian	Holy Land Crosses	Carniolan Crosses	Hybrids
May	\$9.00	\$10.00	\$11.00	\$8.50
June	8.00	9.00	10.00	7.50
July	7.50	8.00	9.00	7.00
August	6.50	8.00	9.00	6.50
September	6.50	7.00	8.00	6.00
October	7.00	8.00	9.00	6.50
November	8.00	8.00	9.00	8.00

The above prices are for up to four colonies; five colonies up to nine, take off 3 per cent.; ten colonies and over, 5 per cent. Colonies as above will each have six to eight frames of brood, bees and honey, and good laying queen.

The Canadian Honey Producer

A MONTHLY BEE PAPER,

Forty cents per year and three subscriptions at one time to any address, \$1. Sample copies free. Also manufacturers of all kinds of bee-keepers' supplies. Address,

E. L. GOOLD & CO.,
Brantford, Canada.

52

BEESWAX WANTED!

Will pay 30 cents in cash or 33 cents in trade for any quantity of pure Beeswax.

Comb Foundation for sale, to suit any size frame or section. Wax worked on shares or for cash. All freight to Campbellville station C.P.R. If by mail to

ABNER PICKET,
Nassagawaya P.O., Ont.
Agent for D. A. Jones Co.'s supplies. 52-6mo.

DOOLITTLE

Wishes to say to the readers of the CANADIAN BEE JOURNAL that he has concluded to sell Bees and Queens during 1887, at the following prices:



One Colony Bees.....	\$7 00
Five Colonies.....	30 00
Ten Colonies.....	50 00
1 untested Queen.....	1 00
3 " Queens.....	2 00
1 " Queen reared by natural swarming.....	1 50
3 Ditto.....	3 00
1 tested Queen.....	2 00
3 " Queens.....	4 00
1 " Queen by natural swarming.....	3 00
3 Ditto.....	6 00
Tested Queens, 1886 rearing, each.....	4 00
Extra Selected, 2 years old each.....	10 00

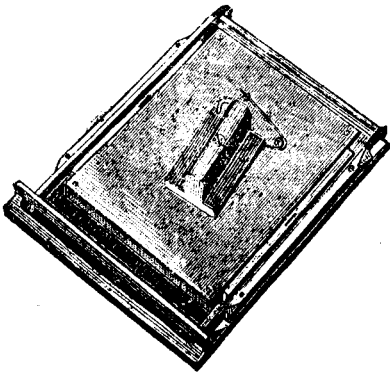
Circular free, giving full particulars regarding the Bees, and each class of Queens. Address,

G. M. DOOLITTLE,

52-6m Borodino, Onon. Co., N. Y.

THE MITCHELL FRAME NAILER.

The "Mitchell" Frame Nailer is light, handy and cheap—anyone who has a few hundred frames to nail will find it advantageous to have one of them.



For Jones' Frame S. W. Hive.....\$1 25
 " " " Combination Hive..... 1 25
 "Langstroth Frame..... 1 50

THE D. A. JONES CO.

UNBOUND VOLUMES

—OF—

The Canadian Bee Journal.

We have on hand several Volumes, unbound, of Volume I, CANADIAN BEE JOURNAL, each lacking one or two issues.

To clear them out we offer them at following low figures:

Lacking only Nos. 3 and 43.....	50 cts.
" " 3, 16 and 43.....	50 "
" " 3, 16, 43 and 44.....	45 "
" " 3, 16, 17, 43, 44.....	40 "

If wanted by mail send ten cents additional.

The D. A. Jones Co., Ld.

tf BEETON

LOOK! LOOK!! LOOK!!!

Better and Cheaper than ever. Untested Italian Queens during the month of June \$1.00 each tested, \$2.00.

LEWIS JONES.

Dexter P. O. Ont.

