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CANADIAN BEE JOURNAL

PUBLISHED MONTHLY.

NEW SERIES
Vol. VI, No. 5.

BRANTFORD, ONT., NOV., 1898.

WHOLE No.
405

Your Subscription is Paid to No.

We are anxious to have the amount due. Kindly remit and oblige. Please send the amount at once. The smallness of the item is often a reason for putting it off; but, when added together it is a large and important amount so us.

honey is quoted at a lower rate per lb., but the duty more than makes up the difference. It is somewhat remarkable that in the Montreal papers comb honey is quoted right along at 7 cents a section. Montreal is the portion of the Dominion which uses the widest sections, they therefore should weigh the most and the sections there should weigh more than in Toronto, where they are quoted a higher price. When in Montreal not long ago, we saw a good deal of comb honey, it is certainly selling at a lower figure than it should. Yet as far as we know what has tended to the low prices is inferior quality put upon the market, and this tending to drag the price of the better article to its level. If we may be permitted to give a word of advice, we would say it does not pay to produce inferior comb honey.

When we consider the extra work in preparing for the comb honey harvest, the extra labor in looking after the bees run for comb honey, the cost of sections, foundation and crates for marketing it, will it not pay better to produce extracted honey? Comb honey production for market requires not only skill, but the time to apply it, and this excludes that reason beginners and those desiring a large proportion of their time for other business.

As a rule, honey in the United States is sold for a lower figure than Canadian, but owing to the scarcity of honey there the price of comb has been crawling up. Lately we wrote of the leading commission houses in Ireland, Columbus, Buffalo, New York and Chicago. The best figure we can get for any white in section crates, is 14 to 15 cents per pound. According to their version this means 10 cents per lb. deducting freight, duty, commission and other charges. In Toronto comb

The Ontario Bee-Keepers' Convention meets at Guelph this year. Particulars of the Convention will be found in another column. The opportunity to take advantage of so low a rate has not occurred since the Society has been incorporated, and bee-keepers generally should avail themselves of the opportunity. While it is quite true that for many years some of the proceedings at the Convention have been a disgrace to it, it is also true that for a number of years there has been more and more of solid, profitable discussion, from which everyone has

derived a benefit. This cannot be secured to the same extent by merely reading a report of the Convention. The more good men attend the Convention the better it will be. It is, therefore, desirable that everyone possible should attend. Those who cannot attend should promptly remit their dollars as membership fees for 1898. Send it to the secretary, Wm. Couse, Streetsville.

The financial welfare of any paper is dependent upon the subscriptions which come in. Many subscribers do not realize

Subscriptions.

this. To them it is only a matter of one or two dollars. These small sums are too often neglected, by too many who would not owe any one a larger sum for the same length of time. We would ask our subscribers to send in their renewals at once. This is the time of year that they are getting money in for their crops. A new subscription sent with the old will be greatly appreciated.

The following appears in an editorial in the Review. "Perhaps you have not noticed it, but our apicultural journalism has somewhat degenerated in the line of criticism.

"Pussy Cat Style."

It has fallen into what Mr. Heddon calls the "pussy cat style." Attempts at criticism are couched in language so apologetic and "mealy mouthed" as to nearly rob them of all force." By all means let us have done with the "pussy cat style," which too often means, that one has not the pluck to say openly, what one would say in secret.

Last winter was very favorable for outside wintering. We may not have

another season like it

A Warning.

for ten years. I have heard of quite a number who wintered their bees on their summer stands without protection, who, simply because they came through all right, are going to do the same this winter. Others who have seen their neighbors without trouble so winter their bees, are going to follow suit. I would warn our readers against such folly. You may have an unfavorable winter; prepare for the worst. Pack and prepare bees carefully and you

may be able to rejoice at your foresight when many careless bee-keepers will be called upon next spring to mourn the loss of a large proportion of their bees.

HO, FOR GUELPH!

Bee-Keepers of Ontario, Attention!

A three days Conference of Bee-Keepers takes place in the City Hall, in the City of Guelph, on Tuesday, Wednesday and Thursday, the 6th, 7th and 8th of December, and every bee-keeper in Ontario and many outside of Ontario should mark across those dates on their calendar the following words in red ink "Annual Meeting Ontario Bee-Keepers, Guelph."

Every bee-keeper within a range of 500 miles should take advantage of this occasion to visit the "Royal City." A single glance at the programme in this issue should be quite sufficient to convince you.

If you cannot possibly arrange to be present at the Convention don't fail to send your membership fee (\$1 00) to the Secretary, Mr. Wm. Couse, Streetsville, at least three days before the meeting, or hand it to your representative in your district or to some one going to the meeting. This is very important, and it is your bounden duty to see to it that every bee-keeper in your locality sends the membership fee, thus showing to the public that our interests are identical and that we stand united.

