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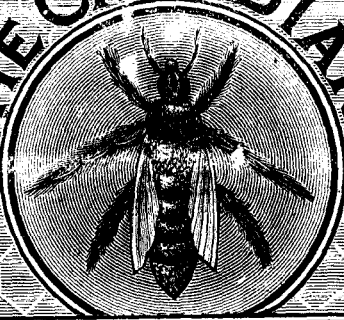
VOL. III, NO. 42

1887

JANUARY 11, '88.

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$

WEEKLY

IN THE WORLD

ONE DOLLAR PER YEAR

THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER

PUBLISHED BY
THE D.A. JONES CO LTD
BEETON ONT.

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

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ERRORS. — We make them: so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us anyway. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

We can supply Binders for the JOURNAL 55 cents each, post paid, with name printed on the back in Gold letters.

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"American Apiculturist," monthly.....	1.75
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"Bee-Keeper's Guide," monthly.....	1.40
"Rays of Light".....	1.40
"The Bee-Hive".....	1.25

TO CONTRIBUTORS

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.

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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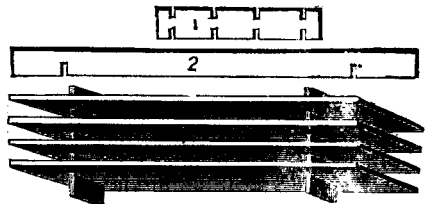
FEEDERS.



We have quite a number of the ordinary Feeders yet in stock which we will sell at 40c each; per 25, \$8.75. These cannot go by mail, so must be sent by express or freight.

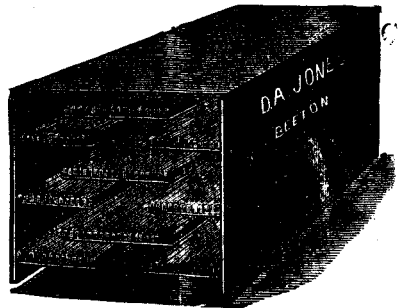
IMPROVED CANADIAN FEEDER.

This is the Feeder spoken of on page 610 of the current volume of the JOURNAL. It is arranged with the float as shown in the engraving below. Holds 12 to 15 pounds of feed, and



may be divided making two feeders if needed. The price is 50c. each, made up; per 25, \$10.00. In flat each 40c.; per \$8.75. All orders can be filled by return freight or express.

WINTER FEEDERS.



For feeding in winter, or at any time when the weather is too cold to admit of feeding liquids.

Price each, made up.....\$0 30
 Per 10, "..... 2 75
 Price each, in flat..... 20
 Per 10, "..... 1 75

These are placed above the cluster, filled with candy which is made by taking pulverized or granulated sugar, and stirring it into honey nicely warmed up, until the latter will not hold any more in solution. Allow the mass to stand till both are thoroughly mixed. Then place in Feeders and set over frames, packing around nicely to keep in the heat.

THE D. A. JONES CO., LD.,
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NO BACKACHE.
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To Be Disposed Of At Once.

We have 200 colonies more than we require, and to any one who wishes to embark in the business, we will sell in lots of fifty or over, at a very low rate, and with satisfactory security we will meet our customer as to time, should it be needed. This is a splendid chance. The price will be away down low. If you have any thought of investing, at least write us for particulars.

THE D. A. JONES CO.,
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HONEY WANTED!

We will take all the No. 1 EXTRACTED HONEY that is offered us at
10c. PER POUND

In exchange for supplies at our Catalogue prices. The honey is to be delivered at our own station, charges paid, but where it is sent to us in our own style of sixty pound tins we will allow 30 cents each for them or we will return them to the shipper at his expense. We cannot undertake to pay for any other style of package, though we will be agreeable to return them when empty.

For No. 2—off color—we will pay 9 cents per pound, same conditions as above.

For No. 3—Buckwheat and unsaleable grades for table consumption—we cannot offer more than 6 cents, as above.

Samples had better be sent us in all cases. They can be sent us safely, in small phials, which must be packed in wool or batting and put in a pasteboard box of suitable size.

For prices where supplies are not wanted, write us.

If you are satisfied that your honey will rank No. 1, you can send it along without sending sample.

Always send us an invoice of the weight and number of packages and put your name on every package.

Where it is not convenient for you to prepay the freight, we can pay it at this end and charge the amount on account.

The D. A. JONES CO., Ltd., Beeton, Ont.

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YOU ARE A SUBSCRIBER

— TO THE —

CANADIAN BEE JOURNAL

THIS OFFER WILL INTEREST YOU.

This Special Offer is made to *Subscribers* of the CANADIAN BEE JOURNAL.

To *Every Subscriber* who will forward to us the name of a *new* subscriber, accompanied by \$1.00, before April 1st, we will send FREE a copy of Rev. W. F. Clarke's "Bird's Eye View of Bee-Keeping," price 25 cents, or W. Z. Hutchinson's "Production of Comb Honey," price 25 cts.

To those sending us the names of two *new* subscribers, accompanied by \$2.00, we will send FREE a copy of James Heddon's "Success in Bee Culture," price 50 cents.

To those sending us three *new* names, with \$3.00, we will send Dr. C. C. Miller's "A Year among the Bees," price 75 cents.

To those sending us four *new* names and \$4.00, we will send A. I. Root's "A. B. C. in Bee Culture," paper, price \$1.00.

To those sending us five *new* names and \$5.00, we will send either Prof. Cook's "Bee-keepers' Guide," cloth, or Root's "A. B. C. in Bee Culture," cloth; price, each \$1.25

This offer is only to subscribers. Should anyone not at present a subscriber, wish to avail themselves of the offer, \$1.00 extra for their own subscription will make them eligible.

To all subscribers who send us ten *new* names and \$10.00, we will send FREE, Jones' No. 1 Wax Extractor, price \$4.00.

We will send sample copies for use in canvassing, on application.

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

THE CANADIAN BEE JOURNAL

WEEKLY.

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

VOL. III. No. 42 BEETON, ONT JAN. 11, 1888. WHOLE No. 146

WE believe that the Rev. W. F. Clarke has had a call from the Congregational church, St. Thomas, but it is not known yet whether he will accept it or not. Brother Clarke has been very bashful, and has never written us a word about it.

We are just advised by Mr. O. O. Poppleton that he has decided to go to Cuba, and take charge of an apiary there—we presume the one which has latterly been in the charge of Mr. A. W. Osburn, as the address to which we are to send his JOURNAL is the same, and in our last, Mr. Osborn advises us of his returning to California. Friend Poppleton has been in Florida for some considerable time on account of his health. We trust that this further change will be of even increased benefit.

