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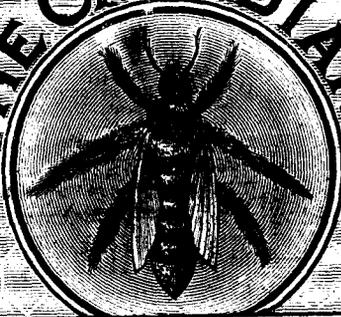
VOL. III, NO. 32

1887

NOVEMBER 2

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$

WEEKLY

IN THE WORLD

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- FOUL BROOD, ITS MANAGEMENT AND CURE by D. A. Jones. Price, 10c. by mail; 10c. otherwise.
- SUCCESS IN BEE CULTURE as practised and advised by JamesHeddon—price in paper cover, 50 cents.
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Send us the names of three subscribers with \$3 in cash and receive as a premium one C. B. J. Binder.

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Subscriptions are always acknowledged on the wrapper of first number after receipt

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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.

Subscription Price, \$1.00 per Annum. Postage free for Canada and the United States; to England, Germany, etc. 10 cents per year extra; and to all countries not in the postal Union, \$1.00

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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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## YOUR NAME IS WANTED

to appear in the American Bee-keeper's Directory. The Directory will be a neat hand book containing the names and addresses of bee-keepers in the United States and Foreign countries. Send us now, and have your name appear in this book, and by so doing you will receive circulars from dealers and thereby become posted as to where you can do the best. You cannot invest ten cents better than by having your name printed in this book.

Those who send their name to be published in this book must enclose ten cents, write your name, post office directions, county and state. Write how many colonies of bees you have and your average yield of honey, so that we may properly rate you. Also state the variety of bees you prefer, whether Italians, Carniolans or other breeds. This work is intended to fill a long-felt want among bee-keepers and by the co-operation of all, a good work can be accomplished.

A department will be reserved in this hand book for the names of Apiarian Supply Dealers and queen breeders, and two lines will be allowed them giving room for their name, address and business and will be inserted for 25c.

A limited amount of display advertisements will be inserted in this book at the following rates:

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Space may be ordered now, and it will be reserved. No pay asked until proof is sent.

The size of the book will be 127 inches, neatly printed and bound. A space will be left by each name for a memorandum. The names will be printed in alphabetical order. Besides being an accurate index to active bee-keepers, giving their names, addresses, and almost a report of their business, the book will also contain a dictionary of bee-keepers' implements and descriptions of the various races of bees together with autographs of our more prominent and scientific apiarists. You cannot afford to miss having your name in this book. Address at once.

**J. B. MASON & SONS,**  
 Mechanic Falls, Me.

## BARNES' FOOT-POWER MACHINERY.



Read what J. J. PARENT, of Charitou, 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 beehives, 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. &

JOHN 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 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

# 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 GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

Vol. III. No. 32      BEETON, ONT., NOV. 2, 1887.      WHOLE No. 136.

EDITORIAL

THE total value of honey imported into the United Kingdom during the month of September, 1887, amounted to £2092. While Canada has not contributed much, if any, to this amount, it will be seen that a vast amount of honey is imported into England from other countries. Much of this, we presume, has gone from our neighbors across the border, even though their crop has been short this year.

Mr. W. Z. Hutchinson having disposed of his property at Rogersville, Mich., to his brother, has removed to Flint, Mich., so that hereafter his address will be the latter. He still retains his apiary at Rogersville, having sold only the farm to his brother.

The *British Bee Journal*, in its issue of October 13th, copies our report of the meeting in honor of Mr. Cowan at the Industrial Exhibition. The usual meeting of the British Bee-keepers' Association will take place on the 19th of October. The quarterly conversations will commence at 6 o'clock on the evening of the same day, and the *Journal* says:—"This meeting will, no doubt, prove an interesting one, as Mr. Cowan, who has just returned from visiting the United States and having inspected some of the largest apiaries in the world, will be present."

We notice in the last issue of the *American Bee Journal* that the Bee-keepers' Union, of which Mr. Newman is manager, will, in all probability, take an appeal in the "Rich" case which we mentioned a week or two ago as having gone against the defendant.

The following are the subjects for discussion at the Union Convention at Chicago, to be held on the 16th, 17th, and 18th of November, in so far as has been determined up to the present time:

- Cost of the Production of Honey—J. H. Martin, Hartford, N.Y.
- Controlling the price of Honey—M. M. Baldridge, St. Charles, Ills.
- Getting the Best Price for Honey—E. J. Oatman, Dundee, Ills.
- Commission Men and the Honey Market—R. A. Burnett, Chicago, Ills.
- Legislation for Bee-keepers—Dr. C. C. Miller, Marengo, Ills.
- Objects and Methods of a thorough Organization of the Bee-keepers of America—Thomas G. Newman, Chicago, Ills.
- Comb Foundation, its Manufacture and Use—C. P. Dalant, Hamilton, Ills.
- Production of Extracted Honey for table use—T. F. Bingham, Abromia, Mich.
- The Production of Comb Honey—W. Z. Hutchinson, Flint, Mich.
- Production of Comb and Extracted Honey in the same Apiary—J. A. Green, Dayton, Ill.
- Out Apiaries—D. A. Jones, Beeton, Ont.
- Foul Brood, How shall we Treat it—A. I. Root, Medina, Ohio.

Wintering Bees in the Northern States—R. L. Taylor, Lapeer, Mich.

Bee Hives and Fixtures—James Heddon, Dowagiac, Mich.

Bee-keeping alone, or with Other Pursuits; if the latter, in connection with what?—Eugene Secor, Forest City, Iowa.

Legs of the Bee—Prof. A. J. Cook, Agricultural College, Mich.

What is the best name for Extracted Honey?—Thomas G. Newman, Chicago, Ill.

