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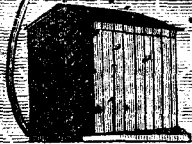
VOL. IV, NO. 6

1888

MAY 2

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

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WEEKLY

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Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited.

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When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both may, however be enclosed in the same envelope.

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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THE BEE-KEEPERS'

REVIEW.

If ever a bee paper was started with a place ready and waiting for it, the **REVIEW** has had that luck. The first number was welcomed before it was read, it took its place easily and at once among the things that justify their own existence, and need no probation before being fully and finally accepted. It is an imitation of none of our contemporaries, and it is on a level with the best of them, both in the merits of its general scheme and in typographical neatness. This, we believe, will be the verdict of the intelligent bee-keeping public, and, as proof of the correctness of this belief, we append the following, which we select from a large number of similar congratulations:

"I am greatly pleased with the **REVIEW** and think it very creditable. It must take the lead with intelligent bee-keepers." R. L. Taylor, Lapeer, Mich.

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"**REVIEW** No. 1 lies before me, and I must say it is like a chestnut—brimful of meat, properly cooked and served in first-class palatable order. Before reading it I thought: 'What can friend Hutchinson say that has not already been said by others?' But you have given us a feast of fat things. If the **REVIEW** keeps up to the standard of No. 1, it has a bright future before it—W. E. Clark, Oriskany, N.Y.

"I like the **REVIEW** in every respect. There is more in it than in any other bee journal I have ever seen—that is, more real meat, or what is called meat, as I see it. The whole matter, including "ads," is tastefully arranged. I cannot conceive who would not instantly subscribe, at the price, after seeing a copy."—John Heddon, Dowagiac, Mich.

"I congratulate you upon the excellence of the **REVIEW**. It will be an honor to the craft and to our State, if you maintain it at the starting pitch—and I do not doubt but you will. At first I was sorry. What we want is fewer, better papers. But I forgot for the moment who was at the helm. I believe you will succeed, and if you do not go to the top you will stride well up."—Prof. A. J. Cook, Agricultural College, Mich.

"Sample copy of the **REVIEW** is at hand, and I was agreeably surprised, to say the least. As a rule, journals in starting (turnish at first a sickly discouraging appearance that stamps FAILURE all over them. What a contrast in beholding the **REVIEW**! Why, friend Hutchinson, the first glance at it shows its success. And then its contents—the very cream of advanced bee literature. I read it through before laying it out of my hand.—E. Kretschmer, Coburg, Iowa.

Four numbers of the **REVIEW** have been issued. The January number discusses "Disturbing Bees in Winter," the February issue is devoted to "Temperature" as applied to bee repositories, the March number takes up the subject of "Planting for Honey" while "Spring Management" is the special topic of the April issue. The special subject of the May **REVIEW** will be "Hiving Bees." Besides these special discussions, which are carried on by the best bee-keepers of the country, there are several pages in each issue devoted to short, sharp, concise editorials upon current apicultural topics. An exhaustive review of Mr. Cheshire's book, "Bees and Bee-Keeping, Vol. II," is begun in the March **REVIEW**, and will be finished in the May number. If you wish for the cream of this great work, read these three numbers. Price of the **REVIEW** is 50 cents a year. Samples cheerfully sent upon application.

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"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. IV. No. 6

BEETON, ONT., MAY 2, 1888.

WHOLE No. 162

EDITORIAL

The committee of the Toronto Industrial Exhibition which has charge of the apiarian department, met on the 24th ultimo and arranged the prize list for the coming fair. We are informed that it is the largest list ever prepared, some \$300 in cash prizes being offered, besides several silver and bronze medals. The Industrial Exhibition Association have decided to supplement the \$25 grant offered by the Ontario Bee-keepers' Association, making up the total prize of \$50 for the neatest and most tasty display of honey.

* * *

Owing to the lateness of the season it has been decided to extend the time for receiving tenders for the supply of queens to the O.B.K.A. to the tenth of May, and their delivery to the tenth of July. We are so informed by Mr. McKnight, the chairman of committee.

OUR OWN APIARY.

WEATHER.

AFTER the 25th of March we did not have a warm spring-like day and it seemed to us that spring had forgotten to come. The night of the 24th of April was pleasant and warm, the 26th was even better and the day following that was so warm that

one was reminded of mid-summer. To-day (Saturday) we are to have another such a day and the bees are fairly booming. On the morning of the 26th we carried out all our bees and placed them on their summer stands. They came out in pretty good shape on a closer examination. They are now being looked over and we will be able to give further results next week. In the home yard we finished the examination yesterday.

We found only two colonies queenless and somewhat light in bees. These two were doubled up with the next weakest colonies and nearly every hive was overflowing with bees, and with one or two exceptions all had plenty of stores and some to spare. We went over every hive, cleaned out the dead bees, saw that there were sufficient stores, took away any spare combs that the bees could not cover and saw that they had queens. In one or two instances we found the combs mouldy and the stores were sour, one the natural result of the other, all this giving the hive an unwholesome and un-homelike smell. Bees do not like this state of affairs any better than we do ourselves. We, therefore, took clean, fresh hives and lifted the frames which were not mouldy, over into them, gave the bees fresh stores and left them in a nice snug condition.

DIFFERENT KINDS OF HIVES.

In this yard we have about an equal number of Jones' single walled and the

new combination hives. We were, therefore, anxious to see just how the two hives compared as to wintering qualities and our decision up to the present time is that there is little difference. The bees in the combination hives were as strong and had as much stores as those in the Jones hive in comparison to the number of frames in each hive. Some of the Jones hives had twelve combs covered with bees and the combs were filled with brood. We always considered that the deep frame was the best for wintering and though we have used the combination for the past two seasons yet we had not wintered a sufficient number of them to be able to form a decided opinion. We now have no hesitation in saying that for wintering qualities they are only equal to the deep frame and as a rule as seven or eight frames is about the number which is used for wintering on this smaller hive gives good results. There is no extra space behind the division board to be kept warm and all the heat is let right in the brood-chamber where it is most needed. Bees are bringing in pollen from the soft maple. A tree stands in front of our office door and the blossoms are just covered with bees.

FEEDING.

If you find that your colonies are short of food, and have not sufficient to carry them through till nectar can be obtained from the flowers see that stores are furnished them. The kind of stores will be the next consideration. Opinions differ as to the kind and the manner of feeding. We shall give our own opinions however, and these we think will be found pretty general.

If you have sealed store combs they will be the best. Scratch the cappings and put the frames adjacent to the brood nest.

If not, and none of your colonies can spare any, sugar syrup is the next best thing, fed above the top of cluster. Make the syrup thinner than for fall feeding. Place it in any kind of feeder that can be utilised over the frames and cover up warmly so no heat can escape. The Canadian Feeder is about the best for this purpose of any that we know of. Feeding at the entrance prevents the

free ingress and egress of the bees. There is no use in feeding in "littles," give them enough in the upper feeder at once to carry them right through till the honey-flow commences. If they find only sufficient to carry them along from day to day, and know not from whence the next day's supply is to come they will be "chary" about going into brood rearing. Dr. Miller says in this connection:

"If sufficient was not given in the fall, the next best thing is to furnish it as soon as possible after taking out in the spring. It may seem that if a colony lacks two pounds of having enough honey to last till the harvest, that it can make no difference whether the honey is in the hive till the time actually comes when they need it, but from watching the bees I think it does make a decided difference. I don't know whether the bees reason that the supply "in sight" is abundant and that they can go in heavy on raising brood, or where there is some other reason, possibly the honey filling up so much that would otherwise be air space, said honey acting as an equaliser of heat. I like best to have on hand some sealed frames of honey to supply any needy colony. However it may be in other localities, I have found generally that with an excess of stores in the hive, eggs and brood will always be found in as large quantities as the bees can care for. So I do not resort to stimulative feeding.

We agree with the good doctor in the above, so that if your colony has say ten to fifteen lbs. of honey, and are in a good, clean, sweet condition on the first examination in spring, just fix them up good and warm and let them pretty well alone.