The *American Bee Journal* comes to us in an entirely new dress of type which makes a decided improvement in its appearance. In its articles the *A.B.J.* keeps abreast of the times, is a credit to its publishers and worthy of patronage. We wish it every prosperity.

OUR OWN APIARY.

MICE IN HIVES.

ANYONE'S apiary that is situated close to a barn, out buildings or woods are liable to have mice about the hives. House mice, as they are usually called, are very de-

structive when they get into the hives. It will be well for those so situated to examine and see if any colonies have been attacked by them or by deer mice which are even more destructive than the former. They will sometimes skip along from the wood to the bee yard and gain entrance to the hive while the bees are all cold and lying in a dormant state, and once they get possession the doom of the colony is sealed unless the mice are destroyed. Every season many colonies are destroyed in this way. It only requires an apiarist a short time to determine whether his colonies are being disturbed by them or not. The recipe we gave for destroying the mice is not dangerous. We have no fears of it, having used it for many years with perfect success. It may be placed on paper right in the hive on top of the frames or on a thin piece of a board. The mice will eat it ravenously. Although we destroyed the mice in our bee-house early in the fall when we put the bees in, we find now on examination that one apiary situated near a wood has become infested with deer mice and had we not distributed the poison it would have cost us several colonies of bees. Now since the holidays are over it will be time for many of you to lay your plans for future work next season.

GET YOUR HIVES MADE AND PAINTED.

It is a good time to get your hives made up and painted. The paint will be dry and hard, and they will be ready when you want them, and the work will

be more divided and will not create such a bustle early in the season. So many put off the ordering of supplies until the last moment, and then want them by the first train. Those who do not want to purchase just yet would do well to study the matter over and say to the supply dealer, who furnishes them just about what they expect to require. This will give them a better idea of the probable wants of their customers. They can then go on manufacturing, and have in readiness the kind of goods that will be required, which will prevent many annoying delays later on in the season.

FOUL BROOD.

Another matter that should be attended to is foul brood. Those who have had it or now have it should be careful to scald all hives in which the disease has been that do not contain colonies at the present time. The diseased combs should be melted up (as no bees are flying now) at least not in northern localities. It is much safer to render the combs into wax and disinfect hives and frames by boiling ten minutes in water. Every can and vessel that has had honey that there is any probability of being infected should also be boiled in hot water or scalded out, so that every trace of the disease might be destroyed while the bees were in their winter quarters.

REVIEWING THE WORK OF LAST SEASON.

This is also an excellent time to look back over the last season's operations and see where improvements can be made and where money can be saved. You can look at the mistakes made during the season and avoid their occurring again. By the way, let some of our friends report their failures. Little errors reported are of as much value frequently as success. It enables others to guard against them. Now, the long winter evenings will furnish ample time to write it for the benefit of your fellow bee-keepers.

TREE PLANTING.

Another matter that is deserving of consideration is tree planting. Planting them for honey, shade and future use. It seems to us that this matter of tree planting has not been gone into thoroughly enough and it might be en-

couraging to a far greater extent if the proper means was adopted. It appears to us that our roadsides alone could furnish sufficient bee pasture for a very large part of the colonies and bring a great deal of wealth to our country; but the question arises, how can we induce our farmers and those owning the land along the road ways to plant it with trees and to plant the right kind. We think here in America that we are far ahead of the people of Europe in tree planting, such, however, is not the case. The Germans seem to be the wisest in their own interests in this respect. In passing through various parts of Germany and Austria we found that tree planting has been and is being carried on very extensively. Millions of dollars could be saved in this country to the farmers every year if the German system were adopted here. In going along the roads you are struck with their superiority. They seem to receive much more care than our highways do, and why is it? simply because it costs nothing to keep them up, but instead they bring them a revenue. Now, how is this done? They have no fences as we have here along their travel roads, but instead they have planted rows of fruit trees on each side of the road, and other valuable trees that they can utilize from time to time. The large forest trees that grow along the roadsides are sold when they become marketable and replaced by young trees but the larger proportion of the roadways are made by fruit trees, and as fast as any of these trees die or begin to fail they are replaced by others, so that the supply is kept up year after year. We were creditably informed that in one section of the country alone in Germany, the profits from this source, over and above the cost of keeping up the roads, was \$600,000. We appoint path masters over our highways in this country; there they rent to the highest bidder and give him the right to guard, gather and market the fruit growing on the trees from year to year. This man acts as a road master and he is to repair the roads, and keep them in good condition. It might be argued that the fruit might be destroyed. To argue that is to say that our people could not be educated to such a system, or that they were more dishonest than the people of Europe. The loss of fruit

by those travelling along the roads is very slight, and very few seem to want to take that which does not belong to them. Where there are a few forest trees scattered along with the fruit trees they help to break the wind and are very beneficial. Basswood is one of the handsomest forest trees we can grow. It is the most hardy, either alone as a shade or thickly planted in the forest. It is so hardy that when the tree is cut down shoots will spring up from the stump, and in a few years become large trees. Now, besides this tree being a valuable honey tree, there is no timber we believe yet found that takes its place for piano or organ keys, also for sections, and it will not be long before the price of this timber will be very high. There are so many uses that it can be put to that no one need be afraid to plant them for the timber alone. The plan of allowing cattle to roam on our road sides and through our little patches of unfenced forests is a very expensive system and one which should not be tolerated. They destroy all the undergrowth of our forests and prevent us getting a supply of young forest trees to plant about our farms and road sides that would only cost us the mere trifle of taking them up and planting them. Take the township of Tecumseth where we now reside. It has about 120,000 rods of fencing along the road sides. Its fences cost the farmers of this township alone nearly \$100,000, thus our township (counting a fair interest on the money) is paying over \$6,000 a year to accommodate a few bad farmers and others who allow their stock to run at large. This saving and the profits from tree planting would add much wealth to our country every year. The indirect benefit that bee-keepers would receive from this source is well worth an effort on their part to popularize lindens and fruit trees on our roadsides and on waste lands.

HEATHER IN CANADA.

BROTHER Raitt, one of the editors of the *Record* wrote us on page of the *JOURNAL*, and in the last number of his own excellent publication, he says of our comments: Friend Jones, in the *CANADIAN BEE JOURNAL*, commenting on a communication of ours, gives us the result of his attempt to carry the

heather plants we gave him last winter to Canada. We are sorry to learn that between salt water and other adversities only a single plant remains alive. Friend Jones gives, however, such a good account of our heather honey and its popularity that there is every likelihood of our being deluged with requests for heather-seed. He even advises all his friends to secure seed and have it scattered far and wide. Now, we wish to say we have no idea how or where seed can be secured. We cannot say we have ever seen it for sale. Still, as we find many small birds living upon it during severe snow storms we do not doubt but small quantities may be had even at this season. We have great doubts, however, whether any human effort could succeed in raising a pound of heather honey in America or any country where the various heaths are not indigenous. At least one glance of Nature's work in our own Highland fills us with despair at ever being able to imitate her on even a small scale. No, we fear our heather is not one of those bee-plants that can be readily acclimatised anywhere.—W. R.