W. Z. HUTCHINSON, Sec.

### OUR OWN APIARY.

#### SHORT VS. LONG PROJECTIONS ON FRAMES.

HERE is an opinion prevailing amongst some of our bee friends, that the projecting ends of the top bar should be very long in order to handle frames properly. Those who have been accustomed to such may fancy they have some advantages over the short ones, but we have tested both pretty thoroughly and we see no advantage in the frames whatever. There should not be less than one-quarter of an inch between the side bar and side of hive. Some have three-eighths of an inch; perhaps five-sixteenths of an inch would be better than either, and then it would not require more than a projection of three-eighths of an inch over the metal support to give all the bearing that is necessary. We have all our frame hung on metal supports which project one-quarter of an inch above and go down three-eighths of an inch into the wood, cutting the groove to receive the metal in top edge of hive on a slight slant, so the saw cut is about one-quarter of an inch in from inside of hive at bottom and a good one-eighth of an inch at the top. The metal should not come out quite to the inside edge of hive, if it does it has a tendency to scrape the division board when being raised and lowered. This allows the frame to hang on the metal about five-sixteenths of an inch from the side bar. If the end of the top bar goes tight against the wood the bees will propolise them together very quickly, and more or less will run down the end of the frame between it and the inside of the metal support. This sometimes makes the frames almost stationary. If a space be left between ends of top bar

and sides of hives the frames are much easier to handle. When we used the long ends on the top bars we used to try and smoke the bees from under them so we could get hold of them without touching the bees. We find that we can handle them much better by taking hold of the frame just where the side bar is pinned on the top bar. There are, it is true, usually as many bees at this point as at any other, especially in the height of the season when the colony is strong and it requires a little practice to manipulate them properly. We hear somebody say: "How are you going to get hold of the frames without being stung?" By closing the thumb and forefinger to within about seven-eighths of an inch of meeting, they can be slipped down over the top bar and along the side bar far enough to get a good hold, and a little practice will enable you to get hold of the frame without touching a bee. We have often gone over the frames to show students how to do it, and we have at times chased the bees up to the top bars by smoking them from below so that they were one or two deep all over and the frames could be hardly seen, the better to illustrate the method. To us it seems a useless expenditure having these long projecting ends. They necessitate more material and more room to revolve when in the extractor. If those who use Root's metal end frame would practice this way of holding and handling them, they would, we think, like it.

Suppose you open a hive and allow the bees to cluster thickly on top of the frames, and pass your fingers up and down the ends of the side bars, till you get a little accustomed to it, you will soon be able to handle the frames at the rate of say, one every second.

#### PROJECTIONS ON BOTTOM BARS.

We like a slight projection at the bottom of the frame of about one-quarter of an inch. The bottom bar passes through a saw cut in the side bar to form the projection. The ends of the bottom bar are cut to a point, so that the bees cannot propolise the frames to the side of the hive. We have never known one to be stuck fast.

## DEATH OF HON. LEWIS WALLBRIDGE.

It was with deep grief we received tidings of the death of the Hon. Lewis Wallbridge, Chief Justice of Manitoba, immediately after going to press last week. He succumbed to an attack of kidney complaint after a week's illness.

## HIS CAREER.

Lewis Wallbridge was born in Belleville, Ont., November 27th, 1816. He was a grandson of Elijah Wallbridge, a United Empire Loyalist, who settled in Canada shortly after the American war of Independence. His father was a lumber merchant of Belleville. The family emigrated from Dorsetshire, England, on account of having taken part in the Duke of Monmouth's rebellion against King James. Mr. Wallbridge received his education under the late Dr. Benjamin Workman in Montreal, and at Upper Canada college, Toronto. He studied law in Mr. Robert Baldwin's office, Toronto, was called to the bar in 1839, and created a Queen's Counsel in 1856. In 1858 he was elected to the Parliament of Canada, subsequently becoming Solicitor-General, and a member of the Macdonald-Dorion Government. In 1863, whilst holding the office of Solicitor-General, he was elected Speaker of the House, which position he occupied for a little more than four years, and presided over the debate on Confederation at Quebec. After retiring from political life he practiced law in Belleville, and on the death, in 1882, of Hon. E. B. Wood, Chief Justice of Manitoba, was appointed to succeed him. He heard and gave judgment on the first of the recent injunction cases against the Red River Valley railway.

## IN THE APICULTURAL WORLD

He was a prominent figure. At the organization of the Ontario Bee-keepers' Association he was chosen its first Vice-President, succeeding to the Presidency the next year, and though for some time past he had been a "silent" member, he had always the interest of the Association at heart. As a bee-keeper he was practical, ardent and enthusiastic, keeping his apiary of one hundred colonies supplied with all the newest inventions of genuine worth. He secured large yields of honey, though he followed the pursuit

merely for pleasure. His was a kind and genial disposition and he had a host of warm friends who, with us, will mourn his loss.

## FOUL BROOD.

HOW A BEE-KEEPER ONCE SPREAD IT.

HERE has been a great deal said in reference to foul brood, but it appears to be a subject that will stand being constantly kept before our bee friends until we have it completely wiped out of every apiary in America. A friend, who writes on the subject, spread the disease by attempting to cure some for his friends. This is the way he did it. He took hives covered with wire screens, and drove to where the diseased colonies were, in the evening, shook the bees off the combs into the several hives, covered them, and started back home with seven colonies of foul broody bees, all closed in so that no bees could escape, yet they had plenty of ventilation through the wire screens. The hives were turned on their sides so that the bees clustered on the side, thus allowing the air to pass in at the top proper. It being very late at night when he got home he left the bees on his waggon, not thinking it was necessary to carry them to the cellar where he intended to put them for fasting. Being busy the next morning, he allowed them to remain several hours after his own bees commenced flying. It being just after the honey harvest was over the odor from the imprisoned foul broody bees attracted his own bees which had never had the disease. Large numbers of these lit on the wire screens, and as it is a very common practice with bees imprisoned to pass the honey in their abdomens through the wire cloth to those outside, they apparently commenced doing this. Wondering why so many bees were flying to and from the hives he watched them carefully and saw them passing their probosces through the wire, the bees on the inside passing the honey out to them. As soon as he observed what was going on he immediately removed the diseased bees to his cellar, thinking that little or no harm had been done by the diseased bees feeding those outside for so short a time, but fearing that the

