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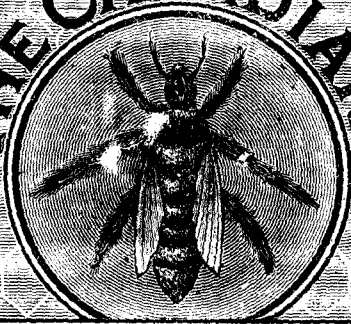
VOL. III, NO. 43

1887

JANUARY 18, '88.

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

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

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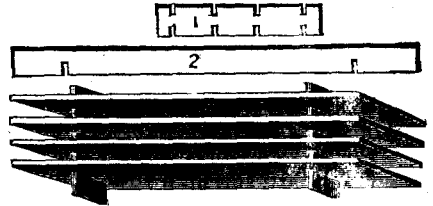
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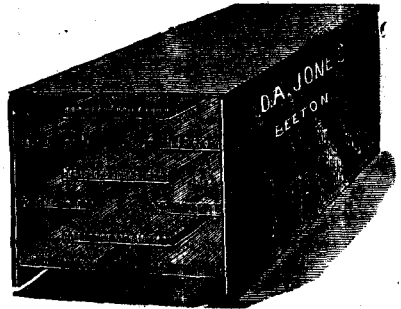
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VOL. III. No. 43

BEETON, ONT JAN. 18, 1888.

WHOLE No. 147

## EDITORIAL.

### Ontario Bee-keepers' Association.

THE regular annual meeting of the Ontario Bee-keepers' Association was held in Woodstock on the 10th and 11th insts. There were in attendance about forty bee-keepers, the majority of them being local men. In the morning before the first session of the Ontario Association the Oxford bee-keepers met and appointed their officers, a report of which will be found in another column.

About 1.30 p.m. the President called the meeting to order and the first business transacted was the renewing of the membership for the ensuing year. Without stopping to have the minutes of the last annual meeting read, the President at once called Mr. F. Malcolm, Innerkip, for his paper on :

#### BEST METHOD OF PRODUCING EXTRACTED HONEY.

Next to the movable frame no invention has done so much to increase the production of honey as the extractor. When it was found that combs could be lifted from the hive, emptied of their contents, replaced and refilled, a stimulus was given to bee-keeping that the most enthusiastic never dreamed of. But much of this enthusiasm was based on theory. How simple it looked. Bees are easily wintered, honey is easily gathered, and if we can empty the combs just when we please what is to hinder anyone making money keeping bees? But hundreds, and I may say thousands, have found theory and prac-

tice two very different things when applied to bee-keeping.

Still bee-keeping has a future and men and women will succeed in gathering the sweets of nature in large quantities to the benefit of themselves and the good of the public, and from anything we can see at present honey in the extracted form will take the lead, as regards quantity by large proportions. It is, therefore, important that the producer should understand the best means of securing his crop in the highest degree of perfection. As far as quantity is concerned I am at a loss to know what to advise, so much depends on condition, especially as regards the strength of colonies, favorable weather and the amount of nectar. Many of the most experienced apiarists fail in regard to the first, and the two last are beyond human control. But with all those conditions favorable we do claim to know something. In fact, I have said in conversation and through the press that if there was any one thing I knew, if there was any one thing that I could cordially recommend, if there was one item of advice I could give with pleasure it was: *Don't extract honey till it is ripe.* And yet, strange as it may seem, there are men who know much more about bees than I do, who say this is not necessary, that honey can be ripened after it is extracted. I cannot account for this except on the principle that some men lack the ability to judge both flavor and texture. It is an admitted fact that some men are color blind, but that is no proof that there are not a great variety of colors. So it is in judging the quality of honey. Everyone must know for himself. Believing this to be a matter of great importance, and wishing to impress it upon the convention, I would say that bees do not gather

honey, they gather nectar and from nectar produce honey. It is therefore a process of manufacture, and if it is removed from the bees before that process is finished man cannot finish it: If asked what the bees do that man cannot, I say I don't know. But I do know, and many others know that there is a flavor and texture about honey that has been thoroughly capped, that cannot be produced except by the bees. Why is it that comb honey is so much preferred to extracted? Do people give nearly double the price simply because it is a fancy article? No doubt this accounts for part of the difference, but the principal reason is the honey is really finer than honey extracted before it was ripe.

I believe it is unwise to extract from the brood nest and mix the honey with what is intended for market. With very few exceptions can this be done without injuring the flavor and color. I believe in and practice taking all surplus from a top super. What is the best size for combs in the super? I do not know, having only had experience with combs the same size as those in the brood chamber. I believe this is the best practice, it having several advantages that I need not here mention. I also believe in using a queen-excluding honey board; by keeping the queen below a great deal of trouble is saved while extracting when the queen leaves the brood chamber, it soon becomes a "house in ruins."

A difficulty arises sometimes during a heavy honey flow when everything is full, but none of it ripe enough to extract. In that case it is better to put on a second super on the tiering up system, that is setting the empty one under the full one. The objection to this is that it is expensive. I have tried with some degree of success to remedy the difficulty by only putting in one half of the super combs, when the super was put on. The bees commence and fill these and just when they are commencing to build new comb in the empty half of the super, I fill with the remaining combs. Those that were first put in will be filled and capped much sooner than if all had been put in at once, and frequently they may be taken out and extracted a few days before the others are ready. This is a kind of a make shift. The best plan is a second super.

F. MALCOLM.

In answer to questions Mr. Malcolm stated that he used a metal honey-board between the brood and extracting chambers. The question was asked what he considered to be the difference in the take if the honey were left to be capped over before being extracted. He could not say positively what the

difference was. He wished it emphasized that the bee-keepers of the future were those who worked for quality and not for quantity. He was satisfied too that naturally ripened honey would not granulate nearly so quickly as that which was artificially ripened. He would not think of extracting from the brood-chamber for the purpose of making sales of that honey. If it were necessary to extract to give the queen more room it would certainly be advisable and proper to do so.