Imagine the despair that fills our mind, when we read the above. We supposed that heather-seed could be purchased over in Scotland just as readily as we can buy alsike clover seed here, but friend Raitt sets us right, and who should know better than he. When friend Baptie wrote us about that New Brunswicker who had the hundreds of acres we felt "in clover" over the near prospect of a genuine "heather grove" right here in our own home.

CAN BEES HEAR.

IN the December number of the *Record* we find an article under the above caption, on which the editor makes some very reasonable comments. The letter by Dr. Wilson which we give below was forwarded to the press for publication, and on Mr. Carr's attention being called to it, he sets both the doctor and Sir John Lubbock right, in many of their inaccuracies and misstatements. As our readers have heard a good deal at various times on this same subject, this will be very interesting to them.

DEAR SIR JOHN LUBBOCK,—I have just read in the *Cheshire Observer* a report of your address, delivered in the Music Hall, Chester, Oct. 22 1887, on "The intelligence of the lower animals" and I observe from your remarks (as reported) that you much doubt whether bees have any

sense of hearing; and that on the supposition that they have not, it is thought that "clanging" which has lasted from the time of Aristotle, is useless, and is now considered so by apiarians; but that you had not been able to decide the point from experience.

The avenues to scientific knowledge are often very narrow, and may exist when we do not at first sight perceive them. Such, I think, is the case here.

For several days before swarming, and more especially in the evening, there may be perceived a very distinct trumpeting sound within the hive, resembling the squeak of a child's penny trumpet, which increases in frequency as the day for swarming approaches.

This is said, by those skilled in bee life, to proceed from the queen bee, and there can be no reasonable doubt that it does. And here I think we have just what we want. The queen is endowed (at this time at least) with the power to emit an audible sound, either from some vocal arrangement (which to my ear seems most probable) or from some external mechanical contrivance, as in the cricket.

From this evidently designed faculty in the queen we may safely and surely infer its correlative—the power of hearing in the others (and understanding it too), either located in some differentiated nerves in an organ of special sense, or spread over the whole or part of the surface.

This settled we may now deal with the "clanging." It would not be a safe or a sound inference, that, because clanging causes bees to settle soon (if it does cause), therefore they like noise.

The far more just reasoning would be, this trumpeting of the queen always precedes swarming, and must therefore be connected with swarming operations. When she flies they fly; where she settles they settle, controlled, no doubt, by her trumpeting. In these movements that trumpeting must be specially useful. But clanging overpowers it, and by confusing all communication, compels a short flight and a hasty settlement. So that instead of liking the noise, they would be more likely to say, "we would have gone further but for that confounding noise!"

I am, etc.,

WILLIAM WILSON.

Sir. John Lubbock, though a very deservedly eminent scientist, and a diligent observer of insect life, will never be regarded as a reliable authority on bees, or their habits, by practical bee-keepers. He has, no doubt, expended an immense amount of labor and time in endeavoring to elucidate the truth of the various theories he propounds, but unfortunately for him some

of the arguments used lose nearly all their weight from want of the practical knowledge which close and constant intimacy with bees and bee-keeping alone can give.

It proves the truth of the adage that "a little knowledge is a dangerous thing" for precisely in the same way, Dr. Wilson—himself evidently not a bee-keeper,—while pointing out what appears sound evidence—that bees have the sense of hearing, is himself "all at sea" in the arguments he adduces in proof of his theory. It will be evident to the merest novice in bee-keeping that the doctor has had propounded to him by someone "skilled in bee life," the well-known phenomena of queens "piping" prior to the issue of second swarms or casts, and he has jumped to the conclusion that this "piping"—or as he terms it "trumpeting"—precedes the issue of all swarms; whereas we know that queens never "pipe" before a first swarm comes off, and it is only the young princesses in their unconquerable animosity to each other, which give out the well known p-e-e-p! peep! peep so familiar to apiarians. So far as proving that queens at least do possess the power of hearing, we quite agree with Dr. Wilson that "piping" is pretty conclusive evidence. The loud challenge of the most advanced of the young queens—several of which are on the point of hatching out a day or two after the most forward one emerges from its cell—is instantly answered by the fainter notes of a less matured one, and this is taken up and repeated in different keys by others. But when Dr. Wilson says, "this trumpeting of the queen always precedes swarming; when she flies they fly; where she settles they settle; controlled, no doubt by her trumpeting," and all the rest of it, we must set the reader, not skilled in bee life, right, and in doing so we say that in all these propositions he is in error. A queen does not lead off the swarm; when she does come out—often after two-thirds of the swarm is already on the wing, she joins the careering multitude of bees in the air. Again it is not the queen which first settles; she alights on the cluster, as we have often seen, when it is about half-formed; sometimes sooner sometimes later.

The bees cluster more rapidly after the queen has alighted on the spot chosen, but that is all; and lastly, the queen, be she old or young, does not control the bees either by trumpeting or in any way beyond joining the mass of bees wherever they happen to settle. We are sure Dr. Wilson will be pleased to be set right from a bee-keeper's point of view, and that, he no less than Sir John Lubbock, will gladly acknowledge any information likely to assist them in elucidating the truth.

W.B.C.

A WORD TO BEGINNERS.

IN a late issue of the *Witness* a subscriber asks some questions relative to bees and bee-keeping, and the editor of that department answers. As the answers are of good practical value, we give both here:—

Q. Will you please answer the following questions on bee-keeping? How much land would one need in starting the business? How much capital needed, and number of hives one could manage alone? Is it profitable? Would it be too hard work for anyone troubled with the heart? I am 21 years old and not able to do heavy work. Is there any practical bee-keeper that would take one to learn it and what are the terms; also best time of the year? What is the price of "How I made \$400 with my Bees,"? It was advertised in *WITNESS* some time ago. I think the author was a lady. It was in pamphlet form.