disease might break out in his own apiary he kept a close watch, and it was not long until he discovered several diseased cells in two of his colonies. He cut them out, burned them, and continued to watch, and, as others appeared, they were likewise cut out and burned. By watching every day and cutting out and burning every cell that showed any traces of the disease, he seemed to succeed in stopping the progress in all the hives but four. These four continued to show more signs of the disease, and after cutting some ten or fifteen cells out of each and finding the disease going on, he resolved to treat these four colonies on the fasting plan, and by this means succeeded in clearing it from his apiary. We have long since known that bees closed up in a fasting box when they were filled with honey would pass some of their food out to those on the outside of the wire cloth. In fact, we have closed up robber bees in hives and put a wire cloth over to prevent them smothering, and they seemed to carry on their work with about as much skill and rapidity as they did before it was closed. They would simply fill themselves with honey, pass to the wire cloth and hand it to other bees on the outside which would go to their hive, empty their sacs and return for another load. The same thing we have noticed in our bee-house. Bees closed up in the bee-house would fly to the honey, fill themselves, go to the wire screen on the door, pass it through to other bees on the outside and return to the honey for another load, keeping this up from morning till night. Now, friends, it is just as dangerous to leave imprisoned diseased foul broody colonies where other bees can get at them as above, as it is to leave diseased honey standing about the yard, and anyone who wishes to rid his apiary of this disease must exercise great care in this direction. We hope the above hints in connection with the cure of the disease will receive careful attention. It is no use attempting to do the work unless it is done properly. When properly done success is certain every time.

Subscriptions received at reduced rates at this office for all apicultural publications. Our clubbing list appears on second page of cover. Consult it before remitting renewals.

For the Canadian Bee Journal.

## HALF A DAY WITH MR. HEDDON.

A TALK ABOUT HEDDON THUMBSCREWS, FRAMES, AND TIN RESTS.

BEING in Chicago recently on the cheap ten-days' excursion, I took the opportunity of running out to Dowagiac for a brief visit. I found Mr. Heddon all tired out with his labors as a leading official of the county fair, which embraces two other counties besides Cass, and is rather a "big thing" in that part of Michigan. However, I accomplished my main object, which was to get some difficulties removed that had cropped up in the practical working of the new hive. They were briefly these: 1. Failure of the thumbscrews, which, in my experience, are apt to shrink and swell, if screwed tight, in a dry, hot time; they swell when moist, cool weather comes, and have to be started with a wrench. In some cases the thread gives way. 2. The tightening up of both frames and sections, so that everything becomes practically immovable—"fixed fast as fate." 3. The bending of the tin rests, as the result of which frames are thrown out of the level.

Mr. Heddon proved to me that none of these difficulties exist in his apiary, and I am inclined to think that with me they are partly climatic; partly the result of the screws and frames being made to fit too tightly in the first place; and partly for want of more skill and attention on my part. The climate of Guelph is subject to very great and sudden changes, and watch must be kept of these. It is not much trouble to go through an apiary and either tighten or slacken the thumbscrews, as may be needed. Mr. Heddon's frames and thumbscrews fit very loosely. As long as there is not a bee-space left anywhere there is no need of the frames being at all tight. As for the thumbscrews they are so loose that they wobble. Yet their holding power is so great that a case, dependent only on their grip, remained without the least of flinching when Mr. Heddon and I stood on a board resting simply on the eight frames. The tin strips are made of heavy tin and this, I think, is necessary in order that they may keep their places perfectly.

The one fault with the new Heddon hive—if fault it be—is that it requires the greatest accuracy in mechanical construction and very careful handling. A botch carpenter cannot make the hive, and a botch bee-keeper cannot manipulate it successfully. I am not sure that this is a fault. It is not desirable that bee-keeping should tolerate slovenly and careless ways. Both as a science and an art we should go in for its being carried on with intelligence and skill. The best

results are to be had by the dexterous use of the best appliances. A partial honey crop can be got by slip-shod bee-keepers who are content to go by the rule of thumb, but it is to be hoped that this class will always be in the minority, and will become "small by degrees and beautifully less."

I am well pleased with my trial of the new hive for two seasons, notwithstanding the difficulties I have mentioned. I do not care to invert the brood nest more than once, and that only when the comb is not built evenly and fully at the bottom of the frame. Apart from that I see no use in inverting. The interchangeable feature of the hive is a grand one and wonderfully simplifies manipulation. For making artificial swarms it is unrivalled. It is especially adapted for producing comb honey, the only kind I raise. I used the extractor one season and abandoned it, I think for the term of my natural life. I am old foggyish enough to wish it had never been invented. Adulteration, overproduction, low prices and various evils resulting from interference with the internal economy of the hive, have grown out of its use. Raising only comb honey, and wishing to handle my bees as little as possible, the new Heddon hive suits me better than any other that I have tried, and I am simply anxious to give it the most skilful management of which its peculiar construction and functions admit.

Mr. Heddon's explanations convinced me that before putting bees into the new hive it is necessary to see that the frames and thumbscrews are in good and free working order. Anyone who proposes to adopt this hive to any extent, should have a bit for making the thread holes for the thumbscrews, and personally attend to their proper adjustment. This done, if the screws have been as they should be, boiled in tallow, they ought to work all right, no matter what the weather may be. A large number of bee-keepers, I was informed, have invested in the hive and only two or three have found any difficulty in the practical working of it. As yet, it has been but a comparatively short time before the public.