J. B. Acheson concurred in Mr. Malcolm's paper almost entirely. He was satisfied that at times just as good honey could be obtained from the brood-chamber as from the surplus department, but he was opposed to the practice on principle.

J. B. Hall explained that by taking the honey from the surplus department there would be no pollen mixed. In extracting from the brood-chamber there would almost necessarily be some pollen in the honey. He did not think it right to supply customers with pollen for food. Using the surplus department you get better honey, kill no queens and are sure of a few spare combs, if they are needed for wintering.

Rev. W. F. Clarke was opposed to the use of the extractor at all. Had used it but one year and found out all about disturbing the brood-nest. He felt satisfied that if the extractor had never been resorted to there would have been little chance of the cry of adulterated honey on the market. If the extractor had to be used he opposed the taking of the honey before it was capped over in the combs.

M. S. Shell was also in favor of leaving the brood-chamber alone and not extracting until the honey was thoroughly ripened.

Thos. Idyle related his experience and explained how they used to take honey in Yorkshire. When the hives held above four stones they considered them ready to take. When below two stones in weight they did not think them worth while keeping and they applied brimstone. After they got rid of the bees, the combs were crushed between the hands for the purpose of extracting the honey. He thought that if the extractor were done away with, that in many

instances this practice would have to be resorted to.

A. Picket was sure that the Yorkshire honey, of which Mr. Idyle spoke, must have been adulterated, as it would certainly be considerably mixed. He thought that just as good honey, and more of it could be obtained, from the brood-chamber than from the surplus department by the use of the perforated metal division board in the bottom of the hive. In this practice the bees were kept closer together and they had a shorter distance to go when they reached the entrance of the hive before depositing their honey, and the honey was almost sure to be brighter, owing to the fact that the bees had not to travel over the brood combs to get to the honey depository in the back of the hive, as was the case when the surplus department was above the frames. He had used the shallow hives and had tested the matter pretty thoroughly. There was no more danger of pollen than where the honey was deposited above the brood-nest.

Mr. Clarke would have been glad to have given his views as against the use of the extractor in full were it in order to do so, but he wished to remind Mr. Malcolm that our *extracted honey* was nothing more or less than strained.

Will Ellis showed samples of the honey which he was in the habit of selling right along to customers. In the spring on the first warm day he went through his hives and took out all the unused combs, forcing the bees on as few frames as they could nicely fill. He lived in the fruit district around Niagara, and as soon as the bees were crowded he put on the upper story and extracted right along through fruit bloom. He then let the bees rest until clover came in, when he extracted the surplus department out clean. Did not touch the brood-chamber. When the surplus department was about ready for capping, he lifted it up and shoved in an empty case between. When the upper one was capped over it was extracted, the last one put on was raised up and a new empty one placed over the brood-chamber, and so on throughout the season. He did not touch the brood-nest further than to give the bees more room and to place back the combs they wanted them.

#### ADDRESS FROM THE MAYOR.

Mayor Francis, who had entered while the foregoing discussion was under way, was next called upon by the President, and he delivered an address of welcome to the bee-keepers and to the Association. He thanked them for coming to Woodstock, and trusted that an enjoyable and interesting meeting would be held.

Following the address from the Mayor came a paper from Mr. Allan Pringle. Mr. Pringle regretted that he was unable to be present and forwarded his paper to the Secretary to read.

#### UGHT EVERYBODY KEEP BEES?

The President of the O.B.K.A. has given me this question and asked me to write upon it for this annual meeting. I shall therefore proceed briefly to give my views as to who ought to keep bees, or who *may* keep bees, for I do not by any means think that everybody ought to keep them. But as everybody that wants to has a right to keep bees, or at any rate to try it and fail, we had better recast the question as thus: Who will be likely to succeed in bee-keeping?

We may, I suppose, take it for granted at the outset that nobody will care to keep bees unless he can make the business a success in some way—either in making money, or recovering health, or securing desired relaxation, or acquiring scientific knowledge, or in some other way. The great majority of bee-keepers, however, engage in the business with the object of making money. Assuming, then, that all those that keep bees with other objects than financial will do as they like anyway (as they have a perfect right to do) they may be left out of consideration here. Whoever wants to keep a few colonies of bees as an aid to the recovery of health, or as a pastime, or to acquire entomological knowledge will probably do so uninfluenced by anything we may here say.

The question, then, before us now for consideration is, Who will be likely to succeed in bee-culture so as to make it pay financially? The cognate question, whether the specialists or professionals in the business ought to invite or advise everybody, or nearly everybody, to keep bees, may also be considered. This last is a gingery question and is sure to elicit divers answers, and be viewed from totally different stand points. For myself I may say at the outset that I am decidedly inclined to take the broad and altruistic ground rather than the narrow and selfish one. By this I mean that I should never try to prevent a neighbor from keeping bees merely on the ground that he would