Ans.—It requires but very little land to accommodate quite a number of hives. I have twenty within an area of thirty feet square. A quarter of an acre is land enough for an apiary of considerable size. It would require about \$500 properly to start an apiary of fifty hives, but beginners cannot be too earnestly dissuaded from attempting this business until they have learned it. Anyone who proposes to be self-taught had better commence with only one or two colonies. A skilled bee-keeper can take care of from 100 to 200 stocks. Much depends however on whether the apiary be run for comb or extracted honey, also on the surroundings, whether convenient or otherwise. Bee-keeping is profitable as farming and other avocations are profitable. A fair livelihood may be got at it if a man understands what he is doing and manages it well. It is not a "bonanza" for people who want to take life easy. There is considerable hard work to be done, especially in the honey season. A physician is the proper party to consult about the heart-trouble referred to. Some forms of heart disease would not be aggravated by bee-keeping while others would. Much would depend on the excitability of the patient. Swarming and other operations in bee-keeping are more or less exciting, and there are forms of heart-disease that demand avoidance of all excitement. Mr. D. A. Jones, of Beeton, Ont., takes apprentices to the bee business during the working season. I believe they board themselves, and get tuition free in exchange for the services they render in the apiary. Spring is the proper time of year to begin as a learner of practical bee-keeping. I do not know of any pamphlet with the title mentioned, unless it be one by a Mrs. Cotton, that is referred to. If so, give it and the authoress a good letting alone. Any good manual of bee-keeping will tell you how to make \$400 a year with bees, if the right stuff is in you out of which a successful bee-keeper can be manufactured, by dint of hard study and persevering practice.

For the Canadian Bee Journal.

A REPORT FROM YORK COUNTY.

THE summer of '87 has been very good for bees in York County, considering the dryness of the season and the short time that clover and linden bloomed. Of course, some got comparatively little surplus honey. The reason, to my knowledge, I might as well explain before I go any further. In the spring of '87 bees in this part of the country as a general thing came out of winter quarters in a weak condition, consequently it took them a long time to build up strong. When they got to be good strong colonies it was just about the time that clover commenced to bloom and then the swarming fever set in, and whatever hives were allowed to swarm, of course became weak, and before they could get strong again the clover bloom was over and for basswood (which the bees began to gather honey from on July 7th) it only lasted about four days after which there was not any honey for bees to gather and, of course, these hives had no more honey than what they required for winter, in fact, some had to feed their bees last fall before they put them into winter quarters. Some of us, however, wintered our bees very well; those that were put into the cellar stood no better chance than those that were left on their summer stands, properly packed away. I winter out-doors altogether, and in this neighborhood my bees are generally the first to swarm in the spring, which is generally about the 20th of May. I would like to know how it is that so much has been written in the *C.B.J.* about cellar wintering when I am under the impression that about one-half of its subscribers winter their bees out-doors and are not practically interested in such writings. Suppose that all us boys that winter out-doors gave our experience now. I have not got space here, but will write out my system of outdoor wintering sometime before spring.

Well, as I was saying some of us did very well. I only let about one-half of my bees swarm and consequently I got a little over 45 lbs. per colony. From one hive I weighed the honey as I extracted it and I took 102½ lbs. of clover and basswood besides leaving them enough stores for winter. This was a double storey hive and it was not allowed to swarm, therefore it got the full benefit of the honey flow. Let me say here that I fully agree with Mr. H. B. White, of Prescott, on page 814, Dec. 28th, with regard to strong colonies and tiering them up before they commence to swarm. I see that he had some difficulty, however, in stopping the queen from laying in the upper storey. Well, here is my method. (I have never used queen excluders or honey boards; I don't say I never will.) As soon as my bees have a tendency to swarm I take out the queen cells. If there is too much honey in the brood chamber I extract some of it after which I put on a top storey filled with racks in which the combs have been drawn out about two or two and a-half inches wide the summer before, (drone combs if possible.) I generally contrive to have a stock of these combs on hand, and when the cells are drawn out so that they are over one inch deep the queen very rarely lays eggs in them, in fact, never with my experience. And as soon as the bees commence

to cap the honey over in the top storey I take the racks out and put in another set which I contrive to have on hand. This keeps your colony strong, and when there is honey they can send out a good army to fetch it in. I don't say, however, that this is an infallible remedy to stop all colonies from swarming. I have had some bees that would swarm out after taking all brood from them and giving them nothing but empty combs and combs partly filled with honey.

R. T. WOOD.

Thistle town, Ont, Jan. 4, 1888.

For the Canadian Bee Journal.

Buckwheat for Winter Stores.

I CAN agree with nearly all Mr. McEvoy says in regard to poor honey on page 815. He is a bee-keeper of much experience and evidently, in the main, on the right track. Mr. M. is an older bee-keeper than myself and may be right in the two points in which I must disagree with him. It is principally by comparing results that we arrive at the truth and I give you my experience along this line. Mr. M. says: "Where the color and body are the flavor will be there also." I aim to have all my honey ripened in the hives, but on placing several hundred pounds in a storing can a considerable quantity of thin honey will be found on the top. Last summer, during linden bloom, I dipped off enough (that was nearly as thin as water) to fill a 60 lb. tin, which was placed in a very warm place where it soon became quite equal in body and color to that in the bottom of the storing can—equal in appearance but not by any means in flavor. This would seem to indicate that the color and body may be present and the best flavor absent. Mr. M. thinks that buckwheat honey is unfit for winter stores. In my locality there is frequently sown 40 acres of buckwheat within two miles of our town. Sometimes, though not often, we get a lot of it which we try to get "stowed away" in the brood-chamber as fast as they can bring it in: I have even led up colonies almost entirely on buckwheat and other fall honey and wintered them successfully on summer stands in single-walled hives with no protection but a sawdust cushion on top storey and the shady side of a board fence behind them. Was that not a pretty severe test? Well, it was cruel and I will never—well, hold on, "hardly ever," for I am wintering one colony out-doors in a thin Heddon hive. It came through in grand condition, under nearly the same conditions last winter and I want to see whether they will "hold the fort" this winter. There is room under the cushion for almost the whole colony to cluster in a bunch over the tops of the brood frames, and I expect they will winter all right. I don't think I shall ever try it again. Single-

walled hives should always be "packed" or placed in cellar.

J. F. DUNN.

Ridgeway, Welland Co., Ont.

Letter of Thanks from Mr. Cowan.

FRRIEND Jones & Co.—I yesterday received the following from Mr. Thos. W. Cowan. Please insert it in the C.B.J.

8 Avenue de la Gare, Lausanne, Switz.
Dec. 17, 1887.

DEAR SIR,—I see by the *American Bee Journal* that your Association has elected me an honorary member, therefore I should be glad if you as president would convey from me the message that "I am extremely obliged for the honor conferred upon me by the North American Bee-keepers' Association in electing me, by a unanimous vote, an honorary member of the society. I shall henceforth as a member take even a more lively interest in the welfare and progress of the society than formerly, and more particularly as I have become personally acquainted with some of its leading members." I read with much interest the proceedings at your convention and regretted not being able to be present.