I was at first surprised at not finding more of the new hives in use in Mr. Heddon's apiary. There are only about fifty of them all told. But when I learned what an immense lot of old, bright, valuable frames of comb Mr. H. had on hand, I could readily understand that its substitution for the former hive, a most excellent one of its kind, must be a work of time. A remark of Willie H's "wouldn't it be jolly if all our hives were of the new kind," spoke volumes as to the ease and pleasure of manipulation. In common with

many others, I am aching to be let into the secret of Mr. Jones' improvement applicable to this and all other hives, and hope full particulars with explanatory cuts will soon be given in the C.B.

WM. F. CLARKE.

Guelph, Oct. 21st, 1887.

No doubt a great many of the difficulties connected with the Heddon and other hives and appliances would be entirely overcome if more care were exercised in connection with the construction and manipulation. We tried in Canada, and could not get screws that would work well, and a few of the first lots that we sent out were not up to the mark. We then ordered from the same people that supply friend Heddon, and we got the taps from Mr. H. direct, so that now ours are the same as his. As soon as a barrel of screws arrive we place them in a large tin tank with melted tallow, set in the dry kiln on the steam pipes, and let the tallow boil into the screws for several days, then with a skimmer we dip them out and allow them to drain. We think there is no probability of water affecting these screws very much, at least not for several years, and we are confident that we shall have no further trouble on this score. We also pass the sides and ends of the different chambers through a very heavy machine which draws them down to the width, cuts the half bee-space and leaves them as accurate as it is possible for work to be done. Once the machine is set, a hundred or thousand hives may be passed through it without there being a deviation of the one hundredth part of an inch, in any of them. In fact, we are trying to apply such accuracy to all our work that the most fastidious may not be able to find fault with it. We know from past experience that Mr. Heddon prides himself in turning out all work of a superior character, and our instructions to our foreman are, to turn out hives even superior to the pattern that Mr. Heddon sent us, if possible. As we stated before, as soon as our engravers complete their work the new invention will be fully illustrated and described.

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We are paying ten cents per pound for good extracted honey in trade for supplies. If you have any to dispose of send us a sample and we will let you know how much we can give for it. We can handle as much as we can get.

FOR THE CANADIAN BEE JOURNAL.

## Another Letter from Mr. McFadden.

**A**FTER a long delay we have another letter from Daniel McFadden, forwarded us by Mr. Watson of Alliston. The letter was written on white birch bark. Some of the bark was not thicker than ordinary note paper and just as pliable, being folded or rolled as desired. The bark can be written on just as easily as paper, and where the latter cannot be obtained it makes a very good substitute. It seems as if nature has provided for us in many ways and the Indians or those who live with them take advantage of these wise provisions. The birch bark was rolled, then a piece of wood was hollowed out and the roll of manuscript placed inside of the tube and thus carefully protected it came safely through the mails. The following note from Mr. George Watson accompanied Mr. McFadden's letter :

ALLISTON, Oct. 20th, 1887.

DEAR SIR:—

Having received a letter from Mr. McFadden, I enclose it to you to-day. You will see that he is not anxious that it should be published, but I agreed to send you any further information that I could get regarding Mr. McFadden. Hoping his letter will be of great interest to you

I remain, Yours respectfully,

GEO. WATSON.

RAVEN'S PEAK, NORTH NIPISSING TERRITORY,

Aug. 31, 1887.

MY DEAR WATSON:—

I was glad to hear from you and the more so on account of the bundle of news you sent me and it happened I got it very soon after you sent it. Young Beaver Tail was out at that time. Well, in the first place, I must reprimand you for what you wrote Mr. Root as to Indians being more intelligent than white men and what they did not know was not worth knowing. You know I did not say any such thing. I only said the Indians know some very useful things that white men do not know, but, of course, we all know they are not to be compared to white men in general intelligence. In the sciences they are nowhere. Well, it is no wonder Mr. Root told you to be careful about placing confidence in me after you told him what you did. Now, I hope you will make no gratis statements for me in future if you have occasion to write any person. Indeed, I am almost sorry I told you or wrote Mr. Root at all about our bee-business, but I have done it and it is so. I see one man was experimenting by putting bees in the snow

and could not revive them after three days. I don't wonder at that. In the first place he starved them about to death, next he wet them by putting warm bees in the snow, then kept them in a room where there was plenty of air and, no doubt, dampish; then warmed them at the stove although he tried some in the sun with better results. Now, just here I will answer your questions and tell where he was wrong. Bees must not be starved. They must not be damp, they must not have any circulation of air about them nor air space. They would be likely to mildew and spoil, they must be at least above freezing point which a bank of snow never reaches if made deep enough before hard frost sets in. If that man had made a magnifying piece of ice and examined his bees in three days he would have found mildew about their waists. The sun's rays is the the only safe way to bring bees to animation. Now, I think that is all I can tell you about it. Not sent off starved, perfectly dry, no open air about them, nor light, no change of temperature such as opening a hole into them after they are packed. Opened only to the warm sun. Now, as to our spring report I have not much to say, but here it is: Put 250 in a cave in the fall, took out earlier than usual, the 20th of April, and exposed to the sun, sheltered from wind, hives tipped toward the sun; 247 came out all right. We made an ice magnifier and found a light mildew around the three that were lifeless. They were extra strong hives and we not only think, but know by experience that we did not get them properly cooled before putting them under the snow. We thought as we had lost none for several years, and never lost but three since I started in with him, that we had got it down so fine that we would never lose any more, but you see we were mistaken, however, we don't fret about that. Well, as to your other questions. First, I never want to live among white people again. We never saw nor never want to see a missionary tramp in our territory. Second, we raise corn, buckwheat and potatoes. We have fresh fish and dried fish, venison and moose beef; same way we have fat beaver, otter, and fat dog, and often bear, pheasants, ducks and geese in abundance. Salt? Ah! well, if I tell you we have a fine salt spring, I hope it will not excite the greed of white friends to rummage our country for money making. As for utensils, we have pots and all kinds of dishes made of clay. We have a fine, white hard clay. We have spoons, scraper and ladles made of copper. The scrapers are for cleaning and tanning skins. I don't wish to make any further statements as to where and how we get or make the copper basons and I do not expect you to send the