Speaking of this in the last number of the *Review*, Mr. J. H. Robertson says:—

When our bees have received the thorough care necessary to successfully winter them, no spring management has given us so much satisfaction as the "let-alone" plan. If left in the bee-house until all danger of severe weather is over and soft maple is in bloom, but little more work is required than to keep control of robbing and see that each colony has a good supply of stores.

This is just what we did this spring. Left the bees in their winter quarters till the weather came out warm, and until soft maple is in bloom.

FOR THE CANADIAN BEE JOURNAL.

Spring Management, or, How I do it.

WINTER on summer stands. This winter I commenced with ninety-five, lost eight, have eighty-seven on stands now. I think the most of them are in good shape. Weather not favorable for handling bees, excepting two or three days so far, so I have not examined many. My first work is on a nice, warm, still day when bees are flying nice and they will not become benumbed in the shade. I go to the hive, take out cushion, lift off quilt, and take stock, that is, a practical bee-keeper can tell at a glance how many frames are to be left in that hive. I use dummies or fillers, or division boards, or whatever you feel like calling them. I take out all the frames that the bees do not need, being careful to leave plenty of honey. I often pass a knife over the cappings and bruise so the bees will fill up (and think, honey is coming in in great shape), and feed the queens, to push things, for June is coming, and the larger the gang the better on the roth of June is Will's apiary. Weak stocks in June for comb honey is not worth a nickel. Well, I take out all surplus combs, extract the honey, set them away in empty hives; then I move the combs and bees over to one side, move the dummy up, put on your quilt, put in your cushion, and lay on your cover. Finished for one week. I am into next week now. Take off cover, cushion and quilt. If they need an extra frame, I go to those empty hives and take out a frame; draw back your dummy, move back some frames, and put the empty comb in the center of the brood nest. If they are not crowded a little be careful about giving too much room. Keep them crowded to force the queen out to the end of the frames. Frames half full of brood are no good for business, and do not forget to use your own judgment a little, for experience is the best teacher.

WILL ELLIS.

St. David's, Ont., April 18, 1888.

THE HEDDON HIVE.

THE *American Bee Journal* a short time ago allowed the following questions to be asked with reference to the Heddon hive.

1. How many hives have you used and for how many seasons?
2. Who made the hives and from what pattern?
3. What style of hive do you now prefer, all things considered?

The following answers were received by that *Journal* to the above questions.

So much has been said and written for and against the Heddon hive that we think in the interests of bee-keepers generally we will only be doing our duty to insert the answers which we do

Names of persons who are using the New Heddon hives.	Number in use of those hives	No. of seasons.	By whom were the hives made.	From what pattern	The hive which I now prefer—every-thing considered.
O. F. Ahrens.....	30	2	myself	Heddon	Langst'h
P. J. Bates.....	20	2	"	"	New Hed
P. Baumhauer.....	3	1	"	"	"
H. Bierman.....	20	2	"	"	"
J. W. Bittenbender.....	190	3	"	"	"
W. Bitzer.....	2	1	"	"	"
W. E. Bogardus.....	20	2	"	"	"
C. E. Boyer.....	75	3	"	"	"
Joshua Bull.....	5	1	"	"	"
H. C. Burgess.....	4	1	"	"	"
Louis F. Burgess.....	10	1	"	Heddon	"
Wm. S. Buss.....	12	1	"	Newm'n	"
K. E. Cardner.....	12	1	"	Heddon	"
W. F. Clarke.....	4	2	Jones	"	"
J. M. Cheeseman.....	7	2	myself	"	Chat'q's
J. Deegan.....	t	1	"	"	New Hed
A. M. Downs.....	30	2	"	"	"
E. P. Ewing.....	5	1	"	"	"
G. W. Fair.....	2	1	"	"	Old Hed
W. E. Forbes.....	1	2	Heddon	"	"
O. Foster.....	2	1	myself	"	Langst'h
D. Furness.....	80	2	"	"	New Hed
I. R. Good.....	25	1	"	Newm'n	"
W. H. Gowan.....	25	1	"	Heddon	"
D. S. Hall.....	45	2	"	"	"
N. L. Hanson.....	10	1	"	Newm'n	"
U. Harmon.....	30	2	"	Heddon	"
S. H. Harrison.....	4	2	"	"	"
A. J. & E. Hatfield.....	40	1	"	"	"
E. Hawley.....	10	1	"	"	"
S. Heath.....	6	1	Bish	Heddon	"
L. C. Hipple.....	25	1	myself	"	"
F. L. Howse.....	35	1	"	Falcon'r	"
W. Z. Hutchinson.....	75	3	"	Heddon	"
J. E. Jones.....	10	1	Heddon	"	"
E. D. Keeney.....	2	1	myself	"	"
W. J. Keller.....	8	1	"	"	"
W. C. King.....	35	2	"	"	"
Lighty & Zeigler.....	20	1	"	"	"
D. B. Lindsey.....	60	2	"	"	"
T. W. Livingston.....	7	1	"	"	"
A. McDourell.....	1	1	"	Newm'n	"
A. McWain.....	t	1	myself	Heddon	"
E. R. Magoon.....	24	1	"	"	"
T. N. Marquis.....	15	1	"	"	"
J. H. Martin.....	50	2	"	"	"
G. J. Maloney.....	30	2	"	"	"
M. S. Morgan.....	t	1	"	"	"
W. C. Nutt.....	26	2	"	Newm'n	"
J. J. Owens.....	18	2	"	Heddon	"
A. A. Parsons.....	12	2	"	"	"
H. B. Paterbaugh.....	16	2	"	"	"
W. H. Putnam.....	49	1	"	"	"
J. Richardson.....	1	1	Heddon	"	"
John W. Rider.....	t	1	myself	"	"
L. H. Robey.....	1	2	Heddon	"	Simply
J. Rogers.....	19	1	myself	"	New Hed
C. M. Ruland.....	2	1	"	Newm'n	"
P. Schaub.....	13	2	"	Heddon	"
F. H. Seares.....	140	2	"	"	"
E. M. Slocum.....	21	2	"	Newm'n	"
C. F. Smith.....	19	1	"	Heddon	"
G. Smith.....	49	2	"	"	"
C. Selveson.....	27	2	Lewis	"	"
J. J. Snyder.....	10	2	myself	"	"
M. L. Spencer.....	14	2	"	"	"
W. B. Stephens.....	50	2	"	"	"
F. B. Stiles.....	40	2	"	"	"
W. A. Stolley.....	50	2	"	"	"
Sykes & Sons.....	18	1	"	"	"
W. C. Seymour.....	10	2	"	"	"
R. L. Taylor.....	350	2	"	"	"
M. Thomson.....	8	2	"	"	"
O. H. Townsend.....	41	2	"	"	"
T. L. Von Dorn.....	40	2	"	"	"
W. G. Wadsworth.....	t	1	"	"	"
F. B. Wilde.....	35	1	"	"	"
J. Woodmansee Jr.....	27	1	"	"	"
A. Wortman.....	30	1	"	"	"

References.—† Indefinite figures.

* Undecided, on account of poor season.

In all, there are 79 answers from persons having 2,183 of these hives in use; of which 58 prefer the "New Hive;" on account of the unpropitiousness of the past season, sixteen have not decided upon its merits; while preferring it for the production of comb honey, six cannot decide upon its adaptability for the production of extracted honey; and five prefer some other hive.

It must be understood that this is not here given in the *interest* of any person, but for the information of bee-keepers in general.

Let us say just here, as the editor of the *American Bee Journal* has also said, that we do not publish this report in the interest of any one person but for the intimation of bee-keepers in general.

OPEN-SIDED SECTIONS.

ON page 48 we gave an article with extracts on the above subject, and we since observe in *Gleanings* an article from Dr. Miller, in which he claims that so far as he can see "the slots add nothing to the heat of the cluster, and give no freer access to the sections." His argument is that the openings at the top and bottom give sufficient communication for the number of bees that are going to be able to occupy any one section. But to give it in his own words:

"Suppose we turn our attention for a minute to one of the central sections in a super, having separators and no slots in the sides of the sections. Let us take away the wood from the sides of the section, making slots there. Have we thereby made that section any warmer? Hardly. What have we gained by the slots? We have given free communication from side to side. But what advantage is there in free communication? There is free passageway up and down for all the bees that can work in the section, and what will be gained by giving the bees a chance to travel further by a circuitous route?"