Yours truly,

THOS. W. COWAN.

I am sure we all feel that in honoring Mr. Cowan by electing him as an honorary member of our society, we honored ourselves, and were glad of so good an opportunity to show him, in a measure, the high esteem in which he is held by the bee-keepers of America, and we should have been glad to have had him with us at the Chicago convention, so that we could have had the opportunity in a more demonstrative way, to have shown him what a cordial greeting we could have given him.

It would have been a rare treat to have had him, in his pleasant and inimitable way, tell us of the wonderful things his powerful microscope would have shown us.

The brief but enjoyable visit I had with him is set down as one of the bright spots in my life; and the very fine photograph of himself that was enclosed in his letter will be a constant reminder of the visit to our land of one of England's best and noblest men.

A. B. MASON.

P. S. As the *CANADIAN BEE JOURNAL* and the *American Bee Journal* are the only weekly bee journals published I send the above to them only. Will the other bee journals and papers in America please copy.

A. B. M.

For the Canadian Bee Journal.

Winter Observatory Hive.

WILL tell you more about my experimental hive. The bees have been building comb and by all appearances they are breeding. I herewith send you three young bees that I found on the bottom board to-day, so that you will be satisfied that these bees are young. They have no pollen, and as I thought that they could not breed without pollen I did not think that breeding would be carried on. The food is syrup not quite as thick as honey, but I am afraid that the fifteen pounds that I gave them will not stand breeding and comb building till spring. They have comb six or seven inches long. Another thing I did not think that bees could build comb at as low a temperature as 40° outside the hive. The bees seem quite healthy. They are at work all the time and do not want to come out of the hive. I have got the hive near the window sitting on a board about three feet from the floor with one edge projecting about two inches back so that I can look at the bees any time.

The comb looks beautiful and white. The next trouble is how will I keep them at work without disturbing them? I have not seen fifty dead bees as yet.

A. McINNES.

London, Ont., Dec. 19, 1887.

We are glad to know that your bees are doing well. They will not breed much without pollen. No doubt there is a little pollen or some substance they get or we fancy they would not be able to raise much brood. The young bees that you find on the bottom board have perhaps died for want of the necessary food. Bees will build comb at a very low temperature when the cluster is sufficiently large to cover it as they generate heat inside the cluster. A temperature of 40° outside would not indicate that it was not 80° or 90° in the cluster.

For the Canadian Bee Journal

A Modern Bee Farm and Its Economic Management.

IS the title of the latest addition to bee-keepers' literature and is by Mr. Samuel Simmins an extensive English honey producer and queen breeder. Many of us have his valuable pamphlet (before mentioned in these columns) and those who found that a treat will not be disappointed in this his latest production. As the title implies he tells us what he does and how he does it in the great Sussex

apiaries and it seems to me bee-keepers must be few who cannot find something new as well as interesting in the book.

The author tells us in the preface that practical bee-keeping is his subject, and that with few exceptions the instructions given are based upon the writers twenty years experience in the apiary. That he has learned more by his failures than by his successes, as in the endeavor to overcome his difficulties he has brought out his most important methods of management. He believes the man who can give the subject close study and application and finds himself adapted to the undertaking may safely invest his money and receive better returns than from many other occupations of the present day.

The book is not in any sense an encyclopædia of modern bee knowledge, the author simply gives the methods found to be most economical and practical. Under "Bee Culture as a Profession" beginners are advised to first serve a couple of years in some well established apiary, instead of keeping a few hives and gradually increasing the number. Time and money will be saved, better plans formed and success will be more certain. The amount of capital required is considered and the various expenses estimated. Five hundred pounds or about twenty-five hundred dollars is considered necessary to properly commence the business with one hundred colonies. Much valuable advice is given on the sale of bees and queens, and under the manufacture of appliances beginners especially are advised to steer clear of the business of selling supplies. In the *economy of the hive* the suppression of drone production is a step toward the prevention of swarming.

The chapter "on the varieties of bees" is equal to anything I have seen on the subject. Blacks or natives are highly valued because they well adapted to the production of comb honey and when the bee-keeper has all the stock he requires no objection can be made to the sole use of this race when comb honey alone is sought for although he mentions farther on that pure blacks cease storing quite a month sooner and are frequently troubled with wax moths while the foreign varieties never are. It is claimed that blacks have great conservative energy, that the young commence work outside at a much earlier age and a given number will produce and maintain a much larger amount of heat than the same number of any other race. That here is the sole reason why these bees are always ready to take to the supers and are better comb builders than others, though they may be occupying the same space with less than half the population. That here we have the best material for an improved strain of bees and that by the admixture of foreign blood we may get greater laying powers in the queen, a better disposition to cease and eradicate the inclination to cease storing honey toward the close of the season while it is yet to be gathered. He advocates breeding from black queens crossed with Carniolan or yellow drones, Cyprians preferred to Italians. Black or Syrian drones should be vigorously excluded. He says Italians store honey and draw out foundation later in the season than natives, as well as gather more honey, also are more gentle but their comb honey is not quite so good and they

are not as good comb builders, are slow to enter supers and quite useless for queen rearing purposes. That Carniolans, of all pure races, are the best "all purpose bee" although not quite equal to Cyprians as honey gatherers. Are the most gentle of all and best for beginners. He thinks they were at one time a cross between Cyprian and Germans, and the color reverted back to that of the majority. That Cyprians are destined to take the lead among the yellow races, though not suitable for the production of comb honey they are very active honey gatherers, of great beauty and (with him) extremely docile. Their body is smaller than the native variety and unlike the Italian workers opens to a fine point.

In chapter 6, how to obtain good working stock we find the following: "the secret of successful honey production consists in always maintaining the proper proportion of adult working bees in relation to the quantity of brood and young bees." That in our working stocks we should always have young queens and retain none who have seen their second summer. That queens can not be too prolific but must do their best before the season opens, after which they will simply keep pace with the wear and tear upon the life of the workers. To provide that the best powers of the queen shall be used up before actual storage commences we are to have young queens in very strong colonies the fall before.

There is much valuable advice given in the chapter on planting for bees and we are assured that *systematic planting makes profits certain.*

We were interested in feeding and feeders, buying, packing and moving bees, and especially in the production of wax and non-use of foundation and management for heather honey.

It gave me great pleasure to see the following under queen rearing: "It has been observed that a young queen feeds upon pollen extensively until she has met the drone, from which time she is fed by the bees entirely upon digested food. Now just here I wish to show the folly of keeping young queens confined in the frame nurseries for a number of days after hatching, as is done extensively in several American queen rearing apiaries. Without the nitrogenous food at this time when the constitution should be established, they are dragging out their existence upon sugar alone at the most important period of their growth."