whole of my letter to a bee-paper, only the bee-report, and I don't care an acorn whether you send that or not. Well, we had an extra honey yield this year. So far, we have a second top on them all now and believe they will fill them full. You asked me the way they used honey as food, and as a medicine. Well, we use it in Johnny cake and then use it with the cakes. We use it with buckwheat too; we use it with dried meat; we use it with spruce to make beer which is a grand drink in summer. We use it for preserving fruit we gather. As for medicine we boil a weed I used to know as hoarhound, strain and simmer down till very strong then add honey about equal. Take it cold, little and often. It will cure the worst cold on the lungs. Sometimes we use hemlock boughs instead of the weed, not ground hemlock; we use it with cherry bark too. Now, there is one thing I would like to ask you about. We have used so much honey we have a great quantity of wax. We made a wigwam to store it in; we used some of it in fat for light but it has accumulated until I think we have twenty pony loads of it; a pony will carry 300 lbs. a long journey, that will be 6,000 pounds. We would have to carry it with pony 150 miles to the railway. It would cost us about 6 cents a pound to bring it out. Now, if we could get 9 or 10 cents a pound for it we would bring it out, I mean without peddling about. Get that in a lump in silver, half dollars and quarters. That is the only thing I wish to ask you. One of your questions I nearly forgot. Did we ever have foul brood? and if so, had we any cure? Well, I don't know it by that name, but have had hives diseased. Dead brood in the combs, a bad smell. When they got bad the bees seemed not to work and make a doleful sound. We had several five years ago, and only for old man Muskeegron's skill we would have likely suffered heavily. He said he thought they wanted something bitter and puckering. He took the bark of prickly ash and high bush cranberry, made a tea of it and sweetened it with honey. It cured them very soon. We use it now all the time when taking off and putting on top hives. We are not troubled with the disease now at all. Well, I will not be able to write you again this year, but hope to hear from you in November, as Young Beaver Tail will be out about the middle of the month, but I cannot reply until the spring. Tell me about the wax. I don't want to know nor hear what any of the bee men say about me and my bee-talk. It is nothing to us. I don't care to tell them any more about our bees. In fact I haven't let my people know that I told what I did last winter, White men may stick to their theories I have

done my duty to them and that is all I have to say. We are all well and happy hoping you and your friends are the same.

I am, Yours very truly

DANIEL MCFADDEN.

P.S.—Tell me how you liked the bone pens I sent you. My little boy made them. They are made out of the shin of a moose.

Raven's Peak we may suppose to be about four or five hundred miles north of Beeton, and winter must have fully set in there very early, as 150 miles north of here sleighing was good on the 25th of October. Yet Hudson's Bay has a tendency no doubt to moderate the temperature, also James' Bay extending as it does from Hudson's Bay down into this territory. In reference to bees not being damp we are satisfied that bees should have their abdomens well filled with stores if we expect them to survive a long time. It is not very difficult for any of us to understand that without food for nature to draw on they would not be able to survive nearly so long as if they had their honey sacs filled. It would be very easy for them to take from that storehouse from time to time what food they might require. We are satisfied that dry bees will live much longer than damp ones, and some careful experiments have satisfied us also that bees will winter better in a dry than in a damp atmosphere. We had some experience last year in England and Scotland in a damp atmosphere, and felt the cold very much more, although more warmly clad than ever in this country, and yet at times the atmosphere was above the freezing point, in fact one feels the cold more with the temperature above freezing in a damp atmosphere than when the temperature is below zero in Canada. A person can stand more heat or more cold in a dry atmosphere than he can in a damp one. In a perfectly dry atmosphere a person can stand a temperature about equal to boiling water whereas a much lower temperature would scald him if it were damp. If the bees were lying just in that peculiar state that they did not consume any air, no doubt a circulation of air would be objectionable and then when no air could get to them, or very little, it would be absolutely necessary that they should be very dry and the air around them too, or they

would be likely to mould. When he says they must be above the freezing point, it will be interesting to know how close to the freezing point we should get them in order to secure the requisite temperature. Now, to our southern friends a magnifying glass made of ice, no doubt would be a curiosity. We have never seen one so made. Perhaps we will try our hands at it this winter and see how we succeed. In reference to the sun's rays being the only safe way to bring bees to animation we wonder why the same temperature secured by artificial heat would not give as good results? Any change of temperature no doubt would be very unwise as it would be absolutely necessary to keep them constantly at that particular temperature which causes them to remain in a dormant state if good results are to be expected. It would appear from this letter that the bees were buried in a snow cave. He does not say whether there were combs left in the hives or not or what way they took to cool the bees and dry them, and we do not know that the atmosphere is very dry in this far Northland. The remark about missionaries does not reflect credit on the writer. In reference to copper and where they get it, there are many places in northern Canada where the pure copper can be taken from veins in the rocks. At some of the mines tons of pure ore can be taken out in almost a solid mass. The recipe for curing cold with honey and hoarhound is, no doubt, very good, and we think basswood honey would be the best kind to use. We would like to get 6,000 lbs. of wax at ten cents per lb., even though it were not very well rendered. We would willingly pay that price for any quantity of wax, in Canadian silver, but we would not want wax that was rendered without water and scorched so that the texture and color of the wax was destroyed. If prickly ash and high bush cranberry will cure four brood we have abundance of the medicine in this neighborhood. Prickly ash is scattered along our streams and can be found quite abundantly as well as high bush cranberry, and we have one grove of prickly ash within a mile of our village, but we are a little doubtful about it curing very bad cases of foul brood.

From the American Bee Journal.

### REPORT FOR THE SEASON OF 1887.

**T**HE first of June found me with only twenty-six queens in my yard, fifteen of which were mothers to fair colonies of bees, five were mothers to rather weak colonies, while the remaining six had only about bees enough to hold their queens till steady warm weather should come. My bees were wintered as heretofore, about one half on the summer stands and the rest in the cellar. Those in the cellar wintered the best the loss being only one colony in fifty, while among those on the summer stands there was a loss of six out of forty.