You observe the Doctor has taken the central row of sections. Let us take an outside row. It is reasonable to suppose that the outside rows are not nearly so warm as the central ones. And it is acknowledged that as a rule the honey in the centre of the super ripens faster and is cured more completely, because of more heat. They are ready to take off first, then, but they must stay a little longer till the outside rows are ready. Now what is going to help the outside

rows. Open-sided sections. Why? For two reasons: The heat is going to be more evenly distributed and the whole super will be ready to take off sooner. When the centre row of sections are filled and capped there will still be lots of bees that continue carrying their loads of honey right up into the filled sections, while the outside rows are still only partially filled. They perhaps expect to find new sections or more room given them in some way. If there is none, and the sections open only top and bottom, they must either go down and over or up and over into the next row. All this takes time and the side opened sections obviate the whole difficulty. It is probable that at times just as good results may be had from sections open top and bottom only, but is such the case the season around? The open-sided sections cost no more than the others, and no one has yet pointed out any serious objection. Then why not have them. We would like to hear from a number that have used open-sided sections—there are a lot of such in Canada.

For the Canadian Bee Journal.

MANIPULATION.

EASY AND PROFITABLE IN WELL-ADAPTED HIVES.

ALTHOUGH I was present at the Detroit Convention of bee-keepers in December, 1885, where Mr. Heddon first called attention to the system of management with his "new hive," I heard him too imperfectly to get any adequate conception of his invention. My head troubles returning soon after, and lasting nearly two years, I lost all interest in bee-matters, and it was only in February last (my attention being recalled to this hive), that I was impressed with the idea that it might be a great step in advance, in practical bee-keeping. From the very start I saw that many *abused* the power of manipulation given by the Langstroth hive, because they failed to see that progress lay in reducing the necessary manipulations to a minimum. In the latest work of our honored Dzierzon, his wonderful acquaintance with the habits of bees, seems, to Americans at least, to be greatly wasted upon a hive and system of management which would make our honey cost more than it would sell for.

To manipulate with whole cases of frames instead of by single frames, seemed to me a very wide extension of the principle so much insisted on in my first work on bees. published in 1882.

that a hive ought not to require one single unnecessary motion either for the bee or its owner.

Influenced by such considerations, I determined to see the actual workings of the Heddon hive in his apiary at Dowagiac, Mich. As the weather on my arrival there was too cold to handle bees, I carefully studied the hive. From what I know of the habits of bees, and construction of hives, just as a short examination of a Munn hive shows me that it is worthless either for amateur or practical uses—so the longer I studied the Heddon hive, the stronger was my belief that it would accomplish what he claimed for it.

As soon as I could see bees handled in these hives, and could handle them myself, all my favorable prepossessions were fully confirmed, and knowing how little I could count upon the continuance of health, I felt that in justice to the public, as well as to Mr. Heddon, I ought to put this opinion on record, by writing to some of my bee-keeping friends.

I think that no one who knows how I was deprived of the legitimate fruits of my own invention, will be surprised that I should feel it to be a positive duty to use what influence I may have among bee-keepers, to secure for Mr. Heddon both the honor and the profit to which he seems, not only to me, but to so many of our best apiarists at home and abroad, to be justly entitled.

Suum Cuique—"TO EACH HIS OWN."

From my earliest recollections my dear father enjoined this as a sacred duty upon his children—and I believe that all who know what I have done and written in connection with bees, will bear me witness that I have not departed from the spirit of his teachings. It was this strong sense of duty to give honor to whom honor is due which made me desire, even before I had any correspondence with Mr. H. about his hive, to go to Dowagiac and judge of it for myself. I will now describe some of the most important things that I there witnessed:

1. Before I saw the easy working of his frames even in hives which had been occupied for several years by bees, with close-fitting uprights (I prefer this French term to our word, ends), I could not conceive how they could possibly be handled as rapidly or safely as the Langstroth frames. The propolis trouble alone seemed to forbid this. Judge of my surprise then to find, that by leaving no space for bees to get between the uprights and the cases holding the frames, and by keeping the touching surfaces of the uprights so closely pressed together by the thumb-screws, as to leave no joint open wide enough for bee-glue, he

had actually reduced the propolis propensity of the bees to a minimum!

My knowledge of the trouble and delay in manipulating all the previous styles of close fitting uprights, led me to think that it would be quite difficult to handle the Heddon frames. To find that I was mistaken on this point was a greater surprise than the way in which the propolis difficulty was met. In handling Langstroth frames of the standard depth (and still more with deeper frames), bees are often hurt between the uprights and case—a thing impossible with the Heddon arrangement, while at the same time the uprights of his case—as they go down into the hive when a frame is put back—only push the bees away instead of pinching them between their closing surfaces. When the Langstroth frames are put back, even by experts it often happens that they must re-adjust the spacing, to get room for the last frame, whereas, the Heddon frames always go to their proper places. As a matter of fact then, the Heddon frames can be safely handled with more rapidity than any in previous use; thus securing all the advantages of close-fitting uprights without their old inconveniences.

2. I was actually charmed to see how quickly the queen can be found in this hive. There is really no place where she can hide behind either the uprights or the frames; or on any of the frame pieces, or on the combs, which by a single inversion of their containing case, have all been made to completely fill the frames. Alarmed, now, by the introduction of both light and smoke into such a shallow case, she usually glides at once to the bottom-board to hide herself between it and the bottom of the frames. If she does not show up when the case is lifted off, she can, as I have seen, be readily shaken out from such shallow and uniformly straight combs so as to be easily secured.

To catch a queen with so little trouble, and with no danger of robbing, seems almost too good a thing to be believed, until it is actually witnessed, and the mere thought that such a feat is possible, must recall to many of our readers their weary queen-hunts in the old styles of hives under the boiling sun and with the hateful annoyance of robber bees.

3. Another important feature in this hive is the remarkable rapidity with which the exact condition of affairs, in the brood-chamber, can be ascertained. In less time than is needed to remove and replace a single frame in other hives, a Heddon brood section can be lifted off, and from its being shallow enough to allow a good view of the combs from both above and below, even without shaking out the bees, the quantity

of brood and honey, and everything else essential to be known, having been learned by a few glances of an expert's eye, the section may be replaced before any robbing can be done.

4. The shape, size and lightness of the parts composing this hive greatly facilitate all necessary manipulations in the apiary, and must therefore make it peculiarly acceptable to all who for any reason wish to economize their physical strength. A weak person who cannot handle many hives needs it, and the strong man also needs it, that he may make all his strength tell, in the management of the largest possible number of colonies.

The simple way of holding the frames so firmly in place by thumb-screws, admirably fit this hive for safe transport. I use the word transport in its widest sense, so as to include every movement of any of the parts, from the simple lifting off a section, to the carrying of a hive with bees for any purpose, to any distance, however short or long. I have seen a frame filled with comb, tossed about the room, and thrown out of a second-storey window—also a whole section of such frames slid and even kicked about a room, and all without any injury to the combs.

6. I am strongly impressed with the great advantages, which seem to me must certainly be gained by one of the leading features of Mr. Heddon's invention and system of management, viz., the *divisible brood chamber*—but as this is a point on which the season (April 17) gives me no opportunity to speak from actual observation, I relegate it to the many able bee-keepers who can speak from their own experience, remarking only that when capacious brood chambers and surplus apartments are desired for any purpose, they can all be readily obtained in the best form by the Heddon hive and system.