OLD RELIABLE HEAD QUARTERS FOR

Bees IN NUCLEI OR BY THE Pound

ITALIAN QUEENS also a Specialty. Prices very low. Six Years' experience in selling bees and queens. Hundreds of customers, and I think not a dissatisfied one. Instructive circular and price list free.

S. C. PERRY,
Portland, Ionia Co., Mich.

MUTH'S HONEY EXTRACTOR.

Perfection Cold Blast Smokers, Square Glass Honey Jars, etc. Send ten cents for "Practical Hints to Bee-Keepers." For circulars apply

CHAS. F. MUTH & SON.
Cor. Freeman & Central Avenues Cincinnati.

COMB FOUNDATION.

Headquarters in Canada.

1884 Toronto Fair, Brood 1st; Section 2nd
1884 London " " 1st " 1st.
1885 Toronto " " 2nd " 1st.
1886 Toronto " " 1st " 1st.
1886 London " " 1st " 1st.

I began the manufacture of comb foundation in 1883, and I am glad to say that I have not had the first complaint so far. Brood runs from 5 1/2 to 6 feet to the lb.; section about 11 ft.; shall commence making, weather permitting, April 15th. Brood cut to almost any size. Section foundation unless otherwise ordered is made in strips 3 1/2 x 11 1/2 and 3 1/2 x 15. I will make up wax for you, you paying all freight or express charges both ways. Brood 10 cts. per lb.; Section, 20 cts. per lb. No circulars. Prices of foundation on application.

WILL ELLIS.

St. Davids, Ont.

51-tf.

PRINTING

PRINTING

**Supply Men, Foundation Dealers,
and Bee-Keepers,**

SEND FOR ESTIMATES FOR WHATEVER
YOU REQUIRE IN THE WAY OF

CATALOGUES,

PRICE LISTS,

CIRCULARS,

LABELS,

OR GENERAL PRINTING.

A large number of cuts in stock of
which patrons have free use.

THE D. A. JONES CO. Ltd.
BEETON, ONT

up, and of the various parts made up, so that should there be any portions of the hive you do not wish you can easily ascertain what deductions to make.

Sample hive, made up.....\$2 90
Add ten per cent if you wish the hive painted.

PRICES OF PARTS.

		made up flat.
Bottom stand.....	12	09
Bottom-boards.....	15	11
Entrance blocks (two).....	03	03
Brood case, invertible, including set screws and frames wired when made up or punched for wiring in flat.....	60	45
Honey Board (wooden) slotted, invertible.....	10	07
Honey board, metal and wood, invertible	30	25
Surplus case, invertible, including wide frames and separators.....	60	50
Cover, half bee-space.....	15	12
Sections, full set of 28 in flat.....	15	15
Tin Separators, seven to each.....	10	10

The cost of one hive such as you would receive, in the flat, would therefore be (without honey boards of either description) \$2.15. Add the cost of whichever style of honey-board you prefer, and you get it exactly. If you do not designate either we shall always include the wooden-slotted one.

DISCOUNTS IN QUANTITIES.

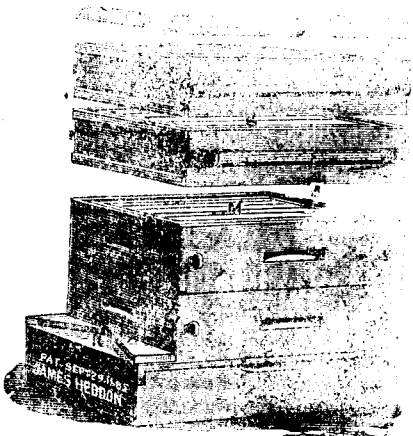
For 5 hives or more, 5 per cent. ; 10 or more, 7½ per cent. ; 25 or more, 10 per cent. ; 50 or more, 15 per cent. These discounts are off the prices quoted above, either nailed or in flat.

INDIVIDUAL RIGHTS.