All members are given a premium, which would cost (if purchased singly) as much as the membership fee, they also receive a full printed report of the annual meeting. Send along your dollar.

Railway arrangements are as follows: Delegates buy a first-class single ticket to Guelph and get a delegate's "certificate" from the agent the ticket is purchased from, and if there be a hundred delegates the return fare will be one third fare.

Owing to the Guelph Fat Stock Show, the Guelph Poultry Show, the Ontario Bee-Keepers Association, and the Experimental Union all clubbing together, it is very likely with all these attractions there will be three hundred or more delegates which will give a fair return to certificate holders, and if the cut rates are then in use they will be greatly taken advantage of as the certificates will be given on them.

Hotel arrangements as follows: The Wellington Hotel, a first-class house, has given a rate of \$1.00. A free bus runs to all trains.

Let there be a grand rally at Guelph.
M. B. HOLMES, Pres.

Annual Meeting

OF THE **ONTARIO BEE-KEEPERS' ASSOCIATION**

TO BE HELD IN THE

City of Guelph, on 6th, 7th and 8th December, 1898.



STREETSVILLE, Oct. 20, 1898.

Editor Canadian Bee Journal.

Dear Sir,—You will please find enclosed the programme of our annual meeting somewhat altered from the previous copy which please correct.

It is almost certain that there will be a large attendance of bee-keepers at our annual meeting, owing to the different attractions in the City of Guelph at the same time.

The Guelph Fat Stock Show, the Guelph Poultry Show, the Experimental Union will meet the same time.

There are many places of interest that the bee-keepers may visit, such as the Ontario Agricultural College and Experimental Farms; the Bell Organ factory, the Goldie Flour mills. The mayor of the city assures me that the bee-keepers will be privileged to visit these different places.

The citizens of Guelph extend a cordial welcome to the bee-keepers of Ontario, to meet in their city.

Having met the president of the Guelph Fat Stock Show and the secretary of the Experimental Union, we arranged to all club together for railroad rates, the understanding being that the secretary of the Fat Stock Show would make application to the different railways for rates. By clubbing we are almost certain to have over a hundred delegates, which will give a return at one-third rate to those holding certificates and it is very likely that there will be three hundred delegates in all societies, which will give a free return.

Delegates should bear in mind that if cut rates are being used, that they go as other rates, so persons near cut rate points will take advantage of them.

Trusting we may have a large attendance.

W. COUSE,
Sec'y, Streetsville.

...PROGRAMME..

TUESDAY, DECEMBER 6TH

- 2.00 p. m.—Reading minutes of previous meeting.
- 2.30 “ —The President's address; Mr. J. B. Hall is invited to open discussion on the address.
- 3.30 “ —Paper by H. G. Sibbald of Cooksville, on “Spring Management;” Mr. D. W. Heise invited to open discussion on this paper.
- 4.30 “ —Paper by W. J. Brown, of Chard, on “Summer Management;” Mr. Jas. Armstrong invited to open the discussion on Mr. Brown's paper.

Evening Session.

- 8.00 “ Jas. Fixture of the Experimental Farm, Ottawa; paper on “Some Experiments on Wintering Bees. W. J. Brown to open the discussion.
- 9.00 “ Paper by F. A. Gemmill on “Rational Methods of Extracting Wax;” W. A. Chrysler is invited to open the discussion on this paper.

WEDNESDAY, DECEMBER 7

- 9.00 a. m.—Official Reports and Communications.
 10.30 “ —Paper by W. Z. Hutchinson, of Flint, Mich., on “Management in Swarming Season;” A. E. Hoshal invited to open discussion on Mr. Hutchinson’s paper.
 11.15 “ —Paper by R. F. Holtermann “Honey for Market;” Mr. Gemmell is invited to open discussion on this paper.

Afternoon Session.

- 2.00 p. m.—Paper by J. K. Darlin on “Making Our Association More Useful;” Mr. Jas. E. Frith invited to open the discussion on this paper.
 3.00 “ —Election of officers.
 4.00 “ —Paper by J. D. Evan’s, of Islington, on “The Rascally Supply Man;” Mr. Jno. Newton invited to open the discussion on Mr. Evan’s paper.

Evening Session.

- 8.00 “ —Paper by Dr. A. B. Mason, of Toledo, Ohio, on “Thoughts by a Novice;” Mr. C. W. Post is invited to open the discussion on this paper.
 9.00 “ —There have been prominent gentlemen invited to give addresses.

THURSDAY, DECEMBER 8

- 9.00 a. m.—Paper by R. H. Smith, of St. Thomas, on “Management of Comb Honey;” Mr. J. Sparling is invited to open the discussion on Mr. Smith’s paper.
 10.00 “ —Unfinished business and new business.