7. Perhaps there was no feature in the Heddon hive which surprised me quite as much as the facility it affords for the use of the extractor. Indeed, when I first gave it my attention, I was so ignorant of its scope as to suppose that it was a conceded point that it could only be used profitably for the production of comb honey! This is one of the points where I cannot speak from my own actual observation; but those in Dowagiac, who have had the largest experience, affirm confidently that in a given time they can actually extract more honey by the Heddon system than they could with their Langstroth hives, and give these reasons for their belief:

Nearly all the bees can be easily shaken out of the combs of the extracting sections, and these quickly carried to a safe place, where the few bees not shaken out will soon leave them. The

eight frames of a section may then be turned out in a standing position upon a table by a single motion, their regular shallow combs uncapped with unusual rapidity, and all their contents extracted at the same time; and nearly all of this work can be done *under cover*. Need anything more be said on this subject, to those who have followed the tedious routine of shaking and brushing off the bees from each separate comb in the sun, and exposed to robber bees?

8. It need hardly be said to any good bee-keeper, who has carefully weighed the above points in favor of the Heddon hive and system of management, how greatly it reduces in an apiary the liability of robbing. Those who have the Heddon hives will have no use for any beentent when they can so easily find the queen or can shake out the bees from any section when necessary, so examine it at leisure under cover.

In reading this enumeration of benefits to be had from Mr. Heddon's invention, it might seem that if I have not exaggerated them, any one of a number of them must be worth to a person who handles many colonies, at least the price of an individual right to use his patent.

I can only say that I have sought to avoid all over-statements, and have, in addition to what I could see with my own eyes, questioned at much length some who have largely handled the Heddon hives, and have been from the beginning familiar with every step in the progress of his invention. I would therefore not be afraid to risk my reputation for sound judgment as to the great value of the forward step which he has taken, even if I did not know that my opinion accords so well with the experience of many who have had the opportunity to put the hive and system to the test of practical use.

It is proper that I should say before closing this article, that I have carefully examined the claims of the Heddon patent, and the reasons which have been thought by some to invalidate them. Neither my acquaintance with the literature of bee-keeping, nor my familiarity with our patent laws, nor any facts which have been alleged against the Heddon patent, lead me for a moment to question its validity.

History seems often to repeat itself. In my own day, how often it was declared to be enough to invalidate the claims of the first person who had invented a hive, which commended itself at once to those most largely engaged in the production of honey—how often, I say, it was thought enough, to show that some one before me, had used a frame in a bee-hive. It mattered nothing that I never claimed to have been the first to invent a movable frame—that my frame and way of using it were fully described, and

that the few frames which antedated mine were of no practical account—still the attempt was for many years persisted in (I sometimes shudder now at the bare recollection of those weary years) to persuade the bee-keeping public that my patent was invalid.

On all sides patents sprung up, *using*, BUT NOT CLAIMING the most valuable features of my invention, and one bee-paper, having then the largest circulation, went so far as to accuse me of perjuries, which, if committed, ought to have sent me, in my old age, to the penitentiary. Thus were the feelings of my wife and children outraged, and even where no credit was given to such atrocious accusations, many honest bee-keepers were so misled as to believe that they had a perfect right to the free use of my movable frames, or were induced to pay for infringing patents the money which would have provided amply for me and mine.

I do not think that the bee-keepers of this country will ever suffer a similar outrage to be perpetrated either against Mr. Heddon or any other honest inventor and benefactor.

L. L. LANGSTROTH.

Dayton, Ohio.

For the Canadian Bee Journal

NOTES FROM NOVA SCOTIA.

LIVING in this remote portion of our fair land, and far removed from the prominent apiarians of the day, I am, notwithstanding, more than interested in their welfare and the progress of the science of bee culture. To me it has a fascination above and beyond mere dollars and cents. I take great pleasure in reading the CANADIAN BEE JOURNAL of each week, and would not do without it on any account. I am Canadian enough to prefer our own; especially can I say this of your paper, not merely because it is Canadian, but because of its contents—both editorials, contributions and reports.

Being situated in this part of the continent, I am not personally acquainted with any prominent bee-keepers, but for all that I feel a blood relation to many of them, and often amuse myself in trying to imagine what their respective temperaments are. I suppose that if I were to attend one of your associations (the N.A.B.K.A. for instance), I would require smoked glass eye protectors in order to preserve my unsophisticated optical organs from injury. However, had I the privilege of uniting myself to that association, I have no fear but what I could feel myself at home.

The honey season of 1887 was very poor; did not obtain half a crop, with scarcely any swarming where colonies were given a super of sections.

This winter has been mild so far. The lowest the mercury has fallen was 2° below, and then only twice. The lowest it has been since February was 18°. Bees are in fine condition, and have consumed but little stores. To-day the temperature is 50°, and maple sap is running lively, which indicates an early spring—in fact the sap has been going up for some time past.

Now, Mr. Editor, pardon me if I presume too much, but I would like to speak of some things that have come up in the JOURNAL. What seems to be the matter with Mr. Clarke and the genial doctor? Surely the reverend gentleman has the *bona fide* right to say that he still has faith in his theory—if theory you may call it—without being taken so severely to task for it. Whether this theory is Professor Cook's discarded bantling or not I don't know, and if it is or is not it makes no difference. The facts remain the same. If bees do not hibernate I don't know what you call it. Some colonies will not consume more than their own weight of honey or not even that. Do not these colonies hibernate, merely moving about among the hives?—and opening them carefully does not break up the hibernation. I have moved hives about, thumping them against others and opened them, too, without any bad results. Five minutes after having removed them all was as quiet as before. I have given considerable attention to the subject, and have the same opinion as Mr. Clarke. I have found, too, that when in a proper condition light does not disturb them, and that is the strongest point in the argument. Where light and handling does not disturb, it is evident that they are in a far different condition from what they are in the summer season. I had begun to look upon Mr. Clarke as my doted champion, when lo! these hopes were almost scattered to the winds by reading his criticism upon the first number of Mr. Hutchinson's paper. Surely he wrote that article in a fit of ill humor, and did not mean what he wrote. That was not written in the spirit of a Christian gentleman. But the best have their failings, ministers as well as bee-keepers.

We have been much amused down here by watching the performances between Mrs. Chaddock, Prof. Cook, and Mr. Allen Pringle; but come, Mr. P., that talk about "belligerent ladies" "having their own way," "women not open to conviction," etc., was very ungallant, to say the least. Mrs. Chaddock should be treated with the consideration due to a lady—to say nothing about an equal. But I will defer, and not get myself entangled in a maze of scientific points, and, no doubt, be obliged to beat a hasty retreat before Mrs. Chaddock's sweeping arguments,

Prof. Cook's cool facts, and Mr. Pringle's sarcasm.

The Dominion exhibition is held in our metropolitan city, Halifax, this year, and no doubt we will have the pleasure of meeting you there. Come on, Mr. Editor, and plan it so that you can make your return trip through our beautiful valley *via* St. John, home. And come prepared to stay over a day or two with us, too.

H. H. ROACH,
Acadian Apiary.

Clarence, Ames Co., Nova Scotia, April 7, 1888.

We are glad to hear from you away down in Nova Scotia, and to know that the BEE JOURNAL interests you down there so much. Such letters as yours add to the interesting matter in the JOURNAL, and we know our readers in Western Canada are pleased to hear from you too. The N.A.B.K.A. would gladly greet you as a visitor, if you could find time to attend any of their annual conventions. You wouldn't find a more whole-souled lot of fellows in the world than gather together at these conventions. It leaves a pleasant spot in your remembrance for months. Not only is it a pleasure, but a most profitable time is always had.

You are right when you say that everybody has failings of their own, and we have to learn the great lesson of charity in order to overlook many of the sentences which are written while the writer is in a "sour" or a belligerent mood. Many times things are written which, when the writers see them in print, they would give anything to recall. The writer oftentimes cuts out objectionable paragraphs or words, but even then lots of things will slip in which are not Christian-like. What we like to do is to cut out all *personal* references, and this is very hard to do at times without cutting the article in two where the indignant man cut off the tail of the dog, close behind its ears.

From the Bee-keeper's Review.

Securing Workers for the Harvest.

"Go to the ant thou sluggard, consider her ways and be wise." It is evident that Solomon had not given much attention to the methods of modern bee-keeping, or this little kernel of wisdom would have been rendered: "Go to the bee thou short-sighted bee-keeper, consider her ways, and let your

methods of management be in accordance with her wise instinct."