probably soon become a competitor with me in the market. I am aware that the principle and policy of some specialists is to discountenance and discourage any general extension of bee-culture amongst the people. In this respect our Ontario Society is certainly quite a contrast to the British Bee-keepers' Association, and as I think to our discredit. They foster extension; we discourage it, though our area for extension is vastly the wider one. There cannot be much said in favor of keeping bees within the precincts of cities, town, and villages, but let our wide rural territories be stocked and studded with the busy bees. I have always contended—and now contend—that apiculture is a legitimate part of agriculture and horticulture, and they ought, therefore, to a large extent, to go together. My own bee-keeping, extending over a quarter of a century, has always been carried on in connection with farming. I do not, however, say that every farmer ought to keep bees; and this brings us to a consideration of the main question, viz.: Who can make bee-keeping pay in dollars and cents? And can it be made to pay better in conjunction with some other business than alone? As is the case with the most kinds of business, to make bee-keeping pay, either in conjunction or as a specialty, the manager must have special gifts and qualifications. And this ground has been gone over so often it is hardly necessary to stop here to enlarge upon the requisite gifts. Suffice it to say the successful bee-keeper must have at least natural devotion to the work, and good, common sense, with close observing power, considerable mechanical skill, ability to attend to details, and a good degree of business tact to enable him to dispose of his products. Dabblers in the business may do with less qualifications than these, but the really successful apiarist must have them. Through ignorance of this fact and absence of self-knowledge many mistakes are made and much money squandered. One sees his neighbor succeed in bee-keeping and imagines that he can go and do likewise, and goes and loses his money. That he has a natural right to do this no fair man will dispute. True, we might advise a friend in a friendly way not to throw away his money, only perhaps in return to have our motives questioned. Hence I can really see no practical way of having this foolish business stopped, unless, indeed, we could induce those sanguine people to submit their craniums to the phrenologists tape before embarking in bees.

Nevertheless, there are many—very many—people in the rural districts of Canada amongst the farmers and others who could keep a few colonies of bees to their own advantage and that

of their neighbors. They would thus be benefiting themselves by producing honey for their own use, and benefit their neighbors by securing fertilisation to their fields of clover and orchards of fruit.

Many objections are, I am well aware, urged against such a recommendation, but they are all, I think, selfish with one or two exceptions. The one really valid objection which I fully recognise and freely admit is the danger of extending and perpetuating that dreadful disease "foul-brood" by largely increasing the numbers of small bee-keepers. This prospective evil can, however, be met in two ways—first by requisite legislation to enable the bee-keepers proper to promptly stamp out the disease, and second, to discourage the small bee-keeper from the use of the extractor and other of the improved modern appliances. I talk like this to a proposed beginner who just wants to raise "some honey for his own use;" "Get one colony to begin with and from three or four, on an average, you can get cap honey off the top, with little trouble, enough, and more than enough, for your own family. As for the extractor leave it alone. You cannot handle it properly. Should you want extracted honey for your own use you can very readily exchange your comb honey for it. All this requires very little knowledge of bee-keeping, and as for wintering come to me in the fall and I will tell you how to winter your bees." He takes the advice and raises his honey, and I take satisfaction in the thought that "there is room in this world for us all." "Children and fools must not handle edge tools." The great evil consists in these small bee-keepers dabbling in the specialists line and handling professional tools. The extractor especially is a dangerous weapon in the neophytes hands in tending to the production of foul-brood. He has the merest smattering of apicultural lore, and he proceeds to put the greatest achievement of modern bee-culture into use, viz.: the extractor. And he proceeds also at the same time to blunder. He slings out the larvæ, damages the brood, chills it, shaves the heads of all the drones he sees, in all stages under the cap, ignorant or heedless as to whether the colony is in a position to attend to the "remains" or not, and so on through. One of the results is probably the development of foul-brood among his bees, which will in turn infect those of his neighbors. There is, I know, a difference of opinion on this point, but my conviction is that "foul-brood" may be generated in any backyard where the conditions are favorable, and among these conditions are rotting drones and decaying brood within the hive. These small bee-keepers should not therefore be encouraged

to use the extractor or other professional tools.

The other objection to the small bee-keeper is that as soon as he gets a little surplus honey he proceeds forthwith to slaughter it in the nearest market. And when by a streak of uncommon luck he happens to become the possessor of a few hundred pounds—an enormous crop—he fairly loses his head and gives it away for whatever price he can get. This, of course, demoralises the consumers and spoils the local market, for the time being, for the regular producers. The only remedies I can see for this are for the latter to either buy up the surplus of these small fry or patiently bide their time till the “two penny half-pennies” are all sold out, which will not be long, and then open up the market at a fair price. The producer who ships his honey in bulk to a foreign market will not of course be affected by these small keepers.

Bee-culture as an exclusive means of subsistence is undoubtedly precarious and uncertain except under the most favorable circumstances. The favorable circumstances are, special qualifications for the business, as enumerated above, and a good natural territory not already occupied. Under such circumstances it can be made to pay in dollars and cents. But it must be borne in mind that such favorable circumstances are the exception, not the rule. In connection with some branch of agriculture it carries less risk.

My conclusion, then, is this: that at the past, present, and prospective prices for the product of the apiary, only the comparatively few can make bee-culture as an exclusive business pay; that while bee-keeping within towns and cities is not to be encouraged, and in all probability will be legally excluded from their limits before long, yet in country places now unoccupied it is rather to be encouraged, on the lines however and with the limitations already set forth. As to who ought to engage in bee-keeping, and who may engage in it, these are questions which each individual has the natural right to decide for himself, so long as he keeps within both the moral and the civil law. When the latter excludes him from corporations he has no right to violate it, and when the former excludes him in honor from pre-occupied ground he has no moral right to violate that either. With these two exceptions anyone, I should say, has the right to put his money into the “bee business,” try it, and come out a richer or a wiser man, as the case may be.

ALLEN PRINGLE.

Selby, Ont., Jan. 7, '88.

The opinion of the meeting was that Mr. Pringle's paper was pretty nearly right. Nobody could prevent people

going into the bee-business who desired to do so.

W. F. Clarke thought that bee-keeping was something like matrimony. People could talk as they pleased against it but those who felt inclined would rush into it and they could not help it. It was a school of experience and some of the experience was pretty dearly bought.

F. Malcolm thought that the bee-papers were a good deal to blame for so many rushing into bee-keeping and he attributed the reason for this to the fact that the publishers of the bee-papers were supply dealers.