[If we might be allowed to express an opinion, we think new business should not be left until the dying hours of a Convention. It is well known that an hour or so before a Convention closes the attendance is but meagre. We think the above need only to be pointed out to be remedied, either before the final programme appears, or by resolution at the meeting.—Ed.]

Worth Remembering.

The following is taken from the proceedings of the late Ontario Bee Keepers Convention:—

Mr. W. McEvoy—Moved seconded by Mr. R. F. Holtermann that on behalf of the Bee-keepers of Ontario a vote of thanks be tendered to Mr. Orr for the very valuable work which he has done throughout the Province in instructing the people as to when and how to spray, and that Mr. Orr be made an Honorary member of this Association.

The President put the motion which on a vote having been taken was declared unanimous amid applause.

Mr. Orr—I wish to thank you for the high honor you have conferred upon me. I am very glad indeed to become a member of your fraternity. I may say from the time I have taken hold of this work to the present I have never received a complaint from any fruit grower of spraying being done while the trees were in full bloom. I do not think that any intelligent man would spray his trees while

in full bloom; there is no possible object in doing it. We have given instructions to the men throughout the country and we will do the same next year. We published 20,000 of these bulletins last year and had them spread broadcast throughout the country. We will add to that this year what the penalty is, and do everything in our power to educate the people.

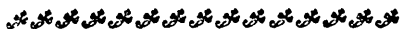
In regard to the question of posters being hung up in the different public places throughout the country, I am sure that is a matter that the Minister will be glad to comply with, and I will see him myself in regard to it.
 Applause.

Mr. R. F. Holtermann moved, seconded by F. A. Gemmell, that a vote of thanks be tendered to the Hon. John Dryden, Minister of Agriculture, on behalf of this Association, for the interest he has taken in bringing the Act regarding the spraying of fruit trees at the proper time, before the fruit growers.

The president put the motion, which, on a vote having been taken, was declared carried.

Eighteenth Annual Meeting

OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.



Continued.

Mr. John Newton read his paper on "The Outline of Work During Extracting Season," as follows:

Outline of Work during the Extracting Season.

In running an Apiary as I do, part for comb and part for extracted honey, I usually select the strongest and best colonies for comb honey, and the rest are run for extracted honey. When the spring work has been done, such as clipping queens' wings, etc., and before the honey season opens, I see that my extracting combs and supers are clean and in proper shape for the honey season. My supers are the same size as my brood chambers, only one combless is used. Eight combs $8\frac{1}{2} \times 16\frac{1}{2}$ inches comprise my extracting super.

Now, as the season opens, my supers and queen excluders are brought from the store-room, smoker is lighted and the bees smoked, the excluder placed over the brood chamber and one super is put over the excluder on all colonies to be run for extracted honey and that are strong enough to need room. After the honey flow fairly opens. I make it a rule to see what is being done in the supers, or colonies not yet having extra room, so that if more room is needed it may be given at once. Never allow a shortage of room for storing. In doing so two objects are desired, one is to discourage swarming from over crowding, and the other to secure the greatest amount of surplus honey. I run all colonies two stories high. When super one is about two-thirds full, it is raised and super two placed under it. I might say right here for those who have not so many spare combs, it can be worked by extracting one half of the combs at a time, always placing the combs with the most honey to the centre of the hives. By doing this, you will get well ripened honey, and it does not allow the bees to be over crowded, or in need of storing room. Now as the season advances, and in four or five days after you

have placed on your second super, super No. 1 will be ready for extracting, but right here let us be sure that our honey is well ripened before extracting. You all know the nectar which the bees collect from the flowers is thin and watery, and must be fully evaporated to make the best honey. The bee-keeper should be equally wise and not extract his honey until it is capped over. This requires a little more labor of uncapping, but then you get far superior honey and the wax for your trouble. We do not want honey that has been ripened artificially. All honey should be allowed to ripen in the hives. As I have said before, the benefits derived by doing so are, the honey will have a better body, and is superior in flavor.

Now we must see that our extracting and store-rooms are in good order, everything clean and tidy. When visitors come to see me I never feel ashamed to show them into my extracting room. I know it won't disgust them and have them go away saying, "I do not want to eat any extracted honey if every bee-keeper is as dirty as Newton. It is not fit to eat." I have seen extracting rooms all daubed and sticky, and the bee keeper also. Let us put a good article on the market and command a good price. When your extracting and store rooms are in good order, extractor placed in position on a box or bench in good order and high enough to let a pail under the tap, honey-can the same with your strainer screwed around the top, uncapping-can placed in position, knife in good order, dish of warm water to place your knife in when not in use uncapping which will assist much with your work. My uncapping can is just an oblong box with a bent tin so as to drain the honey to one end and run it in a dish. Now my screen, which is used for holding the cappings, is one of the screens of my Solar Wax Extractor, when the screen is full it is placed in the solar and another one put in its place, and if it is a nice sunny day the same night we will have no cappings to

wash for vinegar, but they will be into nice yellow wax and the honey which was in them can be placed in your store can none the worse for going through the solar.