If I were to mark out methods for the most successful spring management, I would advise beginning the previous season, soon after the close of the honey harvest, to make preparation.

The stores that are gathered during the summer, prepared with such precision, sealed and protected with so much care and in so perfect a manner, are for the development of workers for the coming harvest and not for the use of the bees that gather and prepare it. Is it not the part of wisdom, to be instructed by these suggestions, and lend our assistance to these our friends, in making their preparations in their own time and way?

The measure of our success, in fact, something of the methods to be employed in spring management must depend very much upon the condition in which the bees come through the winter. If the winter leaves them in good condition, with abundant stores and a young prolific queen, we need have no fears for their future prosperity. The workers for the coming harvest will be abundant and on time, and much fussing, doctoring and vexation of spirit be avoided. Some of the best and strongest colonies I have ever seen at the beginning of the honey harvest have been the result of the let-alone management.

It is useless to think of building up colonies in the spring and expect them to be strong and overflowing with bees at the harvest, without abundant stores. These may be supplied in the natural way in stores prepared by the bees, in quantity sufficient for the season, or we may pinch the bees through the winter on just enough to escape starvation and then supply them artificially with food from day to day to build them up. The latter plan I think is, at best, but short-sighted economy. It is a fact that could not well escape the notice of any observing bee-keeper that those colonies having abundance of natural stores are the most quiet, and wasteless of their vitality in useless activity in frequent flight, than colonies stinted in stores.

If there is a particularly active colony in the apiary, you will almost invariably discover it short of stores.

The methods that commend themselves to us as the most favorable are such as will preserve the vitality and prolong the lives of our honey gatherers, and at the same time secure a moderate and uniform development of brood, rather than such as will excite and stimulate to rapid brood-rearing, to be again wasted in useless activity.

I think it is an open question among our best apiarists as to the best time to set bees out of

winter quarters in the spring. With me the successful wintering of all normal colonies from the time of setting them in until they are put out in the spring is attended with very little uncertainty. But I am compelled to admit that there are some seasons that I am not quite certain about the best time of setting out in the spring.

I find that it is no unusual thing, in colonies wintered inside, to find brood-rearing suspended from some cause, after it has been well advanced, suggesting that the favorable conditions for breeding had been exhausted. These suggestions are further strengthened when, on setting out such colonies, the queen resumes laying and the normal conditions are restored. Those bee-keepers who report their bees always breeding up strong and filling the hive with brood until late in the season, in confinement, have been able to secure a very desirable condition; one which I am free to admit that I have not always been able to secure. It is my experience that within the average season, brood rearing will begin earlier with colonies wintered inside than with those on the summer stands, although this is not invariably so. It is desirable when once it is begun that it should be continued uninterrupted, and when I discover that breeding is being suspended I cannot feel satisfied to leave the bees long inside, but set them out, and after they have had a cleansing flight and quenched their thirst, which I suspect may be the principal cause of the interruption in breeding, I set back the light colonies if I think it too early for them to remain on the summer stands.

When bees are first set out they are usually strong enough, if wintered well, to protect the brood against serious injury for several days of severe cold. The most serious results are to be feared from the brood being chilled late in the season when the bees have diminished and the proportion of brood is much greater and consequently much more exposed. I have no fears of serious results from cold on strong vigorous colonies at any season of the year; it is only those that are not strong and vigorous that give me the most anxiety.

It is a matter of economy then to have no light colonies, but we are compelled to accept things as we find them, and we find light colonies in the spring in most apiaries, and to care for such colonies is the part of spring management that causes the bee-keeper the most trouble. The use of the division boards for such to contract the brood nest, with natural stores placed back of it to which the bees have access, is undoubtedly among the best methods for building up such colonies; and if natural stores are not

at hand, combs filled with sugar syrup or honey may be used instead. I have never been quite able to understand why practical bee-keepers should advocate spreading the brood to induce extra efforts on the part of the queen. The very opposite practice, that of keeping the brood as compact as possible, has been much more satisfactory with me under all circumstances. Even when using the division board I prefer to add the combs, as they are needed, to the outside of the brood-nest.

To sum up the whole matter, then, in order to have strong colonies overflowing with bees at the beginning of the honey harvest, have them strong and well provided when they go into winter. They will then usually come out strong in the spring and build up and be strong for the harvest.

Strong colonies at all seasons are the key to success in bee-keeping.

H. R. BOARDMAN.

East Townsend, Ohio, March 31st, 1888.

From the San Francisco Call.

THE HONEY ANTS.

THE honey ant is a small red insect, exceedingly demonstrative and active and found particularly in Texas and Mexico, and in considerable numbers in Colorado.

Their nests are prominent mounds in some cases, and again are low heaps spread over an area of twenty or thirty square feet, forming a community. As a rule they are nocturnal, working at night, though I have seen them at work in the bright sunlight at three o'clock in the afternoon and marching in a line perhaps seven feet wide and forty feet in length to a cottonwood tree, up which they passed, long and slender, coming down larger and full of a pure white liquid. It would strike even a casual observer as curious that these ants were carrying home a liquid that could hardly be stored away, ants not having, as a rule, storehouses for liquid provisions; but the honey ant overcomes this difficulty in a decidedly novel manner. Certain of the ants, either by agreement or selection, are utilised as receptacles for the honey food supply and become literally honey bottles. They are kept by the others in a separate apartment, about six inches long by four in height, that is a storeroom. Here, if the nest is carefully opened the ants or honey bottles will be seen hanging on the wall looking like ripe currants. The modus operandi that results is this as follows: The ants, at least the small ones, forage for food and find it in some cases in what are known as galls, curious enlargements of growths, often seen on trees and formed by the eggs of an insect

having been deposited in the wood, the latter growing about it and allowing in some cases an escape of liquid that is greatly esteemed by ants and certainly tastes like honey. Filling their bodies with this material, the workers proceed to the storeroom where the bottle ants are kept and deliver it up to them, the receptacles receiving so much that they become distended to an enormous extent, as we have seen, and are incapable of movement to any great degree. The bodies upon examination seem particularly adapted for the purpose, being covered in their normal condition by several plates that spread apart when the abdomen is distended. How long these living bottles hold their store is not known—undoubtedly indefinitely. When the other ants want to draw their rations they proceed to the dark chamber, and a supply is forthwith given up. Such an arrangement seems to show that ants have much more intelligence than they are given credit for, as all their movements cannot be instinctive. In Colorado their nests are quite common about the Garden of the Gods, and the tunnels that they form often penetrate considerable distances into the rock, and the work in arriving at the chamber where the honey bottles are hung is one of no little labor.

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.

Perpetual Summer For Bees.

QUERY No. 181.—Is southern latitude or perpetual summer more favorable for bee-keeping than the central, or more northern part of North America?

O. G. RUSSELL—I think not.

DR. C. C. MILLER—I doubt it.

H. D. CUTTING—I should prefer a more central location to either extremes of north and south.

M. EMIGH—I think not. The bee-keepers in the south have their draw-backs as well as those in the north.

G. M. DOOLITTLE—As to wintering, yes. As to honey getting, no. Latitude 38 to 44° north, gives the best returns in honey of any place in North America. All in all I would prefer about 40° north latitude.

S. CORNEIL—Fruits and cereals attain their highest perfection when grown near their north-

ern limit, and the same is claimed by some for honey. I have never seen much southern honey and do not know how it compares with ours.

ALLEN PRINGLE—Without having had experience in the Torrid Zone in bee-keeping, I should think the most favorable place would be a temperate climate where the desired flora abounds; say nine months in the year, and the perplexing wintering problem becomes practically no problem at all.

PROF. COOK—I think, perhaps, not on the whole; for though there is no danger in wintering, I think, on the whole, the honey from colder regions is finer. I may not be warranted in this opinion by facts. I have just received some very nice honey from Cuba, and I have eaten as fine honey from Southern California as I ever tasted.

Best Latitude for Wintering.

QUERY No. 182.—Do bees winter better in a central latitude where they can get occasional flights, or in a more northern latitude where the temperature is steady cold and the atmosphere dry?