We will sell individual rights to make for one's own use, and to use the new hive or any of the special features of Mr. Heddon's invention at \$5. We do not press the sale of these rights, believing that the hives cannot be made to good advantage by anyone not having the proper appliances. We will sell however to those who wish to buy, and for the convenience of such we append a list of prices of what we would likely be called upon to furnish in any event:—

Woodscrews per 100, boiled in tallow.....	\$1 25
Tap bits for cutting threads.....	1 50
Tin Separators, per 100 proper width.....	1 50
Brood Frames per 100.....	1 25
Wide " " ".....	1 50

HEDDON HIVES!



We are the owners of the patent on this hive in Canada, and we are in a position to make and sell the hive gotten up in any shape to suit the purchaser—either in flat or nailed up.

A complete working hive consists of bottom-stand, bottom-board, entrance-blocks, two brood-cases, one honey-board, two surplus cases (in good seasons we often use three surplus cases on the hive at one time) and cover. So that if you order these hives in the flat this is just what will be sent you.

Sample hives we make with the brood-frames wired and the surplus cases supplied with fifty-six 4¼ x 4¼ 7 to the foot sections. These are designed for testing the complete working hive.

In quoting prices of brood-cases and surplus cases, the set-screws, brood-frames and wide frames with their tin separators are always included, both in flat and made up. We quote the prices of sample hives made

Heddon's 1887 Circular.

NOW READY.

ALL ABOUT THE NEW HIVE.

Canadians who wish my circular to know about the new Hive, ONLY, should send to the D. A. JONES CO., for theirs, as I have sold the patent for all the American British possessions to them, and have no more right to sell the hive in their territory than have they to sell them in the United States.

Address,

JAMES HEDDON,
DOWAGIAC, MICH.

TOOLS For BEE-KEEPERS

HAMMERS.

We shall hereafter keep in stock a full line of tools suitable for bee-keepers. For ordinary use, where a person has only a few hives, etc., to nail, we have an iron hammer (with adze eye) which we can send you at 15 cents.

Then in steel hammers we have three styles all with adze eyes, which we sell at 40c., 50c., and 60c each.

Small hammers—steel face with adze eyes, just what are needed for frame nailing, etc., No. 55, 35c.; No. 52, 50c.

SCREW DRIVERS.

With good hardwood handles and of the best steel—nicely finished, round bits, in two kinds, No. 1, 5 inch bit, 18c.; No. 2, 6 inch bit, 20c.

TWO-FOOT SQUARES.

In iron squares we have two kinds—the first of these is marked down to one-eighth of an inch, and is marked on one side only, the price is, each, 20c.

The other style is marked on both sides down to one-sixteenth of an inch—price, each, 35c.

We have a splendid line in steel squares which we can furnish you at \$1.35. They are well finished and are usually sold in hardware stores at \$1.75.

TWO FOOT RULES.

A splendid line in rules we offer at, each, 18c. Then we have a nice box-wood rule at, each 25c.

HAND SAWS

Just at the present we have but one line in these—26 inch long—A. & S. Perry's make—usually sold at 75 cents we offer them for 55c.

PANEL SAWS.

These are what are often called small hand saws, and for the finer classes of the bee-keepers work are indispensable. We have started out with two lines in these. The 18 inch are of good steel (Shirley and Dietrich) and can be sold by us at 50c.

The 20-inch are finer steel—same make—that money.

PLANES.

Iron block planes, just the thing for dressing off hives, each, 75c.

Wooden smoothing planes—the best of the kind, 85c.

All the above goods are sold at prices 20 to 25 per cent. below the ordinary retail price, so that when ordering other goods you may just as well have any you want as the cost of transportation will not be any greater. These will be included in the next revision of our price list.

THE D. A. JONES CO., LD.,
BEETON, ONT.