Now when everything is ready, comb box, wheelbarrow, and smoker, going good, I proceed to the bee yard, and after going around to those hives I wish to extract, placing the entrance blocks on and giving a few puffs of smoke, this will cause an excitement and warm up the honey and will greatly aid you in your extracting; right here, we must be cautious not to give too much smoke so as to injure the flavor of the honey. Now proceed to that part of the yard which you wish to start at and after giving a few more puffs of smoke into the top, tear off your quilt and take out one comb, placing it at the entrance so as to give you more room in the hive to shake and brush the bees from the comb, and prevent killing and making the bees angry, placing each comb as the bees are cleaned from them into your comb box. After all combs are out close down hive, remove entrance blocks and proceed to your extracting room, uncup and extract. A little caution must be taken in turning the extractor, start slow, gradually getting up speed and there is not much danger in breaking the combs.

After extracting, place the combs to one side until evening and then replace them on the hives. If I was working as I mentioned before, extracting the half super at a time, I would carry a set of combs with me and replace them as soon as the full ones are taken out. After your day's extracting is over and all honey run into your store cans, cover up your extractor, uncapping dish, etc., so as to keep them clean until you want them again, and thus I work on until the honey season is over. During the last extracting the bee tent is usually brought into use to prevent robbing. After the extracting season is finally over and all combs extracted, they are piled three high on hives with a quilt between the brood chamber and supers with a corner turned back to allow the bees to clean them up, or if placed in the yard some distance from the bees, tiered up and combs spaced to allow bees access to them, they will soon clean them up, but I prefer the former way as it does not cause the same excitement. After combs are clean and sweet, they are again placed in the store-room with a sheet of paper between each until they are needed again the following spring. Applause.

Questions and Answers.

Mr. Evans—I would like to ask the object of putting blocks in the front of the hives when you are extracting?

Mr. Newton—I mentioned in my paper it was because it warmed up the honey somewhat and greatly assisted us in extracting. I do not think to remove them till I go to shut down my hives. When I shut down my hives I just throw my blocks to one side. It could be done just as well before but I shake my bees in my super and let them run down the combs; I do not shake them outside as some do.

My combs were only put away about three weeks ago. This protects them from the moth.

Mr. Pickett—I think I noticed in the reading of the paper that he had sometimes replaced the combs with others in his extracting. Is it wise in these perilous times?

Mr. Newton—Of course that is a matter of opinion between each of us in this room; as regards the foul brood question, it has been said that there may be a chance of spreading the disease through the yard in that way.

Mr. Pickett—I do not care to change combs, there is a danger of spreading foul brood.

Mr. Gemmell—It is a bad plan unless you know you are safe.

Mr. Post—I have confidence that there is no foul brood in my hives and I do not pay any attention to the exchanging.

Mr. Newton—I have full confidence in my yard that there is nothing there.

Mr. Holmes—I have always practiced the interchange of combs throughout the whole yard. If it is the sense of this meeting that it is advisable to discontinue that sort of thing I am perfectly willing to fall in line.

Mr. Darling—I have two or three questions that I jotted down while you were reading your paper. Do you have any trouble in inducing the bees to work in a super; if so, how do you overcome the difficulty?

Mr. Newton—In some cases we do: I think we are all troubled with it once in a while. Of course as I told you in my paper, I never put any on till I think they need it. I mentioned that in my paper particularly. I do not go around my yard and put it on every one at once; I put it on those that I think really need it; then, the rest of them are left until I think they are in proper shape to need it, and I think when they are left that way there is not

much trouble but what the bees will enter them quite readily.

Mr. Couse—Do you put a card of brood up?

Mr. Newton—No.

Mr. McEvoy—Mr. Newton works mostly for comb honey, and his uncapping box is large enough for that, and the way he drains it all right, but if he had 100 or more colonies of bees, the uncapping arrangement is altogether too small.

Mr. Hall—You neither understand what Mr. Newton is talking about. Mr. Newton has given it to you very intelligently; it is not his fault; it is the fault of you gentlemen that do not do as we do. Mr. Newton does not use any comb for extracting purposes that he uses in his brood nest; nor do any with whom Mr. Newton is connected, do it; they keep extracting combs for extracting purposes. Mr. Newton does not want to put up the brood to coax his bees up, it is because he would have pollen there and his combs would not keep after he laid them aside. Mr. Newton's combs, if he does not use them, will be clean and free from moths; the only thing that will eat them is the mice.