DR. C. C. MILLER.—I think in a central latitude.

G. M. DOOLITTLE.—Central every time, as the winters of the past prove abundantly.

S. CORNEIL.—If I had a choice I would prefer the latter conditions.

O. G. RUSSELL.—I think they usually winter better where they can get occasional flights.

H. D. CUTTING.—From the many reports from year to year it is said bees will winter better in a central locality.

PROF. COOK.—Most decidedly, unless we supplement the unfavorable condition north with intelligent skill.

M. EMIGH.—If bees are wintered in the right kind of a repository they can stand it six months without a flight all right; if you mean outside wintering I would take the central, otherwise the northern.

ALLEN PRINGLE.—As a matter of fact I believe they do winter better in the central or milder latitude, but in my opinion we shall soon get the necessary conditions of successful wintering so nearly perfect that the "steady cold" will cease to be an obstacle.

Humidity for Wintering.

QUERY No. 183.—Which is best for indoor wintering, or anywhere, a dry, medium or damp atmosphere?

DR. C. C. MILLER.—Perhaps medium.

O. G. RUSSELL.—I prefer a medium

H. D. CUTTING.—I prefer a dry atmosphere.

M. EMIGH.—A dry atmosphere suits me best.

G. M. DOOLITTLE.—Medium damp is my preference. Temperature has more to do with the matter than dryness or moisture.

S. CORNELL.—Medium. In Germany bees are said to suffer through want of water in winter. I have not the data necessary for a comparison of the relative humidity in this country and Germany.

PROF. COOK.—Theory says a dry one. And as we think of it we would conclude that theory knew what she was talking about, but when we see bees with good food and in proper temperature wintering perfectly in a very dry atmosphere we wrinkle our foreheads and say we don't know.

ALLEN PRINGLE.—Weak colonies will, as a rule, winter best in a dry atmosphere, while good strong colonies, with other conditions right, can be wintered in a very damp atmosphere. *Medium is the safe rule for all kinds of colonies.* It is difficult to regulate the humidity of the atmosphere, but when it gets too damp we can raise the temperature.

SUNDRY SELECTIONS.

M. EMIGH.—Mercury 55° to-day. Will set out a few bees this afternoon.
Holbrook, April 25th, 1888.

J. F. DUNN.—21st of April and no pollen yet. Spring very backward and very little brood rearing going on and old bees dying off fast. Cellular winterers will come out ahead this year, I think. My bees on summer stands are very good, very bad and middling, the first named class in the majority, however, glad to say.
Ridgeway, April 27, 1888.

LOST TWO OUT OF SIXTY-TWO.

J. V. BATTRAM.—I set my bees out on the 8th and 9th and it was fine for a few days, but has been cold north wind since, and some days they do not fly at all and would have been as well in the house. Wintered in a log house, but could not keep them quiet with temperature above 40° although I gave them plenty of fresh air. Lost four out of sixty-two colonies. All seem strong, but three had to double up to two, so in all I lost two. Have not examined them all as yet, as it is too cold. They got pollen on the 11th or 12th. I hear some man here has lost half of his bees; weather too cold as yet.
Bridgen, April 24, 1888.

CAPPINGS

WHICH FELL INTO OUR RIPENING CAN.

JOSEPH WHITSTONE.—The report by C. H. Corbett, Kingston, is the best one I have seen for a long time. It will, I think, induce a friend to go into the business.
St. Mary's, April 20, 1888.

CONVENTION NOTICES.

The North Middlesex Bee-Keepers' Association meets in the Town Hall, Ailsa Craig, on May 24th, at one o'clock.—FRANK ATKINSON, President, Ailsa Craig.

The next meeting of the Welland County Bee Keepers' Association will be held in the Grand Jury room, Court House, in the town of Welland, on Monday, May 7th, commencing at 10:30 a.m. All interested in bee culture are urgently invited to attend.—J. F. DUNN, Secretary.

THE CANADIAN BEE JOURNAL.

THE D. A. JONES Co., Ltd.,

PUBLISHERS,

WEEKLY, \$1.00 per Year, Postpaid.

BRETON, ONTARIO, MAY 2, 1888.

BUSINESS DEPARTMENT.

We are receiving daily orders for samples of the new Reversible Honey Board and Reverser to suit all sizes and shapes of hives, necessitating a great amount of work to get them ready. It would be no more trouble if we could get out say fifty at a time, to make any odd size than to sell them from ordinary stock, at least, not much more. We want to be agreeable and we are very anxious to make the arrangements for every one who calls for them, even if they only want one or two. We feel satisfied that another season will bring large orders for them, but in the busy season we cannot possibly take the time to get them out, except at a little extra charge. We have, therefore, made prices to suit these odd sizes, as will be found on reference to the advertisement of honey boards and reversers in another column.

PRICES CURRENT

BEEWAX

Beeton, May 2, 1888

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

Breed Foundation, cut to "Jones' size" per pound	... 45c
over 50 lbs.	" " " " 45c
Section " in sheets per pound 35c
Section Foundation cut to fit 3½x4 and 4½x4.	per lb. 50c
Breed Foundation starters, being wide enough for Frames but only three to ten inches deep	... 45c

APIARY FOR SALE.

THAT I may be entirely free for the Lord's work, I offer my complete Apiary (25 stocks), outfit and lot for sale at a very low price.

F. P. CLARE,
Oliver's Ferry, Ont.

PRACTICAL BEE-KEEPER.

In time to begin season to go to the North-West in charge of 50 colonies of Bees. Apply to

The D. A. JONES Co., Ltd.
REETON, ON T

BEES FOR SALE.

One full colony of pure Italians, \$5.00; ten colonies, \$4.75 each; twenty-five colonies, \$4.50 each. Full colonies of Hybrids with queens from pure Italian stock, 50 cents less than Italians. Safe arrival guaranteed and references given when wanted. Address

JULIUS HOFFMAN, Canajoharie, N.Y.

ELLISON'S EARLY ITALIAN QUEENS!

	April.	May.
1 Untested Queen.....	\$ 1 15	\$1 00
3 Queens	3 00	2 50
1 Tested Queen.....	2 50	2 00
3 Queens.....	6 00	4 50

Many of the above will be reared in the height of the swarming season and all will be nearly, if not quite as good as the best swarming queens. In every case safe arrival and satisfaction guaranteed

W. J. ELLISON.
Stateburg, Sumter Co., Sth. Carolina.



Italian Queens!

Untested, May, \$1.25; June, \$1.60; July, 90 cts. Send for 16 page ILLUSTRATED PRICE LIST of Bees, Queens, Chaff Hives, Barnes Foot-power Saws, Langdon Miter-Boxes, and Apiarian Supplies. Address

WILLIAM E. GOULD,
Fremont, Newaygo Co.
Michigan.
5-3 mos

Headquarters in the West for Pure Italian
BEES & QUEENS.

Two-frame nucleus, untested queen, in May, \$2.50; June, \$2.25; after, \$2.00; 3-frame, in May, \$3.50; June \$3.00; after, \$2.50. With tested queen, add 50c. more. Bees, per lb., in May, 90c.; June, 75c., after, 60 cts. Untested queens, in May, \$1.00; after, 75c.; six, \$4.00. Tested, in May, \$1.50; after, \$1.25. Write for circular of Bees, Queens, Sections, Foundation, etc. 5-3 mos. Address **JNO. NEBEL & Son, High Hill, Mo.**

PURE ITALIAN BEES FOR SALE!