RAYS OF LIGHT.—A new publication devoted to Bee-keeping and Poultry-raising. A number of the leading, most practical and successful Bee and Poultry-Keepers have already been secured as regular contributors. Its principal aim will be to advance progressive ideas upon the various topics of modern scientific Bee-culture and Poultry-Raising. Subscription, 50 cents a year. Sample copy free.

J. J. MARTIN & CO.,
North Manchester, Indiana.

D. A. JONES, Pres. F. H. MACPHERSON, Sec-Treas.

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MANUFACTURERS OF AND DEALERS IN

APIARIAN * SUPPLIES.

Our Circular sent free on application.

PUBLISHERS

THE CANADIAN BEE JOURNAL

FINE BOOK & JOB PRINTERS.

Sample copies free on receipt of name and address. tt

DADANTS FOUNDATION

is attested by hundreds of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenness and neatness, of any that is made. It is kept for sale by Messrs.

T. G. NEWMAN, & SON, Chicago, Ill.
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JAMES HEDDON, Dowagiac, Mich.
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CHAS. H. GREEN, Berlin, Wis.
CHAS. HERTEL, Jr., Freeburg, Ill.
E. L. ARMSTRONG, Jerseyville, Ill.
ARTHUR TODD, 1910 Germantown Ave., Philadelphia
G. B. LEWIS & CO., Watertown, Wis.
E. KRETCHMER, Coburg, Iowa.
E. F. Smith, Smyrna, N.Y.
EZRA BAER, Dixon, Lee Co., Ill.
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M. J. DICKSON, Hiawatha, Kans.
ED. R. NEWCOMB, Pleasant Valley, N.Y.
J. W. PORTER, Charlottesville, Va.
ASPINWALL & TREADWELL, Barrytown, N.Y.
BARTON FORSGARD & BARNES, Waco, Tex.
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PAUL L. VIALON, Bayou Goula, La.
and numbers of other dealers. Write for SAMPLES FREE and Price List of Supplies, with 150 COMPLIMENTARY and UNSOLICITED TESTIMONIALS from as many bee-keepers in 1887. We guarantee every inch of our Foundation equal to sample in every respect.

CHAS. DADANT & SON,
HAMILTON, Hancock Co., Ill.

TEN YEARS AT QUEEN REARING.

ELLISON'S SPECIAL PRICE LIST OF
ITALIAN QUEENS AND BEES.

	WARRANTED FERTILE.			each.
	APRIL.	MAY.	JUNE.	
Single Queen	\$1.25	\$1.00	\$1.00	
6 to 12 Queens	1.00	90	75	"
1 TESTED Queen	2.50	2.00	2.00	"
6 to 12 Queens	2.00	1.75	1.00	"
1 Two Frame Nuclei Untested Queen, \$2.50.				

Special discount to dealers, and 10 cents & oz. postage to Canada.

W. J. ELLISON,
Stuyvesant, Sumter Co., S.C.

APIARIAN SUPPLIES

MANUFACTURED BY

W. T. Falconer - Jamestown, N. Y.

Are unsurpassed for **Quality** and fine **Workmanship**. A speciality made of all styles of the **Simplicity Hive**. The "**FALCON** **Comb** **Hive**", with movable upper story, continues to receive the highest recommendations as regards its superior advantages for **wintering** and **handling** bees at all seasons. Also manufacturer of "**FALCON**" **BRAND** **FOUNDATION**. Dealer in a full line of **Bee-Keepers' Supplies**.

Send for Illustrated Catalogue for 1887. Free.

W. T. FALCONER.

BEE-KEEPER'S GUIDE.

OR

MANUAL OF THE APIARY

15,000 SOLD SINCE 1876.

The fourteenth thousand just out. 10th thousand sold in just four months. More than 50 pages and more than 40 costly illustrations were added to the 8th edition. It has been thoroughly revised and contains the very latest in respect to bee-keeping.

Price by mail, \$1.25. Liberal discount made to dealers and to Clubs.