As I look back over the past I can but wonder that the loss was not greater, as these bees were kept confined to their hives by steady cold weather from November 10th to April 10th, or just five months. Five months of such severe weather as we had last winter is very trying to bees on the summer stands, and as the cold held on day after day and week after week, after others had reported "bees had a flight," I came nearly deciding that I would get out of the cold climate of "old cold Spafford" as our town is called and seek a more favorable locality. However, the ties that bind me here are so strong that I presume I shall always stay here, trying as I pre- sume to breed up a race of bees hardy enough to stand the cold climate that they must endure.

After getting the bees out of their winter quarters, the spring proved on the whole very unfavorable, the nights being cold all the while till nearly July. I had intended to keep about forty colonies with which to commence the season of 1887, but owing to my great correspondence and other pressing matters I found that I was being over- worked, so much so that my physician said that I must do less or break down in health; so that I concluded to sell my bees down to the number of colonies spoken of at the beginning of this article.

In selling I sent off my best colonies, and in reality I had but one really good colony left with the number kept; I kept that to rear early drones with, as the mother was an excellent queen for drones. When willow and hard maple bloomed the bees gathered quite freely for brood-rearing of both honey and pollen, and had it not been for the cold nights a much larger force of bees might have been secured for the harvest.

Of the twenty-six colonies I set apart twenty for producing honey, hoping to make nuclei for queen rearing out of the six weak ones; but at about this time the demand for queens was so great that I thought I should have to use all the colonies I had for queen rearing or get "swamp-

ed." However, I managed by working the bees for all they were worth to keep the twenty colonies along in a fair condition, and yet draw on them every few days for bees and brood to make nuclei. Of course this lessened my prospects for honey to quite a large extent, but I considered it much better than to destroy the whole prospect by breaking them up entirely.

Owing to the cold nights and this continual drawing of bees and brood from them I saw that I could get no large yield of honey if the season proved ever so good, for I had not the brood necessary in the hives at the right time to give me an abundance of bees during the bloom of basswood which is our great honey producer. In order to get a good honey yield, the hive must be full of brood at least thirty-seven days before the honey harvest, and at that time my hives were not half full. Considering this fact I was greatly surprised that the bees did as well as they did.

When apple trees blossomed, the weather was unfavorable, so that no surplus was obtained, and had it not been that there was considerable old honey in the hives I should have had to feed. White and Alsike clover yielded so as to give the bees a living and plenty for brood-rearing. Basswood opened on July 5th and bloomed for nearly two weeks, during which time the bees stored honey well considering the number of field bees present in the hives. Teasel gave very little honey, after basswood, which was quite a help by way of getting many nearly filled sections sealed over.

A good acreage of buckwheat had been sown for this locality, and I had strong hopes that a yield from this source might be obtained, but for the tenth time in succession I was disappointed, for not enough was gathered to show any surplus even in the brood combs after it had gone out of blossom. The last year in which buckwheat gave any surplus with me was in 1877. What the trouble is that this plant does not secrete honey of any amount in this place I do not know, unless it is because I live in a cold, frosty valley.

Of the twenty colonies only 14 swarmed, so that the increase was very light except as I made a few colonies by division, after the season was over. My present number is forty fair colonies in readiness for winter, and twenty very small ones made from doubled up nuclei; all of which had stores enough for winter except the nuclei, which had to be fed a part or all of their winter stores.

The result of the season is an average of about fifty-two pounds of honey from each of the twenty colonies, the whole amount being 1,039

lbs., 722 lbs. of which was comb honey. The amount received for queens, nuclei, etc., up to Oct 10th was about \$700.

Taking it as a whole I have no reason to complain regarding the result of the year 1887, unless perhaps it is that I have been so crowded with work that I have not found time for the improvement of my mind, which I would like; nor to make the many experiments that I had proposed to try.

G. M. DOOLITTLE.

Borodino, N. Y., Oct. 17th, 1887.

From Gleanings.

### Bee-Keeping With Other Pursuits.

SHOULD bee-keeping be made an exclusive business, or should it be pursued in conjunction with some other business? This question can be best answered after considering some of the pursuits that may be combined with bee-keeping. I am competent to speak of only a few, and if it seems really desirable that there shall be a combination, perhaps others may be called out. Perhaps I may arouse Mr. G. M. Doolittle by saying that I think he has made one of the worst combinations possible in combining bee-keeping with small-fruit raising. I think there is a somewhat general impression that bee-keeping and raising small fruits go nicely together. There is this much to say in favor of it—that the man with the right taste for bee-keeping is apt to have the right taste for a fruit-raiser, and if successful at either he would be successful at the other if he should turn his attention to it.

But a business to be combined with bee-keeping should be one that would require the attention of the bee-keeper mainly at a time when his bees require no care. So far as my experience goes, the small-fruit business requires the closely attention at the very time the very time the bees demand it. As soon as spring has fairly opened, there is work to be done at the bees, and so there is at strawberries, raspberries, etc. As the season advances, the bees become more imperative in their demands, and so do the berries. In the height of the picking season when the eyes of the fruit-raiser must be everywhere to see that pickers are making good work, to settle disputes, to make sure that berries are promptly sent to their proper destination, and not allowed to stay over and spoil—at this time when the fruit-raiser unless possessed of a very cool head, is about half crazy, the bees alone are enough to make him go distracted when a dozen swarms may come out at the same time. In a word, the busy time for each comes at the

same time; and what is wanted is something to occupy the *leisure* time of the bee-keeper.

Teaching school, I think, comes nearer to it; for the busy time with bees comes in the summer vacation, and one with sufficient strength and the right taste might take care of quite a number of colonies without interfering with school duties. I think, however, he would in time decide as I did, to give up one or the other. A notable exception, however, is in the case of Mr. E. A. Gastman, of Decatur, Ills., who has been for many years superintendent of schools, if I am not mistaken, and at the same time a bee-keeper. Mr. Gastman, however, is a man of magnificent physique—by the way, it just occurs to me that he is very much the build of G. M. Doolittle—and looks as if he might easily do the work of two ordinary men.