In defence of the bee journals Mr. Clarke thought that they had as good a right to praise up bee-keeping as any other journals treating of special subjects had a right to praise their particular industry, but he did not think that such was the case with bee-papers. He thought that they generally put the matter in pretty nearly the right light, as they published the failures as well as the successes.

Mr. Malcolm evidently did not take into consideration, when this statement was made, that in nine cases out of ten, those who rush into bee-keeping did so before they took a bee-paper, and the real reason was because of the success of their neighbors and not because of seeing the industry painted in glowing colors by bee-papers.—ED.]

The following resolution was then moved by W. F. Clarke, and seconded by F. Malcolm:

Resolved, that while it is the inalienable right of everybody and anybody to go into bee-keeping the same as any other honest business, it is the sense of this meeting that it is unwise to do so without adequate knowledge and due qualification. Carried.

#### A STRIKING COMMITTEE.

The President appointed Messrs F. Malcolm, R. McKnight, W. Coleman, J. Alpaugh, A. G. Willows, A. Picket, W. Hislop and D. Chalmers, the President and Secretary as a committee to strike the standing committees which would be required. On resolution the committee was instructed to report at the evening session.

#### QUESTION DRAWER.

The drawer was in charge of Messrs. Emigh, Alpaugh and Ellis. The first

question asked was: (1) Is it a possible thing to artificially evaporate extracted honey so that it retains the qualities of that which is cured by the bees before extracting?

Answer by committee. No.

J. E. Frith thought that it might be possible and he felt it would be worth while experimenting in that direction.

(2.) Spring management and how to prevent dwindling, and the best mode of building up weak colonies?

The committee answered. Winter in a high temperature on good stores and keep as warm as possible on summer stands.

The question of what was meant by high temperature came in for discussion.

Mr. Picket thought that 50 degrees was too high for him.

Mr. Hall did not want less than 50 degrees.

Mr. Clarke had seen them hibernate in Mr. Hall's cellar at 56 degrees.

Mr. Hall found the cellar the best place for wintering. His was 12x12 and the regular temperature about 52 degrees.

Mr. Alpaugh thought that any cellar could be kept dry if the temperature were raised to the right point, and that point he thought was about 55 degrees. In answer to a call for the description of his cellar he explained that it was 25x30 ft. inside divided by two partitions, one running the 30 ft. made a room 10x30. The second ran at right angles, making two rooms, 12x15 and 13x15 respectively. Around the bee cellar, which was 13x15 and at a distance of about six inches from the wall, he has a brick wall built all around thus making a dead air space. The joist overhead was ceiled with matched flooring and the bottom was of concrete on very damp clay. From 250 to 300 colonies could be wintered without any trouble. At the present time there are 215 colonies in the cellar, which had been in use for two years. For ventilation there was one chimney 4x8 in., which ran to the top of the house, also a four-inch pipe which ran up through the centre of the house. He objected to sub-earth ventilation, thinking that it was not necessary. If the bees must have more air he would partition half the place in which the air might come and be heated to the right temperature before it was let into the bee repository.

Mr. Clarke would like to have a description from Mr. McNally of his cellar which he considered the best that he had ever seen. As it was now time for adjournment it was moved and seconded that the evening session commence at 7.30.

### EVENING SESSION.

The first paper on the program was one from Mr. J. B. Hall on

#### BEST METHODS OF PRODUCING COMB HONEY.

Ladies and gentlemen: I am requested to give a paper on the best methods of producing comb honey.

Allow me to state that any method is but of little value unless in conjunction with the following conditions:

1st. Bee pasturage in abundance, of not more than two miles radius of apiary.

2nd. That said pasturage should not be overstocked, but rather that it should not have enough bees on it to gather all the honey flow.

3rd. That there be in charge of said bees, an apiarist adapted by nature, assisted by study and practice, to manage the same, (but the nature part I consider the more important.)

4th. It is essential that a hive with movable combs having a large top surface be used.

5th. That the bee-keeper be a specialist, or as the phrase is, have all the eggs in one basket, in that case they can be jealously watched and guarded, and used to the best advantage; not so if said eggs are mixed in many baskets with other things.

If the bees have passed the winter and spring well, and are strong in bees and brood at the commencement of the surplus honey flow, a good crop of comb honey can be secured by putting on the hive a shallow super of sections primed with comb or foundation, (I say sections, because if not in nice sections it cannot be sold to advantage) open the entrance of hive to its full size, and when work is well commenced in the super, raise it up and put an empty super between it and the hive, continue this until your judgment or experience tells you they have enough space to contain the surplus honey that will be secured.

Other things being right you will rejoice in a good crop of comb honey.

J. B. HALL.

Woodstock.

John Yoder wished to know what Mr. Hall meant by the word overstocked also by the word specialist. In reply Mr. Hall stated that he considered the locality overstocked when there were more bees in the area

than there was nectar to be gathered and in reply to the latter question he meant a man who runs his bees for honey and devotes his whole time to the bee business.

R. E. Smith inquired the best way of getting the bees started in the sections.

J. B. Hall's reply was that he "coaxed" them. After they swarmed he put them in his cellar as speedily as possible. With the Heddon hive he did so by reducing them to one-half cases and by the Langstroth by reducing them to four or five frames. He considered that there was a great deal more in the man than in the hive that was used. He thought that with a deep hive there was more likelihood of having the colony in nice shape for winter.

M. Emigh inquired if in poor seasons it would not be better to have a smaller surface over the brood chamber and get better filled sections?

J. B. Hall explained that his paper referred to normal years. He would not advise crushing the bees up into the section case by placing a frame of hatched brood above the sections. He thought it meant a good deal more work and more chance of getting pollen in the section honey. He liked shade and for want of trees in his apiary he used shadeboards.