Mr. Simmins believes as does Mr. Alley that better queens can be reared by proper artificial means than under the swarming impulse. In justice to the author we refrain from giving more of this book but assure the readers that we have given but a small part of its good points. This work is now for sale in this country. It contains nearly 200 pages and is well illustrated. We advise all progressive beekeepers (especially those who make it a business) to thoroughly study this book.

Pawtucket, R.I. SAMUEL CUSHMAN.

The Eastern Townshie Bee-keepers' Association will hold a meeting on Monday Jan. 16th, 1888, at Cowansville, in the Good Templars' hall, over printing house, at 10 a.m. All Beekeepers are requested to be present as there is important business to attend to. Bring report of the past season. R. P. Small, Sec., Dunham, P. Q.

From Gleanings.

THE COMBINATION SYSTEM.

SHOULD EXTRACTED HONEY BE SECURED FROM COMBS HAVING ONLY A MODERATE DEPTH OF CELL?

WHEN writing the article on page 852, I expected somebody to take me up on the point you make in your comments thereon. I agree with you that it does not look like good policy to take away the set of extracting combs before the bees have made a start in the sections. The only reason why I did not advocate raising them up and leaving them on awhile as you suggest, was that I had never tried it, and without trying it I could not be certain just how it would work. I know it will seem strange that I should have neglected to thoroughly test so important a point in the system I am advocating, but I must admit that such is the fact. The plan always worked well as I gave it, and so I never thought it worth while to experiment further until two years ago. In 1886 I was so busy that, before I realized it, all my bees that were in shape for a trial were at work in the upper storey, in the midst of a honey-flow, and it was too late for a fair trial. Any bee-keeper in this part of Illinois will readily see why I did not test it last season. You can't make experiments in honey production when there is no honey.

I never like to recommend anything I have never tried, so I kept silent on that point. Since it has come up, though, I will say that it is my opinion that it will pay, under some circumstances at least, to leave the extracting combs on until a start has been made in the sections. This will be some more labor, and will increase the proportion of extracted honey produced, but there will not be such a break in the work of the colony, and not so much liability to swarm.

By the way, my bees do not swarm nearly so much as most others' seem to. I do not know whether the difference is in management, locality or bees; but it seems to me there is a difference.

SECTIONS FILLED WITH COMB.

I am heartily glad to see so many testify to the worthlessness of old combs in sections. It will probably be hard work to get it into the heads of some that it is anything else than wicked waste to melt up nice combs, but I think we can persuade the majority that all section combs not in the best possible condition had better be made over. It is not likely that many very soon will grasp the whole truth that it will not pay to save any such sections at all.

Judging from the comment the subject has received, it is a new idea to many that sections

filled with comb are anything else than an advantage. I have been convinced to the contrary for some time. If you will turn to page 445, *Gleanings* for 1883, you will find the record of an experiment made by me in 1882 that showed me that foundation was superior to comb in sections. For the benefit of those who may not have the back number and did not attend the convention I will say that the experiment consisted of putting on each hive about an equal number of sections containing natural comb, worker foundation, and drone foundation, the worker foundation being fresh, while the drone size was old and hard. At least 1500 sections were so arranged. To quote the article alluded to, "The worker foundation was drawn out and finished first; the natural comb next, while the bees seemed very averse to working the drone foundation." Each year's work since has only helped to confirm me in the belief that the use of comb in sections was unprofitable.

There has been a great deal of talk about the hard septum left by foundation, and the effect it might have on the market, but I have always been more afraid of the old sections left over from the preceding season. A section of comb left all winter, to bleach and harden and become blackened by dust, etc., is not an inviting subject for mastication, even if it contains the best of honey, and we have plenty of evidence that usually it does not. It just occurs to me; that the reason why extracted honey is never quite equal in flavor to the best comb honey, and is usually much inferior, is that, on account of being placed in deep cells, it remains longer in an unripened condition.

J. A. GREEN.

Dayton, Ill., Dec. 10, 1887.

From *Gleanings*.

OUT-APIARIES.

FRIEND ROOT:—I wish to add a few words to the answers to the questions on page 946, concerning out-apiaries. It appears that we are the ones who pay the highest price for hiving swarms. It was after a long experience that we settled on this price, and we find it is no more than sufficient. Perhaps it is owing to the fact that we are like Mr. E. France and do not expect to have many swarms. We have found that it is very difficult to get a boy, a child, whose time is worth but little, to hive swarms; and if we found one, we would hesitate very much in entrusting him with the job. He must see that the hive is well prepared, that the frames hang true, that the bees are safely housed, and, when the swarm is in, the hive has to be carried to the location which it is

to occupy. All this must be done by a man, by some one who has a certain feeling of responsibility, or it will be badly done. Moreover, as the *question* correctly states, the bees are usually located near a farmer's house; and did my readers ever see a farmer who had very much time to throw away in May and June, or in swarming time, whenever that may be? He must either sit there watching for swarms, and then he is a *bee-keeper* who had better be hired by the day, or else he must be called from the field to hive our swarm. If he gets only 10 cents, or 25, or 50 cents, he may at times hesitate very much before leaving his work, and your swarm will be in danger of being allowed to leave. Your farmer may have to climb a tree, or cut a limb from one of his apple trees. All that is trouble, annoyance. True, if he can harvest a number of swarms in a day he will make quite a profit; but since he can not leave his business during the whole season to watch for your swarms, he must either hire some one to see to it, or do as I said at first—come from the field whenever a swarm is out. If the bees are not too far from the house, the house-folks generally notice the swarm readily, and there is no great need of constant supervision. If help has to be hired to catch the swarms, it had better be special help, hired by the apiarist.

But some of our friends will say that the ladies can often hive the swarms. That is so; but in many instances they can not: as when the swarm is high up in a tree, or if they are getting dinner, and the farmer and his hands are expecting to eat at their regular hours. If we say that we will make allowance for the swarms that are more difficult to hive, it becomes a source of trouble to decide when a swarm is harder to hive. On the other hand, if we are liberal with our man, we can require more care from him than we would otherwise. We can insist on his ascertaining that nothing is lacking in the hive, and on his transporting it at once to the place which it is to occupy, and setting it level, so that the combs will not hang out of their frames, etc. We can also ask him to ascertain which hive the swarm came from. This can be done when the bees first come out, and may save a great deal of hunting to the apiarist when he comes.

Taking it all in all, and considering that, in the olden times, the one who looked after the bees generally received half of the swarms and half of the surplus, we think our price of 75 cents will not be considered too high, by the majority of our readers.