Of course, there may be many special departments in which different individuals may have developed special taste and ability, where a somewhat successful combination might be made. For instance, the teacher of the old-fashioned singing-school (now unfortunately out of vogue) could take care of bees without interfering with his "schools," held only on the long evenings.

But what we are after is something that may be done by almost any one with the requisite qualifications to be a good bee-keeper. I think I have heard poultry-keeping spoken of in connection with bee-keeping. That, again, comes too much like berry raising. When work begins to press with the bees, old Biddy will be wanting to sit, and perhaps two or three hens will be sitting on one nest, persistently changing from where you want them, till you feel like shutting your teeth together hard, and saying: "What does make you act so, when I haven't time to tuss with you? I should just like to wring your necks for you." Yet after all this is said, there remains the fact that, in at least two instances, periodicals have been published having for their specialties bee-keeping and poultry-raising. Why this, unless the two pursuits were supposed to have some special adaption to each other?

To tell the truth, if a young man to-day were to write me: "I have at least ordinary ability as a bee-keeper, and have decided that I must have some other pursuit to connect with bee-keeping, what shall it be?" with my present knowledge I should reply: "Keep poultry." But I would not have any hens sitting in swarming time, nor, indeed, with flocks of little chicks wandering about, trying to lose themselves in the wet grass. I have studied some little about it, and taken some observations; and I think the whole business of poultry-raising might be

done almost entirely when bees require little attention.

Mind you, I do not say it is best to combine at, but if combining is done, the merits of poultry-keeping deserve consideration.

DR. C. C. MALLER.

Marengo, Ills.

American Agriculturist for November.

### Early Winter Management of Bees.

**S**UCCESS with bees depends largely upon fall management. At no other time in the year is more careful manipulation required than in preparing bees for winter quarters. To place a colony in the best possible condition a fair amount of brood-rearing should be kept up during August and September. In most localities very little if any honey can be gathered by bees during those months. Hence brood-rearing is checked, and very few, if any, young bees are hatched during this time. So at the beginning of winter the swarms go into quarters, made up of bees that are certain to die in large numbers with old age before spring, leaving weak stocks to commence the season's work. It is therefore important to see that the necessary amount of breeding is kept up during the fall months to furnish young bees to stand the long confinement of winter. This is in the power of every bee-keeper, by simply feeding enough to stimulate brood-rearing, during the scarcity of natural stores. It is also necessary that every colony should contain a good fertile queen. The queen is the life of the colony, and, however careful we have been in other particulars, if we have omitted this important part it certainly will endanger the loss of the colony. Every colony should have twenty-five or thirty pounds of good sealed honey to carry it through the winter, and if the bees lack the required amount they should be fed. If the feeding is done in September, the weather being favorable, it will allow the bees to seal up their stores, which is very important, before going into winter quarters. It has been pretty generally settled by bee-keepers that granulated sugar is the only safe food for bees during winter. It is not advisable under any circumstances to attempt feeding bees honey or syrups of any kind during cold weather; it will produce dysentery, and increase the loss of the colony. Syrups made in the form of candy may be used, but must be given them during a warm day when they are flying freely. Out-door wintering in chaff hives is preferred by the majority of apiarists, though many still winter their bees successfully in cellars. But no one can reasonably expect

much profit from bees which are allowed to stand out in unprotected hives all winter. The work of placing in winter quarters should be done before steady cold weather sets in, and then they should be allowed to remain undisturbed. Stock of every kind should be excluded from the apiary at all times, but poultry may have the range of the apiary. Bees need little attention during winter. At the approach of a warm day see that the entrance of each colony is open so that the bees can have a free passage out and in. During cold weather it will do no harm if the entrance or even the hives are totally covered with snow; it serves as a protection.

Ohio.

A. H. DUFF.

The number on the address label shows the date of expiry of subscription. Examine it and see how you stand and if behind with your JOURNAL dues have it remedied.

## SUNDRY SELECTIONS.

### WOODEN PACKAGES FOR EXTRACTED HONEY.

HENRY B. PARKER.—Would you kindly tell me through the CANADIAN BEE JOURNAL how to make some cheap open top wooden tubs or tanks to hold 400 or 500 lbs. of honey each? Would white ash timber be better than pine, or what kind of wood do you think would be best? What would you use for coating the inside of the barrels when made? Would there be any danger of the honey tasting of the wood, if left to ripen in these barrels?  
Morpeh, Oct. 4th, 1887.

In reply to the above, we would say that we have a large number of whisky barrels, that hold five or six hundred pounds, that we got several years ago. Some of them had been nicely painted on the outside. We made a hole of suitable size near the bottom as they stood on end and screwed in a tap. The barrels are made out of very heavy oak, staved and hooped with double hoop irons. We paid \$3 and \$3.50 each for them and we will give them for \$2.50 a piece, as we do not use them now, and they are about as good as new. We prefer to use tin tanks. We would not advise any person to use wooden tanks for honey. The cost of waxing, the loss of honey soaking into the wood, leakage and other disadvantages, overbalance any advantages they might have. We also have a number of ten

gallon kegs made specially for holding honey. We have got about fifty of them which cost us \$1.10. We will be pleased to take 75 cents apiece for them. All experiments with wooden packages with us have proved unsatisfactory, although we were able by carefully drying them and driving the hoops firmly around them to make them hold, but after the honey becomes granulated in them it is very awkward to get it out, to liquify. You have got to drive the hoops off one end, take out the head and then take out the honey. We much prefer the sixty pound tincase. We do not think it will take you long to decide that wooden tubs are a great nuisance, as they shrink every time honey is put in them, instead of swelling. A tub that will hold water will leak honey. "Water tight" is no test for honey as it seems to be able to penetrate through joints which would be "coal oil" proof. The other day we filled a barrel that had been thoroughly dried and the hoops driven very tight until it would hold water without leaking a drop, with liquid honey, and after the honey was in it about a week it commenced to shrink and leak, and one of the boys came in one morning and said: "That barrel that held water so well last week is now leaking badly. Honey seems like a live eel, very hard to hold, as it seems to wriggle through the wood in spite of iron hoops." Pine, we have heard, makes better honey barrels than soft wood, but as we have settled down on the sixty pound tins for honey in bulk, as we can liquify them by simply putting them into a boiler of hot water, we cannot recommend any kind of wood. Most large dealers in or handlers of honey prefer tin.