Mr. Dickenson—Mr. Newton says he goes to the smoker and takes out the comb. When I go to the smoker I take off the super. I am sure that it is ready before I take it off and set it down; I turn over the cover and throw it upside down; my covers have flanges on, and I let it stay there and strip off the blanket. That, remember, is the first extracting; that rule does not apply when you are extracting for the last time. The bees will commence to leave that; sometimes they leave it sooner than others. Some swarms of bees will leave quicker than they will on another, but as a rule if you come back in about an hour you will find the bees are pretty well out; I come along with a wheelbarrow and I put on three of those crates. If the bees have not all gone out I take them out, but I find frequently I can pick up some that I do not have to take any bees out of.

Mr. Newton—With regard to your method, I would not like to do that. I think if I set down my honey and leave it standing for an hour and then took it to the extracting room and tried to throw it out I think it will be like what I mentioned, sticky bee-keepers and sticky honey makers, because it would come out in strings. Mr. McEvoy said that if I had a couple of hundred hives for extracting, the way I used my cappings, my method

would not answer. I would just have so many more solar wax extractors, and so many more screens, and I would work it just the same if I had 200 as I would the way I am doing now. If you leave your cappings to the end of the season they get granulated and if you wash them for vinegar, you know what a work it is. Before night comes on my cappings are into wax and there is no washing for vinegar.

Mr. Darling—Do you not find that the heat of the solar extractor darkens the honey?

Mr. Newton—I do not; nothing that you could notice; if it is the right solar extractor and rightly fixed. The only difference I can see is that it is a little thicker.

Mr. Couse—How do you do it?

Mr. Newton—My extractor is the same as Mr. McEvoy's. I think it should be shaded.

Mr. McEvoy—Shift the tin under.

Mr. Newton—You cannot do it that way exactly.

Mr. Dickenson—With regard to warming up those combs, that does not concern me at all; it is so warm in my honey house that I can hardly stand it.

Mr. Hall—That is on a warm day. We have to take our honey in October.

Mr. Dickenson—I don't extract in October. I extract when my honey is ripe, when it is all capped. I have taken off five crates of well capped honey from one colony.

Mr. Hall—At one time?

Mr. Dickenson—No.

Mr. Holtermann—I know quite a number of bee-keepers desire to see what is called the deep cell foundation. I will put it on the table.

Mr. Best—This paper reminds me very much of a man's orchard; he found a great number of sticks and stones under the best apple trees. I think this paper has brought out a great deal of discussion and I am pleased to see that it has. The picking at the paper shows, I think, the good quality of it; and I think if he has a chance to express himself he will show that the course that he has pursued has not been far astray. I take great pleasure in moving a vote of thanks to Mr. Newton for his valuable paper.

Mr. McEvoy—I second that.

Mr. Darling—You say, Mr. Newton, that you shade the honey receptacle. How do you do it?

Mr. Newton—With a small piece of board right under the dish, or whatever it may be you are running your wax into;

I just leave space enough for the drip to run into, and that is all that is seen.

Mr. Arough—As I am the inventor of that extractor, probably I can say a little something about it. If you run honey through, it time and again, without cleaning your screen or pan, it is going to color your honey more or less. That is one thing you have got to do, keep the pan and screen perfectly clean, because every time you melt there is a kind of dark sediment or matter there; the next day that will heat up again and honey passing over that will become discolored. Another thing, you want your pan just as short as it can be made to catch the drip, so as not to allow it to pass over the dark metal that is under the screen. When I first made them I made them too long and I have eventually shortened them up, and maybe those that some of the members have are still too long.

I think Mr. Newton has given us a fine paper and something that may be of benefit. There is one thing in keeping everything clean round about your place; have a place for extracting in that your bees cannot get into and buzz around when you are working, and drop into the cans when you are filling them out of the tank and so on.

I called on a store keeper in St. Thomas once to sell him some honey and I was only asking eight cents wholesale. "Oh!" said he, "I bought some honey the other day at seven." I said I would like, out of curiosity, to see the quality of it. He brought out a can (he hadn't opened them himself, he had just got them the day before,) and when I looked in I couldn't see the honey for drowned bees: it was literally covered on top of the can with drowned bees. There is one exhibition of carelessness in putting honey on the market in that state; that would disgust any consumer; they wouldn't think of looking at honey if they always got it like that. With regard to putting the extracting combs back, I have done both ways; I have kept them off till evening, which I always do in robbing time, if there is any inclination to rob. If I am scant of supers I put them back when extracting. If I have plenty I take two top stories off each hive, or three off the small ones. I believe it is better to leave them off till evening. If you do not put them back they will go on with their work just as soon as you close the hive, and they can do this work at night when they cannot gather.

In a discussion re using a honey knife dipped in hot water or dry, the majority preferred to use the knife dry.