In regard to the other question, "What rent should be paid for an out-apiary?" we are again the ones who pay the largest amount. We wish

to state that, in this bargain, are included both the house-room for extracting, for spare supers, boxes, crates, etc., and the board of men and team while at work. We say team, because we take it for granted that the apiarist uses horses to transport himself from one apiary to another, and to haul his hives, boxes, honey, etc. When we put bees on a farmer's place, we expect him to take an interest in them, even if he does not work with them, and we want to give him a share of the profits, so that he will make the most out of them when we do. Then our interests are similar, and a bad season for us means a bad one for him. Then he sees his interest in cultivating plants that are beneficial to bees; and we have had one of our farmers to ask at the feed-store for alsike in place of red clover, just because he was expecting to increase his profit as well as ours thereby. In the same way he will think of sowing buckwheat, which he will plow under at the first frost, not only because it will act as a fertiliser, but because it will also give our bees a crop in which he has a share. One of our farmers, a careful one, was in the habit of running his mower over a lot of Spanish needles, just before they bloomed, in a low marshy place on his farm. Since we have bees on his place, and he has a share of the surplus, the Spanish needles have grown unmolested, wherever they did not injure his crops. Is it necessary to give more examples of the benefits derived from an association of the farmer with the bee-keeper? Were it not for the space which I should take, I could give twenty of them.

C. P. DADANT.

Hamilton, Hancock Co., Ill.

S. E. MICHIGAN BEE-KEEPERS'

ANNUAL MEETING DEC. 15TH.

THE annual meeting of the South-Eastern Michigan Bee-keepers' Association was held in the Supervisors' room of the court house at Adrian, Dec. 15th, 1887, President Howes in the chair.

The Secretary's report was read and accepted as also was that of the Treasurer. The report of the standing committee to confer with the executive committee of the county agricultural society, was given by Mr. D. G. Edmiston, who reported that the apiarian department of the premium list of the agricultural society had been placed in the control of the association and that a fairly liberal amount had been allowed the department, which had been arranged in a suitable list for this department. Some discussions followed the report, which resulted in a motion for a committee to be appointed to revise the premium list of the department, and to make

necessary arrangements with the State society.

The committee comprises: H. D. Cutting, Clinton, Mich.; A. M. Gander, Adrian, Mich.; D. G. Edmiston, Adrian, Mich.

The annual membership fee having been raised from 25 cts. to 50 cts. at the last meeting, was voted back to the former amount. Fifteen new members joined the association.

Only a partial statistical report was secured, showing as follows:

Number of colonies in spring of '87, 307; number in fall of '87, 377. Number of pounds of wax produced in '87, 174 lbs. Number of pounds of comb honey produced, 2,515. Number of pounds of extracted produced, 5,405. Total honey produced, 7,920. Average price obtained per pound, 14 cts. Average yield per colony, spring count, 25½ pounds. Number of queens sold, 91.

A committee of three on exhibits was appointed and the meeting was adjourned to 1 o'clock p.m.

AFTERNOON SESSION.

There was considerable discussion on the subject of producing both comb and extracted honey in the same apiary by Messrs. Edmiston, Cutting, Gander, Cleghorn, Howes, and Hubbard, it being generally thought that the extractor could be used to good advantage in an apiary where comb honey was produced; but not to obtain both extracted and comb honey from the same colony at the same time. Mr. Edmiston gave the method practiced by W. Z. Hutchinson, Flint, Mich., for getting the bees to work surplus boxes and storing the honey gathered in them. Mr. Cleghorn gets the bees to enter and work in the surplus chamber by raising a frame of brood to the surplus chamber for a short time, till the bees get well at work, then remove frame and extract honey, then return frame to brood chamber.

The election of officers resulted as follows:

President, Dr. Samuel Stevenson, Morren, Mich.; Vice-Presidents, one for each county in the district of the association, Washtenaw county, Dr. C. F. Ashley, Ypsilanti; Jackson county, F. Wilcox, Jackson; Livingston county, F. L. Wright, Plainfield; Hillsdale county, E. Goodrich, Hudson; Oakland county, J. J. McWorter, South Lyons; Lenawee county, D. G. Edmiston, Adrian; Wayne county, M. H. Hunt, Bell Branch; Monroe county, M. Fleming, Dundee. Secretary, A. M. Gander, Adrian; Treasurer, D. G. Edmiston, Adrian.

The place for holding the next meeting was decided in favor of Jackson, and it was voted to meet jointly with the State society. The time

for the meeting of that society is to be fixed by the executive committee.

QUESTION BOX.

The question box contained several questions as follows: "What occupation can be combined with bee-keeping and not conflict with it? What is the best method of wintering bees—in cellar or out doors? How can the marketing of honey be controlled, so as to prevent the unposted bee-keeper from ruining the market for others?" These were discussed by Messrs. Deer, Edmiston, Cutting, Stevenson, Hubbard and other members. Mr. Deer combined poultry with bee-keeping, and found it worked very well, and he found it kept him busy as there was plenty of work to do, but could manage them quite satisfactorily. Horticulture was found to work quite well in connection with bee-keeping, if strawberries be excluded, as they ripen at the busiest time with the bees. Proper protection on the summer stand seemed to be the preferable way for wintering, but a proper cellar was not without its advantages. Changeable weather in spring, after bees are put out, was the main objection to cellar wintering; if wintered in cellar they should be kept there as late as possible without injury to the bees, (or as long as they can be kept quiet), to avoid chilling of brood by early spring changes. All agreed that protection was necessary. Mr. Edmiston and Mr. Deer spoke in favor of the chaff hive, and said that bees wintered as well or better in them than any other way. Pres. Elect Stevenson, gave his mode of preparation for winter, which was to thoroughly protect them on all sides and on top by an outer box with cover, allowing a space for dry packing material, and fix them up early or before cold weather sets in. The question of marketing honey was discussed in a lively manner by several interested members.

Mr. Deer stated that he had bought up honey that was in good condition for market and on the market in his place at a much less price than honey could be bought of posted bee men. He bought of store-keepers at their price, and shipped to other markets, showing that the honey was sold by the producer at a far less price than it was worth; thus his local market was rid of the surplus honey that the unposted bee-keeper had parted with, unconscious or regardless of its value, and at the same time it opened a way for his own product at something near its value. Mr. Cleghorn favored the appointment of a good business man to look the markets over, and open up avenues by which the honey in the district might be disposed of. Mr. Armstrong also favored Mr. Cleghorn's plan.

Ex-Pres. Howes illustrated how certain parties not posted, brought their honey to market, selling it at less than its value, and when asked why they sell at less than what it is worth, and told what can be obtained for such honey, seemed surprised and want to know where they can get such prices, or its value.