Full colony in A. I. Root's Simp. hive \$6.00. Two-frame nuclei \$3.00. Three-frame \$3.50. Each nucleus and full colony to contain a tested queen and plenty of bees and brood, all on wired L. frames, combs drawn from fdn. Hives new, everything first-class. To be shipped in May. Safe arrival guaranteed. I shall do by all as I would be done by. Address

N. A. KNAPP
ROCHESTER, LORAIN CO., O.

EGG KEEPING PROCESS

Best in America to preserve Spring and Summer Eggs for winter use. Will keep eggs good and sound for over 18 months; pays for itself on a few dozen. I have sold spring preserved eggs in winter for highest prices as quick as fresh eggs. Will do all I claim it to do. References given (as to the merits of this process) if required. Sent with full printed directions for \$3. Send money order if possible. Address

E. HORLEY, Vienna, Ont., or
677 Clinton Ave., Detroit, Mich.

BEES

ITALIAN BEES and Queens, 3 frames nuclei, full colonies at the very lowest rates and safe delivery guaranteed. Send for catalogue to **E. T. Planagan, Belleville, Ill.**

-Comb Foundation-

Having purchased one of the best machines I am ready to receive wax to manufacture or buy. Pure Italian bees, queens and comb foundation for sale. Agent for the D. A. Jones Co. supplies. Can ship by C.P. Ry or H. & N.W.R. (now G.T.) and by Dominion or American Express.

H. COUSE.

Cheltenham, Ont., April 5th, 1888.

BEES! BEES!! BEES!!!

40 colonies bees for sale. These bees are in fine condition with lots of honey. Two-storey hives with eight racks in each story \$8.00 per colony. Single story hives with 12 racks \$7.00 per colony cash, or P.O. order to accompany order. Address

W. H. SANFORD.

Tottenham, Ont.
Reference Bank of Hamilton, Tottenham.

TESTED ITALIAN QUEENS.

Before June 15th, \$1.50 each, after, \$1.00 each; untested, 75 cents each. Six for \$4.00. Bees for sale by the pound. Nuclei or full colonies. For prices, write for what you want.

I. R. GOOD.

NAPPANEE IND.

Italian Queens, Queens.

Also bees by the lb., and all kinds of bee-keepers' supplies at rock bottom prices send for price list of 1888 now out.

E. E. SMITH.

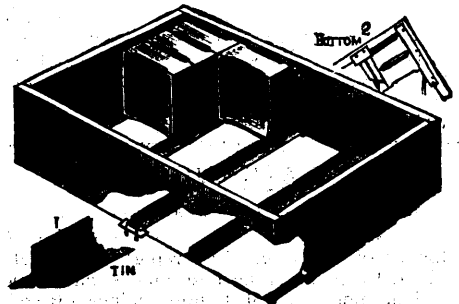
BOX 72, TILBURY CENTRE, ONT.

Formerly Smith & Jackson.

COMB FOUNDATION.

I manufacture the best, or as good as the best foundation in Canada. Comb foundation for sale to suit almost any sized frame or section. Pure bees wax worked on shares or for cash. Samples with prices on application. No circulars. All freight to Ridgeway station, if by mail to

Henry B. Parker
MORPETH, ONT.



For this I super or any other bee-keepers' supplies send to

J. & R. H. MEERS,

Illustrated catalogue free. Box 94, STRATFORD.

USEFUL GOODS.

The following is a partial list of small wares, tools and stationery, which we carry in stock. Additions are constantly being made. We buy in very large quantities, and are therefore able to quote rock bottom prices. There is always something in these lines you want and they can be enclosed with other goods or sent by mail. The amount of postage is marked opposite each article, except those excluded from the mail.

5 CENT ARTICLES.

Postage.	Per 10 lots.	Per 25 lots.
3 Awls, brad, three assorted without handles.....	\$ 75	\$1 00
1 Blotting paper, 10 sheets note size.....	40	88
3 Bag for school books.....	45	1 05
2 Brush, round, for paint, paste or varnish.....	40	95
1 Chisel handle.....	45	1 10
8 Crayons, colored drawing.....	45	1 00
1 Eraser combined ink and pencil	45	
1 Letter openers, nickle plated, very handy.....	40	
1 Memo books, 32 pages, stiff cover.....	40	90
Note paper, 1 quire, extra quality, ruled or plain.....	40	80
2 Pad 100 sheets scribbling paper	45	
1 Pass books 3 "Railroad" 16 p. paper cover.....	45	1 00
1 Pass books, 2 Steamboat 32 p p.	45	1 00
1 Penholders 2, cherry, swell....	40	
1 Ruler, hardwood, flat, graduated to $\frac{1}{8}$, bevelled.....	45	1 05
1 Ruler, for school children, three for 5c.....		
2 Scribbling books, 200 pages....	40	90
Tacks, cut, 2 papers 1, 2 or 3 oz.	45	

8 CENT ARTICLES.

Butter stamps 3 or 4 inches... \$	75	\$1 75
File, 3 corner, 3 or 4 inches....	75	1 75
Ink-well, glass, safety, cannot spill.....	65	
Mucilage, good sized bottle....	70	
Oil cans, zinc.....	65	
1 Pencil, automatic indelible....	75	1 75
6 1 doz. Lead Pencils, No. 852, very good.....		
1 Time books for week or month.	75	

10 CENT GOODS.

Bill fyles, harphape..... \$	90	2 10
2 Book of 50 blank receipts with stub.....	85	2 00
2 Book of 60 blank notes.....	85	2 00
2 Brush, flat, for paint, paste or varnish.....	80	1 90
3 Butter spades 9c. each.....	80	1 90
2 Boxwood pocket 1 foot rule....	90	2 10
Chisel, firmer $\frac{1}{2}$ inch.....	90	

Postage.

	Per 10 lots.	Per 25 lots.
2 Clips for holding letters, etc...	90	2 00
Due bills, 100 in book with stub	85	1 80
2 Envelopes, 3 packages, white, good, business.....	95	
2 Files, 3 cornered, 5 inch.....	90	2 10
3 Lead pencils, 1 doz. plain cedar Fabers 581.....	90	
2 Lead pencils 3 red and blue....	90	
2 Note heads, pads of 100 sheets..	90	
Paint brush, No. 7.....		
2 Pocket note book, 3x5 in., 125 pages, stiff cover with band grand value.....	90	
1 Rubber bands, five, large.....	80	
1 Ruler, brass edged, flat, hardwood, bevelled, graduated to $\frac{1}{8}$ inch.....	95	2 25
4 School bag, medium size.....	90	2 10
Tacks, cut, 3 packages, 4 oz....	90	

13 CENT ARTICLES.

2 Belt punches, Nos. 2, 3, 4, and 5	1 25	\$8 00
File, 6 inches long, flat.....	1 25	2 90
" 5 " " round.....	1 25	2 90
Shce knives, 4 inch blade..	1 20	2 75

15 CENT ARTICLES.

Chisel, firmer, $\frac{1}{2}$ and $\frac{3}{4}$ in.....	1 45	
12 Dextrine, $\frac{1}{2}$ lb. pkge. for pasting		
Glue, 1 lb. ordinary.....	1 30	
Hammer, iron, adze eye.....	1 45	
3 Lead pencils, 1 doz., good quality, Faber's 971.....		
5 Note paper, 5 quires, 3 lbs., extra value.....	1 40	3 35
Paint brush, No. 5.....		
6 Rubber bands in gross boxes.		
For queen nursery.....	1 30	
4 Rule, 2 foot, a splendid line....	1 40	3 40
Screw driver, 5 inch, round bit, hardwood handle.....	1 40	
2 Statement heads in pads of 100	1 20	
Tack hammers, magnetic.....	1 40	3 30
12 Papeterie, 24 sheets fine note paper and 24 square envel. opes in neat box.....	1 40	3 35

18 CENT ARTICLES.

Bit, best make, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	1 65	4 00
Glue, LePage's liquid, with brush	1 65	
Oilers, automatic.....	1 60	

20 CENT ARTICLES.

Postage.	Per 10 lots.	Per 25 lots.
Bit, best make, $\frac{3}{8}$, 7/16, $\frac{1}{2}$, 9/16..	1 90	4 50
Brass traps.....	1 85	4 50
Brushes, flat, 2nd quality, $1\frac{1}{2}$ in. paste or varnish.....	1 80	4 25
Chisel, firmer, inch.....	1 90	
Ebony ruler, bevelled for book-keeper.....	1 90	4 50
File, 8 inch, flat, round or 3 corner.....	1 90	
Glue, 1 lb. light, broken.....	1 75	
3 Lead pencils, 1 doz. 201 good value, rubber tipped.....	1 80	
12 Paint brush, No. 3.....		
Papeterie, "Jubilee" containing 24 sheets, ivory notes, 24 square envelopes.....	1 80	
6 Pens, gross box "292 school"....	1 80	
1 Pocket memo book, indexed....	1 90	
Screw-driver, steel, 6 inch rd bit	1 90	
Square, iron, grad. to $\frac{1}{2}$ one side	1 90	
Thermometer.....		