Mr. J. B. Hall followed with a paper entitled

Harvesting Comb Honey.

This is the heading sent to me by your Secretary. I do not fully understand its meaning, and I think it might have been given to a more competent person as I am very apt to be termed a "Back Number." But at the risk of everything, I will make a few statements of facts as I find them in the apiary.

1st. For the production or harvesting honey, be it comb or extracted, we must have bees, and for producing comb honey in sections the right strain of bees must be kept. By the right strain I mean bees that are great gatherers and are not afraid to leave the brood nest to store it; that will fill the brood combs to the top bar with brood; that will build combs without the use of brace combs; that will fill the sections to the wood all around, and are not afraid to cap it when full. The above qualities can be and are kept, but it requires constant culling out of undesirable stock.

2nd. The hive has not much to do with the securing of a large and choice crop of section honey. I do not want a small hive, except the bees swarm, in that case I want it contracted for seven days. Our friends, the manufacturers and patentees, tell us great things about the choice of dwellings for our bees, and most likely say what they think is true, but we must not forget that they are making their bread and butter, not from the production of honey, and we must take their advice with a deal of caution.

3rd. See that the bees have an abundance of stores to last them until the main honey flow, and be sure and do this in September and give them a good letting alone until fruit bloom. This is the right time to unite any stocks that will not be strong enough for the honey flow, always keeping the best of the queens when uniting.

4th. Fill the sections with suitable foundation. Here again it becomes us to be very cautious, and it will be well that we read the report given to the Ontario Association at Toronto in 1896 of experiments made at the Dominion Experimental Farm, Ottawa, and you will see that the foundation that is lauded so profusely, and told us, by those interested, that we make a great mistake if we do not use the patent or other makes. Do not use tough foundation as the bees will not accept or work it out as readily as that which is more brittle. Perhaps they cannot get

hold of the wax, the grain being broken by the stretching or kneading it gets passing through the process of making.

5th. To secure a crop there must be a honey flow, and we must know about what time or date it will commence and its duration and govern ourselves accordingly. Now is the time to use our judgment aright. Give the supers as soon as the bees will occupy them and as fast as needed and not before or faster, just keeping a little in advance of the storing by the bees, and if you want the cappings to be fancy white, take supers of as soon as the honey is capped.

Friends, you will permit me to state that neatness and cleanliness will be a great factor in producing choice comb honey. This paper is not a large one, but I think it will lead to discussion, and that, I think, is the object of our gathering here.

Respectfully

J. W. HALL.

Woodstock.

Mr. McKnight—Have you, or any of the rest of the gentlemen, Mr. President, found that honey taken from cappings is, as a rule, thinner than the general average of honey in the supers?

Mr. Hall—Yes, until after it passes through the super and then it is thicker.

Mr. Alpaugh—If you use a honey knife dropped in water it will be thinner; if you do not, it will be just as thick if not thicker.

Mr. Darling—I have never used a knife dropped in water.

Mr. Alpaugh—I invariably use a knife dry.

Mr. Newton—I would like to stand in with Mr. Alpaugh. I did not think to mention it as regards having the extractor perfectly clean; I think that is one great point. Mr. Chrysler is behind me and he whispers in my ear something about solar wax extractors coloring the wax. It will be just the same as Mr. Alpaugh spoke of if you do not keep your screen clean. I always have a rag underneath my extractor, and I never turn it to the sun without rubbing the tin and also the glass at the same time, and then everything is perfectly clean. After melting my wax I throw my screen down and pour water on it to clean the screen.

Mr. Chrysler—If your wax is not shaded and it is allowed to remain from day to day in the receptacle and the sun gets at it, it will turn the wax dark.

Mr. Newton—I hope there are no bee-keepers who do that. We need our solar

to put it in use instead of leaving the wax in there day after day.

Mr. Holtermann stated that he thought Mr. Hall was putting up a man of straw. As far as he knew, no supply dealer had said that some particular hive was the all requisite and prime essential in the production of comb honey. A firm that was going to be a success, not for one or two years, but a long time, must build on a solid basis, and that compelled them to advocate what was in the best interests of bee-keepers.

Mr. Hall claimed that the supply dealers were blinded by their hobbies.

In comb foundation Mr. Hall claimed that the Ottawa experiments favoured the heavier foundation.

Mr. Holtermann stated that Prof. Shutt admitted that in their tests they had ignored what advantage or disadvantage there was in a thick or thin foundation. A very important consideration.

A discussion followed on hives during which no converts were apparent.

A hearty vote of thanks was rendered Mr. Hall for his paper, also his answers to questions.

The freight rate committee reported that they had succeeded in getting the freight rate on barrels reduced.

The officers were elected. The list has already been given.

Guelph was selected as the next place of meeting.