In answer to the question of the time of putting on the surplus cases, he explained that when the swarms were hived on comb he placed the surplus cases on the same day; when on starters the next day or the day following that.

Mr. Emigh got nicer comb honey by hiving on starters and putting on sections the next day. He had as many combs in his apiary as he needed so did not mind drone comb. When the queen in the new swarm was an old one he destroyed her in the winter after the honey season was over and melted up the drone comb into wax. He thought by this practice that nicer honey could be got as where old combs were used in the brood chamber the sections were neither as light nor as clean.

Will Ellis put his swarms on five wired combs ready built. He did not use starters at all as he had lots of combs.

W. Couse got the nicest comb honey by hiving on starters, not putting the sections on for a day or two.

R. E. Smith hived on full sheets of foundation, nine racks to each hive. The sections he put on the next day and never used queen-excluders for comb honey.

This statement elicited a similar one from Mr. Hall who never used perforated metal excepting for extracted honey.

M. Emigh had all the bees and all the combs he wanted hence his reason for using starters when the swarms had old queens. With young queens he found that they could get nearly all worker comb while with old ones two-thirds of it was drone.

J. Alpaugh tried to hive on starters but they were evidently too narrow as he found that the bees cut it down as a rule and built two-thirds drone comb and he found that the section honey was very nice.

U. Bowen had hived twenty-five swarms on starters with young queens and found that in the majority of cases worker comb was built.

J. B. Hall:—Bees will not commence building worker comb until after the queen is mated, when they do. This he accounted for by the fact that the bees knew by instinct that worker comb was not required until the queen was ready to lay and that at all times when this was not the case that the bees directed their attention to building store or drone comb. In answer to the question he stated that when the combs were crowded up closely that there would be less drone comb built.

Following this came the President's address.

*To the officers and members of the O.B.K.A.*

In reviewing the events that have transpired and the work that has been accomplished during my term of office we would notice:—1. That we have secured incorporation for the O.B.K.A. 2. That we have secured a Provincial Government grant of \$500 per year. 3. That we have succeeded in making an exhibit of honey on a grand scale at the C. & I. Exhibition at South Kensington, London, England. 4. We have gotten the management and the prize lists of the apiarian department of the leading exhibitions of the Province more or less under the control of our Association and although we cannot redress grievances of the past, it will be the aim and object of the Association to prevent the recurrences of grievances in the future. 5. The foundation of an Association Library has been laid, the first book of which was a present from our good friend T. W. Cowan, F.G.S., F.R.M.S.,

etc. 6. Last but not least the membership of our Association has been largely increased.

And now, in order to make our Association all the more useful, I would go on to say that in whatever way the grant may be used, strict justice must be done to all parts of the Province. We must not forget that our Association is meant to be as long and as wide as the Province and that the weak must be remembered as well as the strong. The appointing of judges and the necessity of placing the prize lists upon a somewhat different basis should be dealt with.

I will repeat my suggestion of last year that reduced railway rates should be secured for honey. To avoid unfair rates in England honey is sometimes shipped under the name of syrup.

Owing to ill health and sickness of a severe nature in my family during last session of Parliament I was unable to apply to the Legislature for legislation to prevent the spread of and to stamp out foul brood in the country. Would it not be well for the prevention of the further spread of foul brood to appoint competent judges to examine and report upon the health of the bees of all those who advertise bees for sale? All who offer bees for sale should be very careful and not sell diseased bees, nor should bees be sold and shipped out of a diseased locality. Another dangerous source of spreading foul brood consists in selling honey from foul broody apiaries. Empty containers are thrown out and neighboring bees lick up the disease and carry it home. Imported bees should be examined at port of entry. The question arises, why should the sale of diseased bees or of any other article calculated to spread the disease be tolerated any more than the sale of cholera pigs, or cattle afflicted with pleur-pneumonia? Great care should be observed by those who visit apiaries afflicted with foul brood to most thoroughly disinfect themselves and all their tools before going into the vicinity of other bees.

I am glad that principle is gaining ground, that the wealthy should not sit down by the side of and starve out and destroy a poor brother who has placed all his means and perhaps more too into bees and the necessary buildings and other appliances for keeping bees. The principle, as claimed by some, is not a "new force" but it is the same commendable kind and brotherly spirit that moved Abram, when he said unto Lot "Let there be no strife I pray thee between me and thee, and between my herdmen and thy herdmen: for we be brethren." To advocate the principle of the "survival of the fittest" in bee-keeping, especially since there are lots of inviting unoccupied fields, is simply to encourage the strong to worry and devour his weaker brother—there is no "do as you wish to be done by" in it at all.

Whereas an outlet for our surplus honey is a question of vast moment to every bee-keeper in Canada, I deem it my duty at this time to say a word upon that important subject.

It will be remembered that a year ago I spoke encouragingly of largely increasing the production of honey in Canada, but when all the facts bearing upon the case, to date, are put together and weighed and balanced up, they force upon my mind the opinion (and I want that opinion to go upon record) that the British markets are virtually lost to us at paying prices or even at prices at which a man can make a decent living. I know

this is a dark picture to present to your minds and I am exceedingly pained to be obliged to hang up in this cheerful room one so very opposite from what I could wish to present to the view of this intelligent meeting, but there is no alternative, duty to you all and to myself as well, imperatively demands that I deal faithfully in this matter.

The collecting of statistics relative to our pursuit should be considered. And now in conclusion I would suggest that the conditions are ripe for devising a scheme whereby all county B. K. Associations in Ontario may be affiliated with the parent body.

S. T. PETTIT,  
Pres.

Belmont, Ont., Jan. 9, 1888.