A. J. COOK, Author & Publisher.

State Agricultural College Lansing, Mich

SEND FOR SAMPLE OF MCKENZIE'S NEW SECTION HONEY HIVE.

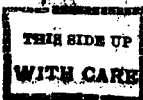
Positively the best, most practical and easiest of manipulation of any hive made (takes the "L" frame) also his extracted honey hive much improved.

Prices for S. H. Hive \$1.50 Flat \$2.50 made up.
Ext'd H Hive 2.00 " 3.00 "

His new Honey Cloth a perfect success, cheap and easily made goes with each hive. Each have all complete including sections. The A. I. O. P. Sections, Frames, Smokers, Foundation, Honey Crates, Honey Knives, Extractors &c., &c., made and kept constantly in stock, sold at current prices, all first class.

Address, WM. MCKENZIE,
Box 46, Aylmer, Ont.

Shipping Labels.



These are for pasting on the tops of cases.

Price, per 10. .5c. by mail, 6c.
" " 100. 25 by mail, 27
" " 1000. 1 50 by mail, 1 60

THE D. A. JONES CO., LD., Beeton, Ont.

SUPPLIES FOR THE APIARY

J. S. SMITH, TRURO, N. S.

Manufacturer and dealer in Bee-keepers' Supplies, Hives, Smokers, Sections, Foundation, Bees, Queens, etc. Also breeder of ten varieties high class poultry. Eggs \$1 per setting.



Flat Bottom Comb Foundation.

High side-walls, 4 to 14 square feet to the pound. Wholesale and retail. Circular and sample free.

J. VANDEUSEN & SONS,

SOLE MANUFACTURERS,

SPROUT BROOK, MONT. CO. N. Y.

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IS THE ONLY PAPER PUBLISHED IN CANADA IN THE INTERESTS OF THE

Poultry, Pigeon, and Pet Stock Fraternity.

Circulation always on the Increase. Subscription only \$1.00 per year Address,

H. B. DONOVAN,
20 Front St., East, Toronto.

FRIENDS IF YOU ARE IN ANY WAY INTERESTED IN

BEEES AND HONEY

We will with pleasure send you a sample copy of our **SEMI-MONTHLY GLEANINGS IN BEE-CULTURE**, with a descriptive price-list of the latest improvements in Hives, Honey Extractors, Comb Foundation, Section Honey boxes, all books and Journals, and every thing pertaining to bee-culture. Nothing patented. Simply send your address on a postal card, written plainly
A. I. ROOT, Medina, Ohio

FOLDING BOXES

Our **Cartons** for enclosing Section Honey are the best and lowest priced in the Market. Made in one piece. With or without Tape handles. With Mica fronts or without. In the flat or set up. Printed or not. Any way to suit. We are bound to satisfy you. We have just put in special machinery for their manufacture and are prepared to fill orders promptly. Price List **Free**. Samples 5c.

PRICE LIST OF 4 1/4 x 4 1/2 x 2 OR THINNER.

	500	1000	5000
Advance Printed.....	\$ 4 50	\$ 7 75	\$32 50
Same with Mica Front.....	5 50	9 25	40 00
Same with Tape Handle.....	5 25	9 00	38 75
Same with M.F. and T.H.....	6 50	10 50	46 25

14 oz. **Glass Jars** \$5.25 per gross, including corks and labels. 1 1/2 and 2 gross in a case. Catalogue of Honey Labels Free.

A. O. CRAWFORD, S. Weymouth, Mass.

TORONTO ○○○ SUPPLY ○○○ DEPOT.

AT BEETON PRICES.

MR. JOHN MCARTHUR,
845 Yonge Street, Toronto, Ont.

For the convenience of bee-keepers living within driving distance of Toronto, and inside the city limits, we have established an agency at the above address. All orders which he may be unable to fill promptly will be sent on to Beeton and be filled from here. He will have on hand a supply of hives, sections, foundations, knives, tins, etc.

THE D. A. JONES CO., Beeton.