* * * *

Mr. McEvoy—I would like Mr. Hall, Mr. Newton, Mr. Post and Mr. Hoshal to tell me about how much more section honey they get by filling the sections full of foundation than by using starters.

Mr. Best—In my opinion, just about double.

Mr. Newton—I can only say I don't know.

Mr. Post—I have tried everything from starters to full sheets and I certainly think you get 100 per cent more honey.

Mr. Hall—I don't know. When I first got foundation I read the books and they told me to put in a three cornered piece of wax and put it on the top and I was fool enough to take that advice. I put some in the brood nest that year and I was afraid to look at it for fear it would fall down.

Mr. Emigh—I could not answer the question as I have never used anything except full sheets.

Mr. Sparling—I am in the same position, very much; I have hardly used anything but full sheets, but I do not imagine that

you would get double the quantity; I think it would depend somewhat on the honey flow. I do not imagine you could get double the quantity with full sheets that you would with starters.

Mr. Hall—We were short of foundation. You know in putting in five or six thousand sections of foundations there is some that will break off and leave a little strip across the top. I said, we have no foundation, and in they go. We took twenty-eight sections off the supers solidly sealed except this one section that had this strip across and it was half full of built comb, no sealing in it at all.

Mr. Hoshal—I was satisfied in my own mind that it did not pay to particularly fill the section with foundation. My experience on a small scale, has been exactly what Mr. Hall has stated, that is, in putting on cases, a few of them were only partially filled and others had full sheets of foundations in the sections, and I would get those that were completely filled nicely built out and capped and finished up, but the others would be almost invariably as Mr. Hall says. Just how much more honey there would be in one than the other I don't know; I am not prepared to say, but there is a marked difference.

Mr. Holtermann—There is a point that I do not think bee-keepers have paid enough attention to generally; it is not alone how much more honey they will get, but how much more is that article worth when you have got it. All things being equal, no man can compete in producing a quality of honey and not use a full sheet, with a man who uses a full sheet; and I want to emphasize one point, it is not alone what we generally consider a full sheet, but it is important to fill the section just as full as ever you can, without endangering the displacement of the sheet foundation; by that I mean you want to have it just as close to the side and bottom as you can out it without danger that it touches it and causes it to bulge. There are many who think they are using full sheets, but they are not paying enough attention to them, and the result is, even if they are just as good bee-keepers in every other respect, they cannot get as good an outfit.

Mr. Newton—Mr. Holtermann took the words out of my mouth as regards the selling of the honey. I think that is one great object we have in using the full sheets, to show our honey in a different light from what we do in putting in starters. I remember going north to buy some comb honey and the gentleman I went to buy from was in the habit of using these

small starters; I think I could say one third of it was built with drone that did not look very nice as compared with the worker comb, and it spoiled the looks of it for the market, so I think the advantage in using the full sheets more than doubly repays us for doing so.

Mr. Post.—There is one thing I would like to ask Mr. Hall. In placing your foundation in the section are you particular which side of the foundation you fasten? You know how to put foundation in brood chambers.

Mr. Hall—I put it in the same as that. People say, how is it the bees always put the point of the cell upwards. They say so because they don't know any better. They say, how is it you Canucks and Yankees always go contrary to the bees. As I told you this afternoon, my wax is very brittle. I want it brittle, and if I put the point upwards it won't stand, after we run it through our machine, but if it is put the other way, with my foundation, it will stand upright; then again, it won't sag so much this way as it will the other; that is why I put it on that way. But with general foundation—I saw some here this afternoon of Mr. Smith's—that will stand any way. I simply put it on that way because it will stand and it will not stretch after it is in. I do not know that there is any particular advantage of putting it one way or the other, if you get certain brands of foundation; but that foundation would not stand in position, it would buckle the other way, and it will keep straight this way.

Mr. McEvoy—I find another drawback in starters, when you put the starters in at the top that way you cannot expect the bees to reach it and they will fill in the brood chamber; but if you bring it down they run up and you get honey in the top chamber and you do not have the amount of swarming that takes place otherwise. It is business to fill the sections as full as possible. We get twice the amount of honey.

Mr. Holtermann—I did not like to say anything about the quantity of the honey. I do not believe you get twice as much honey. When we begin to talk about the production of comb honey, I believe that we are making some pretty serious blunders.

Mr. McEvoy—I go further and I will say you get three times the amount.