#### CELLAR WINTERING.

At this stage Mr. McNally, who had come in, was requested to describe his cellar, which he did as follows: It was built all underground, the inside measurement being 20x37, with 9 feet ceiling. The walls were 18 inches to 2 feet in thickness. There were four sub-earth ventilators of 6 inch tile, two of which were about 275 feet long, the other two being about 100 feet long. They all came into the cellar eighteen inches below the bottom, which was of clay. A draft pipe seven inches in diameter ran from the stove up above to within 6 inches of the cellar floor. The bottom of the draft pipe was bell shaped about three feet in diameter. A "cooler" pipe communicating with the outside came in about the centre of one of the sides of the cellar. It was ten feet long and so arranged that he could regulate the amount of outside air which he had admitted. It was intended for keeping the temperature right in the spring. The cellar was partitioned off, making one room about 7x20 feet, the windows were darkened with straw and no vegetables were kept in the cellar. In the winter of 1884 sixty-four colonies were wintered, the temperature being 48° to 50°. During the winter of 1885, 150 colonies with the temperature 50° to 52°; during 1886, 223 colonies, with the temperature 52° to 55°, and at the present time there were 115 colonies, with the average temperature of 48° to 50° and he had yet to lose the first colony. Last year his bees were put into winter quarters on the 26th November and were taken out on the 25th of April.

D. Chalmers questioned whether winter caused dampness or not.

Mr. McKnight described his beehouse and gave his experience in wintering. He had generally been very suc-

cessful, until last winter, when through his absence at the Colonial Exhibition, the bees were put into winter quarters with insufficient stores, and were consequently starved to death. His cellar was exceedingly dry and he never found it to damp a bee or mould a comb.

Mr. McKnight gave a thorough description of his house and how it was built. It will be unnecessary for us to repeat this here as a full description of his bee cellar was given in a late number of the BEE JOURNAL, and is also to be found in our little pamphlet, "Bee-houses and how to build them."

After some further discussion on cellar wintering, routine business was gone into until the meeting adjourned, to enable the directors to prepare their report for the next session.

(Continued next week.)

For the Canadian Bee Journal.

#### PROGRESS OF AN IDEA.

It is only three years ago last summer that I drew attention to the importance of securing a state of repose, torpor, or quiescence as the one great and indispensable condition of successfully wintering bees. I called the state "hibernation," and explained that, like an adjective, it had several degrees, viz., positive, comparative and superlative. I cited the highest entomological authorities to show that many insects hibernate, some in an imperfect and partial manner, and others more completely, and claimed for the bee a true hibernation, though less profound and prolonged than that of many animals and insects known to spend the winter in slumber.

There was a great buzz of discussion among bee-keepers. A few endorsed the idea, many ridiculed it, some contended that there was not a moment of its life when the bee was not "ready, aye ready" for active business, and the foremost scientific bee-keeper on the American continent put himself on record in the assertion "bees do not hibernate," and remains there. But gradually the great mass of bee-keepers have become convinced that there is something in it, and there is hardly an issue of any bee journal in which some one does not more or less decidedly endorse it. As an illustration, I will cite the last number of the *A.B.J.* One correspondent says:—"I have now fifty-nine colonies packed on the summer stands for wintering, and from outward appearance they are enjoying the quietude desirable for safety." Another says:—"At this date our bees are quietly resting in the

cellar; they seem to be in almost a dormant state." These are samples of multitudinous other statements to the same effect, showing that bee-keepers generally, whether they practice out-door or in-door wintering, have come to recognise total cessation of activity and a species of torpor as essential to the well-being of their bees at this time of year.

At the recent annual meeting of the North American Bee-keepers' Association in Chicago, Mr. R. L. Taylor, of Michigan, read an essay on "wintering bees in the Northern States," in which he contended that the only thing necessary to bees in order to their successful wintering, can be expressed in one word—*comfort*. He objected to "any manipulation after the season when bees begin to assume the semi-torpid state." He urged scrupulous care as to proper temperature, because when it is not right, bees "are compelled to arouse themselves from their slumber." These views were accepted with general concurrence, and although Prof. Cook was present, the spirit did not move him to "rise and explain" that bees do not slumber.

Mr. W. Z. Hutchinson is about to start a bee journal of his own. The initial number is to be specially devoted to the subject of "Disturbing bees in winter." Does anyone dream that this prominent apicultural writer, who sometimes brings out novel and startling ideas, will astonish the bee-keeping world by proclaiming that bees can be disturbed with impunity in the winter time? I am not in Bro. H's confidence in regard to the forth-coming journal, but I venture to predict that "correspondence, editorials and extracts" will all concur in advising such management as is calculated to secure the profoundest living slumber of which bees are capable.

So far has the idea progressed, and such is the tendency of the human mind to extremes, that some bee-keepers have come to the conclusion that bees may be frozen stark and stiff all winter and on being thawed out, go right to work as if nothing had happened them. I take no stock whatever in this ultra view, nor shall I, until the romantic stories that have come to us from the vicinage of the North Pole, receive at least some sort of confirmation.

I do not refer to this matter by way of self laudation, but simply to chronicle the progress of an idea. My part in the thing has been a very humble one. I am not the father of the hibernation theory. It is Prof. Cook's discarded bantling. I have but adopted and acted as wet nurse to the child he abandoned. But, of course, I feel some pride and pleasure in the growth and promise of the young hopeful.

W. F. CLARKE.

Guelph, Ont.