### Convention Notices.

MICHIGAN STATE BEE-KEEPERS' ASSOCIATION.  
—At East Saginaw, December 7th to 9th, 1887.  
H. D. CUTTING, Sec., Clinton, Mich.

North American Bee-Keepers' Society and the Northwestern Bee-Keepers Society will meet in joint convention at the Commercial Hotel, cor. Lake and Dearborn streets, in Chicago, Ill., on Wednesday, Thursday and Friday, Nov. 16, 17 and 18, 1887. Arrangements have been made with the Hotel, for back room, one bed, two persons, \$1.75 per day, each; front room, \$2.00 per day each person. This date occurs during the second week of the Fat Stock Show, when excursion rates will be very low.



# FEEDERS.

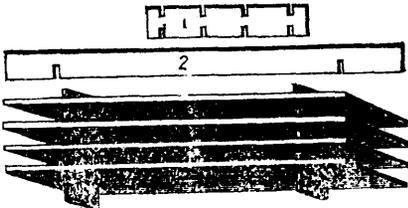
## THE CANADIAN FEEDER.



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.

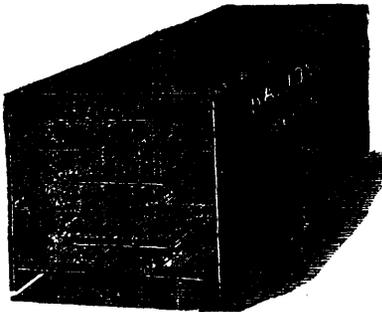
This is the Feeder spoken of on page 610 of the current volume of the JOURNAL. It is arranged with the float as shown in the engraving below. Holds 12 to 15 pounds of feed, and



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.,  
BOSTON.

# 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	August	Sept.
Bees, per $\frac{1}{4}$ 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  $\frac{1}{4}$  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.

	Hornbeard	Untested	Tested	Selected	Virgins
May	2 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	Carrollian 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., LD., Boston.



## 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, 20c.

### SCREW DRIVERS.

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

### TWO-FOOT SQUARES.

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

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

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

### TWO FOOT RULES.

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

### HAND SAWS

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

### PANEL SAWS.

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

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

### PLANES.

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

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

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

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

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

J. J. MARTIN & CO.,  
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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. H. GREEN, Berlin, Wis.  
CHAS. HERTEL, Jr., Freeburg, Ill.  
E. L. ARMSTRONG, Jerseyville, Ill.  
ARTHUR TODD, 1910 Germantown Ave., Philadelphia  
G. B. LEWIS & CO., Watertown, Wis.  
E. KRETCHMER, Coburg, Iowa.  
E. F. Smith, Smyrna, N.Y.  
EZRA BAER, Dixon, Lee Co., Ill.  
J. B. MASON & SONS, Mechanic Falls, Me.  
M. J. DICKASON, Hiawatha, Kans.  
ED. R. NEWCOMB, Pleasant Valley, N.Y.  
J. W. PORTER, Charlottesville, Va.  
ASPINWALL & TREADWELL, Barytown, N.Y.  
BARTON FORSGARD & BARNES, Waco, Tex.  
W. E. CLARK, Oriskany, N.Y.  
PAUL L. VIALLO, Bayou Goula, La.

and numbers of other dealers. Write for SAMPLES FREE and Price List of Supplies, with 150 COMPLIMENTARY and UNSOLICITED TESTIMONIALS from 115 busy 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 Leaflet,  
"HONEY: Some Reasons why it should be Eaten."

It never fails to bring results. Samples sent on application. Prices, printed with your name and address: 100, 50c.; 250, \$1.25; 500, \$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 **Simpli-city 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 1887. Free.

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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.

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

A. J. COOK, Author & Publisher,

State Agricultural College, Lansing Mich

### WONDERFUL OFFER FOR 30 DAYS.

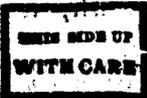
I will sell all-in-one-piece Sections for 30 days or while this advertisement appears here as follows:—4 1/2 x 4 1/2, 1000, \$4.50; 5000, \$20; 10,000, \$38. Send two cent stamp for sample. All Apianian Supplies on short notice and cheaper than ever. **Bee-Keepers' Advance** for one year and a **Cold Blast Smoker**, all for 75 cents! We are offering special rates on honey cans. We are manufacturing the best Honey Can for shipping that is now offered. This can be made air-tight for shipping which is more than can be said of other cans. They can be shipped with perfect safety. Our 60 lb. square cans boxed with nice planed lumber is taking the lead. Drop a card for our special low rates, the lowest ever offered.

We guarantee satisfaction. Our new Honey Extractor at the old prices. Comb Foundation a specialty.

S. P. HODGSON,  
Horning Mills, Ont.

#### SHIPPING LABELS.

These are for pasting on the tops of cages.  
Price, per 10, 5c. by mail, 6c.  
" 100, 25, by mail, 27  
" 1000, 150 by mail, 1,60



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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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Port Colborne, Ont.

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A. I. ROOT, Medina, Ohio.

## FOLDING BOXES

Our **Cartons** for enclosing Section Honey are the best and lowest priced in the market. Made in one piece. With or without tape handles, with Mica fronts or without. In the flat or set up. Printed or not, any way in 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 00

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 "coke" tin is used.

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