25 CENT ARTICLES.

6 Cards, 50, ladies' or gents' visiting. Piries' super ivory...	2 00	4 50
2 Duplicate order books, with black leaf.....	2 00	4 50
File, 10 inch, flat.....	2 25	
8 Lead pencils, 1 doz. Faber's H, H. B., B. or B. B.....	2 30	
Paint brush No 1.....	2 30	
Rule, 2 foot, boxwood.....	2 30	
Tape Lines, "Universal," 3 ft..	2 30	

30 CENT ARTICLES.

3 Bills payable and receivable....	2 85	6 90
Bits, best make, 10/16, $\frac{3}{8}$, $\frac{1}{2}$	2 85	6 90
250 Envelopes, Ladies', square.	2 80	
5 Foolscap, 2 quires, extra quality	2 80	
4 " legal, in pads of 100 sheets.....	2 75	6 00
Inkwell, square, glass, bevelled edges.....	2 75	

35 CENT ARTICLES.

Bit, best make, inch.....	3 40	8 20
Hammer, steel face, for light work.....	3 30	
Square, grad. to 1/16 both sides	3 30	

40 CENT ARTICLES.

Foolscap, 5 quires, good quality	3 75	
Hammer, No. 50, steel head, adze eye.....	3 60	
6 Pens, gross box, 'Bank of Eng.'	3 80	
" " Blackstone or J.	3 80	
Ruler, 2 foot, boxwood, brass bound.....	3 60	

50 CENT ARTICLES.

5 Binders, CANADIAN BEE JOURNAL	4 80	
Blank books.....		
Day book, 206 p. p. good paper, wall bound.....	4 75	
Cash " " " " " "	4 25	

Postage.

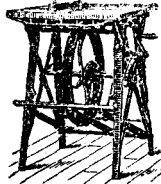
Per 10 lots. Per 25 lots

Ledger " " " "	4 25	
Minute " " " "	4 25	
Complete set, Cash, Day and Ledger, \$1.25.....		
200 page Day Book, canvas cover good paper, exceptionally low		
Carpenter's brace, pat. grip, 8 in	4 85	12 00
Envelopes, good, business size, 250 in box.....	4 00	
250 Envelopes, Ladies' square, very goods.....		
Hand saws, 18 and 20 in., best make.....	4 50	
Hammer, No. 51, steel head, adze eye.....	4 50	
Hammer, smaller, frame nail'g	4 50	

SUNDRIES.

Automatic Fountain Pen, the finest thing out; holds enough ink to last a week; always ready; can use any style of pen that suits you, and can change it as often as you wish—a marvel of cheapness—by mail, post paid, each..... 75

Barnes' Foot Power Machinery—We are agents for these in Canada, and can furnish the Combined Machine delivered in Toronto, freight and duty paid for..... 60 00



Copying press, "The Simplex," the most rapid and the easiest handled. Folds like a book and weighs but 10 lbs. With lock, \$5, without.... \$4 50

Hammer, No. 47, steel head, adze eye a most substantial implement.... 60

Hand saw, 26 inch, finest quality.... 55

Hatchet, steel, with hammer and nail puller..... 65

Lawn Mowers—The new Philadelphia pattern, as made by the Gowdy Mfg. Co., Guelph, at prices as follows:—

10 inch cut.....	5 75
12 " ".....	6 25
14 " ".....	6 50
16 " ".....	7 25

We ship these direct from the factory at above figures.

Letter books, with index, bound in canvas, 500 pages..... 1 10

Letter books, with index, bound in canvass, 1000 pages..... 2 00

Plane, iron block..... 75

" wood smoothing..... 80

Post cards printed to order, 50 \$1, 100 Square, steel, grad. both sides, usual price, \$1.75..... 1 40

Soldering outfit, consisting of soldering iron, scraper, bar of powdered resin..... 1 25

Soldering outfit, consisting of soldering iron, scraper, bar of powdered resin..... 75

D. A. JONES, Pres.

F. H. MACPHERSON, Sec.-Treas.

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

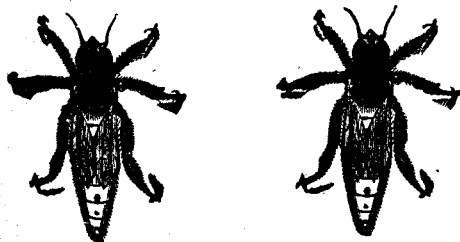
Manufacturers of and Dealers in Apiarian Supplies

OUR CIRCULAR SENT FREE ON APPLICATION.

Publishers Canadian Bee Journal.

Fine Book and Job Printers.

QUEENS.



Our trade in queens grows greater each succeeding year, and we seem to be giving better satisfaction as well. We endeavor to raise queens which will produce good honey-gatherers irrespective of breed or race.

We pay much attention to the class of drones with which our queens come in contact.

The annexed table shows the prices at different seasons, of different varieties. These are, of course, subject to change depending upon the supply and demand. All changes will be noted in the CANADIAN BEE JOURNAL:

MONTH.	Untested	Tested	Selected	Virgin
May	1 50	2 50	3 00	
June	1 00	2 00	3 00	0 60
July	1 00	2 00	2 50	50
August	1 00	2 00	2 50	50
September	1 50	2 00	2 75	
October		2 50	3 00	

Three at one time, deduct 10 per cent; six at one time, deduct 20 per cent.

EXPLANATIONS.

We are not, owing to our high latitude, able to sell queens before May, nor later than October.

Untested queens will be ready for sale as soon as mated, and before they have had a chance to prove themselves.

Tested queens are those which have been proven as to race and honey-gathering qualities. Selected queens are chosen because of color, size and honey-gathering qualities.

Queens cannot be shipped unless the weather is warm enough, except at risk of purchaser otherwise safe delivery is guaranteed.

We replace all queens lost in transit, but not those lost in introducing.

BEEES.

Bees should always go by express, unless they are personally cared for *en route*.

We do not hold ourselves responsible for breakage or delay in transit of colonies of bees they always leave our hands in good shape. We will send out only such colonies as we are sure will give satisfaction. Our bees will be such as the queens we offer will produce.

MONTH.	Italian	Italian Crosses	Carolinian Crosses
May	\$8.00	\$ 8.00	\$ 9.00
June	7.00	7.00	8.00
July	7.00	7.00	8.00
August	6.50	6.50	7.00
September	6.00	6.00	6.50
October	6.50	6.50	7.00

The above prices are for up to four colonies; five colonies up to nine, take off 3 per cent.; ten colonies up to twenty-four, 5 per cent.; twenty-five colonies and over, 10 per cent—*always cash*. Bees at these prices will always be sent out in the Combination Hive, and each colony will contain a good queen, some honey, and brood according to the season.

BEEES BY THE POUND.

Just as soon as we can raise them in the spring, we will have for sale, bees by the pound at the following prices:—Up to July 1st, \$1.25 per pound; after that date, 90c. per pound. Orders must be accompanied by the cash, and they will be entered and filled in rotation as received. We are booking orders now. Do not delay in ordering if you want prompt shipment.

NUCLEI.

A two-frame nucleus will consist of one-pound of bees, two frames partly filled with brood and honey, and an extra good queen, price \$4. Two at one time, \$3.75 each—up to July 1st.

After that date the prices will be \$3 singly; two at one time, \$2.75 each.

We can send frames that will suit either the Jones or Combination hive. Please specify which you wish. Should you prefer the nucleus in either Jones or Combination hive, add price of the hive, made up, to the cost of nucleus.

Bees by the pound and nuclei must always be sent by express. Orders for nuclei filled in rotation the same as bees by the pound.

APIARIAN SUPPLIES

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