We are sorry to "disturb" the confidence in W. Z. Hutchinson which Mr. Clarke seems to have had with reference to "disturbing bees in winter," but we cannot well help it, for by the same mail comes the first number of the *Review*, and we find that with one or two exceptions all the "correspondence, editorials and extracts" are just the contrary to what Mr. C. expected and prophesied. The general opinion, based on actual experience is that "the frequent and extensive handling of bees during winter," indulged in by some might be hurtful, but says the editor in his concluding remarks:—

"Our faith in the popular belief that disturbing bees in winter is necessarily injurious has been entirely destroyed; and our advice would be:—If you wish to know how your bees are wintering, go and examine them,—quietly and carefully, and if you think they need food or any other attention, make the necessary examination and give the required care with but little fear that the disturbance will cause injury."

The writer visited Mr. Geo. Laing, on his way to the Woodstock convention, and while there, went down cellar to have a look at the bees, lifted up some of the quilts, looked into the entrances, etc. In reply to a question of surprise at the effect of the visit, Mr. L. said that he generally went down every night with a lamp to see that everything was all right. This successful wintering would seem to argue that his disturbance of the bees did not affect them in the least.

For the Canadian Bee Journal.

### BEE HIVES AND FRAMES.

**H**AVE read the article on page 813 by G. W. Demaree with pleasure. I have to thank him for echoing my ideas, long since printed, regarding the best way to use extracting supers; also the question of the true size of the standard Langstroth frame; one which we settled in the *American Bee Journal* and *Gleanings* some years ago, and in which this echo is correct; seventeen and three-eighths by nine and one-eighth. I wish to especially thank him for the compliment which he pays my late invention, and likewise Prof. Cook, W. Z. Hutchinson, Rev. W. F. Clarke, yourself, Franklin P. Stiles, Dr. G. L. Tinker, F. Boomhower, Dr. A. B. Mason, John H. Martin, M. M. Baldrige, Thos. G. Newman and many others, when he says:—"Some visionary persons of late

have rigged up the shallow frame cases into what they call double brood-chamber hives and claim that they were now original with them." I thank him for spreading his bitterness and unchristianlike determination to throw his little might toward injuring me, so thick and so hard as to simply fall short of doing aught except injuring his own reputation.

JAMES HEDDON.

Dowagiac, Mich.

For the Canadian Bee Journal.

### INSURING BEES.

**A**S I have not seen anything in the C.B.J. of late, on the subject, I will be pleased if the following may interest some of your readers, and will be glad to hear from others who have insured their bees as they may have obtained a lower rate than I, as I think the rate that I am paying is a little high, being for four and one-half months at 55¢ per \$100 worth of stock, taken at two-thirds value.

I insured in the British American Insurance Co. As the agent did not call on me till Dec. 13th, four and one-half months was sufficient in my case. If I had insured for one year it would have cost one per cent, or three per cent. for three years. One of the reasons for asking such a high rate was, that should a fire occur and be extinguished the smoke would be likely to kill or damage the bees, which they would have to pay for. As few of the insurance companies seem to have had little to do with bees, I suppose they think it risky, therefore they are apt to charge enough, in fact, some companies will not insure at all. Now, let us hear from others in the matter.

H. COUSE.

Cheltenham, Jan. 9th, 1888.

We are glad to hear from you on this matter. It is one of interest and importance, but yet it is one of which we know little, never having had our bees insured. In all cases the buildings in which our bees are wintered are isolated and we have never yet felt the necessity of insurance. Those who winter bees in their cellars certainly should carry an insurance on them. We think that the rate which Mr. Couse has obtained is about as low as can be had. We shall enter into correspondence with the Secretary of the Underwriters Association and endeavor to have bees placed in the tariff of insurance which is supplied to all agents. We will set forth the exact position of the majority of bee-keepers and explain the risk as well as we possibly can. It is certainly very desirable that this class of stock should be protected against fire as well as any other.

For the Canadian Bee Journal

### HONEY AS A PRESERVATIVE.

**F**OR some years I have been in the habit of curing my meat, both pork and beef, using honey instead of molasses or sugar, and though I have changed the process somewhat I can challenge any Canadian in the Dominion, or over here, to excel mine in flavor or keeping qualities.

For such as would like to try and take their own medicines I send you the following formulae:  
**PICKLE FOR BEEF.**—For 100 lbs., take salt 8 lbs.; salt petre  $1\frac{1}{2}$  ozs.; baking soda  $\frac{1}{2}$  lb.; extracted honey  $1\frac{1}{2}$  lbs. Dissolve in warm water and put on cold, and add cold water to cover the meat. Put on weight; in three weeks take out what you want and hage up to dry.

**PICKLE FOR PORK.**—For 200 lbs., take salt 4 lbs.; salt petre 1 oz.; rub over with  $1\frac{1}{2}$  lbs. extracted honey, then rub on the powdered salts and put on a meat board, grooved and sloped to catch the brine. Turn and rub with the brine every day or two till all the brine is used up. Two weeks will generally suffice; then hang up in a dry place. Freezing will not hurt. A little bran or corn meal ought to be dusted over.

If the hams are large and the brine gets used up before ten days, mix a quart or so of brine and add a very little honey and continue rubbing. Dark honey is just as good.

CHAS. PENTON.

E. Aurora, N.Y.

### Oxford Bee-Keepers' Association.

**B**EFORE the first session of the O.B.K.A., at Woodstock, the Oxford Association held their annual meeting, and appointed their officers. The Vice-President called the meeting to order.

The minutes of the last meeting were read and approved, as also was the report of the Secretary.

The following officers were appointed:

President, M. S. Schell.

1st Vice-Pres., F. Malcolm.

2nd Vice-Pres., Dr. Duncan.

Executive Committee, J. B. Hall, Thos. Goodyer, Wm. Bueglass, and M. Emigh.

Sec.-Treas., J. E. Frith, Princeton, P.O.

The fees will be 50c. for membership as before.

It was decided to hold the spring meeting on May 3rd next.

The meeting then adjourned to meet at one o'clock, with the Provincial Association.