He also stated that said parties will not take a bee-paper and keep posted, as that would cost something, and every penny saved is so much clear gain, but they go on losing dollars and tens of dollars, all for the lack of a little extra energy and to save the small sum it would cost to keep posted, yet the same thing happens year after year. The opinion seemed to prevail that those interested should use every influence possible to inform and induce such parties to keep posted.

A. M. GANDER, Secretary.

SUNDRY SELECTIONS.

PROPOSED CONVENTION IN WELAND COUNTY.

J. F. DUNN.—It has been suggested that a bee-keepers' convention be formed this winter for Welland County. Parties willing to help to organize will please communicate at once with me.

Ridgeway, Ont.

JAMES TAIT.—I send you herewith my subscription to the JOURNAL. I think it should be in the hands of every bee-keeper, large or small. It is full of just what we want to know and comes in time for us to know every week what is to be done. No beginner can do without it if he wants to get along with his bees. We thought that we could keep bees but the C.B.J. has taken the conceit out of us. I wish it were in the hands of all the "babes in bee-keeping."

Lynedoch, December, 22nd, 1887.

Convention Notices.

The annual meeting of the Western Ontario Bee-keepers' association will be held on Feb. 8th and 9th, 1888 in Tilbury Centre.

E. J. BURGESS, Sec'y.

The Eastern Townships Bee-keepers' Association will hold a convention on Monday, Jan. 16th, 1888, in hall over printing office, Cowansville, at 10 a.m. All bee-keepers are requested to be present as there is important business to attend to.

Dunham, P. Q.

R. P. SMALL, Sec.

THE CANADIAN BEE JOURNAL.

BRETON, ONTARIO, JANUARY 11, 1888

BUSINESS DEPARTMENT.

We offer Vol. 1, nicely bound in cloth, Vol. 2 unbound, and Vol. 3, now running, all for \$2.75. Who wants them? t f.

EXCHANGE AND MART.

Advertisements for this Department will be inserted at the uniform rate of **25 CENTS** each insertion—not to exceed five lines—and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is **specially** intended for those who have bees or other goods for exchange for something else, and for the purpose of advertising bees, honey, etc. for sale. Cash must accompany advt.

\$1.00 Will secure you by mail, post paid, 250 Noteheads and 250 Envelopes with your name, business and address printed on the corner of each. Send in your order now. **THE D. A. JONES CO., Beeton, Ont.**

HONEY.—We can take all that offers in exchange for supplies, at prices found in another advertisement in this issue. **THE D. A. JONES CO., Beeton, Ont.**

SECTIONS.—We have a large lot of V groove sections put up in 500 boxes in the following sizes, viz., $3\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$, $3\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$, double slotted, which we will sell at \$2 per package, and will take as pay either honey or cash. **THE D. A. JONES CO., Beeton, Ont.**

ADVERTISEMENTS.

BARNES' FOOT-POWER MACHINERY



Read what J. J. PARENT, of Charlton, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 inch cap, 100 honey racks, 500 broad frames, 2000 honey boxes and a great deal of other work. This winter we have double the number of bee-hives, etc. to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. P. & JOHN BARNES, 371 Ruby St., Rockford, Ill. 21

BEE-KEEPERS ADVANCE

Is a Monthly Journal of 16 Pages. 25 CENTS PER YEAR. Clipped with the CANADIAN BEE JOURNAL for \$1.10. Sample copy sent free with our catalogue of supplies. Don't forget to send name and address on a postal to

J. B. MASON & SONS,
Mechanics' Falls, Me.

W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE, CO., MICH.

Has published a neat little book of 45 pages, entitled **"THE PRODUCTION OF COMB HONEY."**

Its distinctive feature is the thorough manner in which it treats of the use and non-use of Foundation. Many other points are, however, touched upon. For instance it tells how to make the most out of unfinished sections, and how to winter bees with the least expense, and bring them through to the honey harvest in the best possible shape. Price 25 cts. Stamps taken; either U.S. or Canadian

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 :

BEEES BY THE POUND.

	May	June	July	Aug't	Sept.
Bees, per $\frac{1}{2}$ 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 $\frac{1}{2}$ 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.

The above must go by express.

QUEENS.

	Honebred	Unselected	Tested	Selected	Virgins
May	2 50	1 00	2 50	3 00	
June	1 50	1 00	2 00	3 00	6 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	Carolinian 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 D. A. Jones Co., Ltd., Beeton.

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 deduc-
tions 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 09
Brood, case, invertible, including set screws and frames wired when made up or punched for wiring in flat.....	60 45
Honey Board (wooden) slotted, invert- ible.....	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 re-
ceive, 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 4½ x 4½ 7 to the foot sections.
These are designed for testing the complete
working hive.

! In quoting prices of brood-cases and sur-
plus 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 a try you want as the cost of transportation will not be any greater. These will be included in the next revision of our price list.

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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.

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FINE BOOK & JOB PRINTERS.

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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.

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G. B. LEWIS & CO., Watertown, Wis.
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M. J. DICKASON, Hiawatha, Kans.
ED. R. NEWCOMB, Pleasant Valley, N.Y.
J. W. PORTER, Charlottesville, Va.
ASPINWALL & TREADWELL, Barrytown, N.Y.
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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 1885. We guarantee every inch of our Foundation equal to sample in every respect.

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

Promote a Home Market!

By a judicious distribution of the Leader,

"HONEY: Some Reasons why it Should be Eaten."

never fails to bring results. Samples sent on application. Prices printed with your name and address. 10c 50c.; 25c, \$1.25; 50c, \$2.00; 1,000, \$3.25.

The D. A. JONES CO., Ltd., Beeton, Ont.

APIARIAN SUPPLIES

MANUFACTURED BY

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

Are unsurpassed for **Quality** and fine **Workmanship**. A specialty made of all sizes of the **Simplicity Hive**. The **Falcon Chaff 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 1888. Free.

W. T. FALCONER.

BEE-KEEPERS' 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,
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250 ENVELOPES

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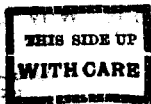
250 NOTE HEADS

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BEETON ONT.

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Price, per 10, 5c. by mail, 6c.
" 100, 25, by mail, 27
" 1000, 1.50 by mail, 1.60

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NO BEE-KEEPER

SHOULD BE WITHOUT

Clarke's Bird's Eye View of Bee-keeping

68 pages, bound in cloth; profusely illustrated; price 25 cents.

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TO ALL that are interested in Bees and Honey, send for our **Free** and Illustrated Catalogue of Apiarian Supplies. Address

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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 CLEANINGS 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 everything pertaining to bee-culture. Nothing patented. Simply send your address on a postal card, written plainly.

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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 1/2 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.

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 "cokes" tin is used.

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