J. E. FRITH, Sec.-Treas.

### SUNDRY SELECTIONS.

#### FEEDING IN WINTER.

C. E. WATTS.—Having a colony of bees that are about out of stores, I should like to have you give me directions how to make a winter feeder. I think you gave directions in the JOURNAL not

long ago, but I cannot find anything of it though I remember reading it. Please give directions minutely and oblige.

Romney, N.H., Dec. 30, 1887.

You will find instructions for feeding, how to make the feed, etc., in No. 28 of the C.B.J. For fear you have mislaid it, we forward you the one in question.

### 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 Eastern New York Bee-keeper's Association will meet in Convention on January 24th, 25th and 26th, 1888, in Agricultural Hall, Albany, N.Y. Everyone is welcome. We are sure to have a pleasant and profitable meeting.

J. Aspinwall, Sec.

Thos. Pierce, Pres.

Barrytown, N.Y.

Gansevoort, N.Y.

### HALDIMAND BEE-KEEPERS' ASSOCIATION.

The annual meeting of the Haldimand Bee-keepers Association will be held in the Town Hall, Cayuga, on Friday, 20th inst., at 11 a.m., when the following program will be presented: 1. Election of officers. 2. Is salt a necessary element for bees? 3. How soon should bees be packed for winter? Are chaff hives preferable? 4. Which is the more profitable, comb or extracted honey, and how to secure the largest yield? 5. Spring management, to make ready for the honey harvest. You are particularly requested to attend.

E. C. CAMPBELL, Sec.

## THE CANADIAN BEE JOURNAL

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

PUBLISHERS,

D. A. JONES,

Editor  
and President.

F. H. MACPHERSON,

Asst. Editor  
and Business Manager.

WEEKLY, \$1.00 per Year, Postpaid.

BEEYON, ONTARIO, JANUARY 18, 1888

### BUSINESS DEPARTMENT.

We are prepared to buy any quantity of No. 1 Section Honey. Those having such for sale will kindly write us saying the quantity they have on hand and how much per pound they will require for it.





## 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.,  $3\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$   $3\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{8}$ , 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, 2,000 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. F. & O. H. Barnes, 574 Ruby St., Rockford, Ill. 21

### BEE-KEEPERS ADVANCE

Is a Monthly Journal of 16 Pages. 25 CENTS PER YEAR. Clubbed 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 card

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 :

### BEES BY THE POUND.

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

Frames of brood cannot be sent alone.

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

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

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

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

The above must go by express.

### QUEENS.

	Homebred	Untraced	Tasted	Selected	Virgins
May	2 00		2 50	3 00	
June	1 50	1 00	2 00	3 00	0 60
July	1 00	90	2 00	2 50	50
August	1 00	1 00	2 00	2 50	50
September	1 50	1 50	2 50	2 75	
October	2 00		2 50	3 00	

### FULL COLONIES.

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

The above prices are for up to four colonies ; five colonies up to nine, take off 5 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., Ld., Beeton.

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

SEND FOR ESTIMATES FOR WHATEVER  
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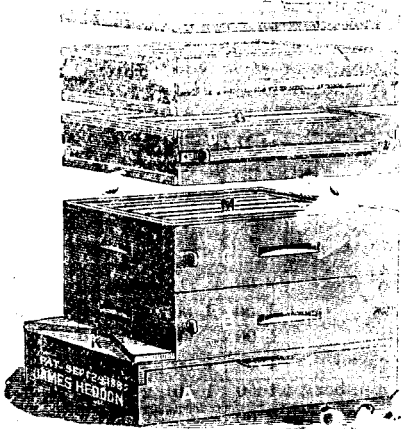
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**OR GENERAL PRINTING.**

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

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

## 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  $4\frac{1}{2} \times 4\frac{1}{2} \times 7$  to the foot sections. These are designed for testing the complete working hive.

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

up, and of the various parts made up, so that should there be any portions of the hive you do not wish you can easily ascertain what deductions to make.  
Sample hive, made up.....\$2 90  
Add ten per cent if you wish the hive painted.

**PRICES OF PARTS.**

	made up flat
Bottom stand.....	12 09
Bottom-boards.....	15 11
Entrance blocks (two).....	03 08
Brood case, invertible, including set screws and frames wired when made up or punched for wiring in flat.....	60 45
Honey Board (wooden) slotted, invertible.....	10 07
Honey board, metal and wood, invertible	30 25
Surplus case, invertible, including wide frames and separators.....	60 50
Cover, half bee-space.....	15 19
Sections, full set of 28 in flat.....	15 15
Tin Separators, seven to each.....	10 10

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

**DISCOUNTS IN QUANTITIES.**

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

**INDIVIDUAL RIGHTS.**

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

Woodscrews per 100, boiled in tallow.....	\$1.25
Tap bits for cutting threads.....	1.50
Tin Separators, per 100 proper width.....	1.50
Brood Frames per 100.....	1.25
Wide " " " ".....	1.50

## Heddon'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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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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CHAS. DADANT & SON,  
HAMILTON, Hancock Co., ILL.

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By a judicious distribution of the Leaflet.

"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 500, 25c \$1.2; 500, \$2.00; 1,000, \$3.25.

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

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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.

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—OR—

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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.

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250 ENVELOPES

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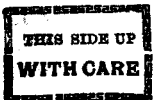
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## NO BEE-KEEPER SHOULD BE WITHOUT

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

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## Patent Flat-Bottomed Comb Foundation!



High Side Walls. 4 to 14 square feet to the pound. Wholesale and Retail Circulars and samples free.

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## 10 Per Cent Discount

On sections until March 1st. Send for free price list of everything needed in the apiary. Foundation wholesale and retail. Alsike clover seed cheap. Sample section on application.

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

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

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

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