Mr. Holtermann—We are apt to judge by what we get in the supers. When we are taking extracted honey we relieve the pressure from the brood chamber, the result is more honey is stored in the

upper storey, but at the end of the season you can tell every colony you have run for comb honey and for extracted honey. There is so much more honey in the colony that you have run for comb honey, because the accommodation has not been quite so liberal in the upper storey and the result is people think they can produce a much larger per centage of extracted honey than comb honey. I believe if you say you can produce 65 pounds of comb honey where you can produce 100 of extracted you have gone just as far as you can go. When you say you can produce twice the quantity of comb honey with your foundation you are misleading again. I say that the bees not having even as much accommodation as they had before, store a larger proportion in the lower storey, and what you do find is that there will be a greater tendency to swarm and take up the quantity of honey in the different hives. When you are speaking of this full sheet foundation, that is one place where you get the advantage with the new process of Comb foundation. You say, I have got to allow for sagging in the ordinary foundation. Use the new process and you have to allow nothing for sagging. You know where you are right at the start; that is a very important thing.

Mr. Newton—Mr. Holtermann admitted that the bees would store it below and it would have a tendency to cause the bees to swarm. When the bees get the fever up they do not work the same and are not bringing in so much honey from the field.

Mr. McEvoy—About how much more extracted honey will you get than comb, by leaving the comb in the supers till it is pretty well sealed before being extracted?

Mr. Post—It would average about sixty-five of comb to 100 of extract.

Mr. Frith—You would simply get it in proportion to the amount of sealed honey.

Mr. Picket—In our section we get from sixty to sixty-five per cent. of comb honey to extracted honey.

Mr. Frith—What percentage would you suppose to be sealed?

Mr. Picket—About three fourths.

Mr. Hall—Eighty five per cent.

Mr. Newton—I was judging about seventy-five per cent. when you leave the combs to be thoroughly capped.

Mr. Hall—If they have to draw the comb in both cases there would be no difference comparatively. You have given them so much of a start in one case. It is like two men going for a race.

Mr. Holtermann—I know Mr. Pettit says

seventy-five per cent, but when we hold up our hands at sixty-five per cent. a lot of them look in horror.

Mr. Evans—Isn't the fact that we get a greater amount of extracted honey due to the fact that we have comb left over from the year before ready for the bees to fill, and in the other case they have to draw out the foundation?

Mr. Darling—I am not a comb honey producer, but I take a few sections sometimes for my own accommodation, or that of other parties and I have found what has led me to believe that the bees do not build down or draw out comb as fast in sections, as they would in one solid sheet. It has been my impression in the past and I adhere to it still this evening. You know I use the Jones frame and I sometimes drop a sheet of perforated metal and take out my honey at what Doolittle calls the side storey; it is a good deal more difficult to get the bees to draw them out and fill them, than it is if you drop in a sheet of foundation in the frame. If I drop one in the front in order to keep pollen from going in the sections, and if I drop another behind, the probability is that the sheet which is behind will be drawn out and filled before the sections are that are between the two. Why is it unless they hate to work in those little holes?

Mr. Chrysler—I can get a little more honey by having shallow frames and the sections, say four inches and four and a half than I can if that space was taken up with four sections filled with comb foundation. There is more finishing up to do in the sections than there would be in a frame four times as large, and I always contend, from what experience I have had, that if we could have our comb honey in that sized section it would be more profitable.

Mr. Sparling—This year my bees commenced to work with a rush, it lasted only just three or four days, and those that had extracting supers on had quite a lot of honey in them when the bees that had foundation to draw out in sections had only just commenced.

Mr. Hall—if you give them foundation in both cases and let them cap it you will find precious little difference in the result; that is, if you weigh the surplus honey in the brood nests as well as what you get at the top. If you only reckon the top you don't know what you are doing. In one case you may have thirty pounds below and in another case you may have only three pounds below.

Mr. McKnight—What is the most con

venient article that can be employed for taking down a cluster and hiving the swarm?

Mr. Evans—Some years ago I was in Owen Sound, in the summer season, about the time of bee swarming, and I called on Mr. McKnight, and he very pleasantly showed me a system of swarming, which was the best I have seen, and I have followed it ever since. I think probably he had better describe it himself. I thought it was worth journeying all the way to Owen Sound to see. I was at Mr. McKnight's house and I was very well treated, and I learned how to take down the bees on a stick, which I think is one of the best things I ever learned.

Mr. McKnight.—It was just mainly to give my experience on that point to my brother bee-keepers that I raised the question. What I have used for fifteen years is considered to be the best thing of the kind that is used anywhere. Its construction was not original with me; I saw it mentioned or described in *Gleanings* fourteen or fifteen years ago, and I was a comparatively young bee-keeper at that time, testing nearly everything I saw that came along; this is a very simple and cheap contrivance. Those of you who were brought up in the old country will best imagine what it is like when I tell you it is on the principle of a chimney sweep's brush, only a chimney sweep's brush is wire and this is made of wood. Take, for instance, a piece of stick two inches square and say two or three feet long, as you please, chamfer the four edges of it and make it octagonal in shape, eight sided. Cut off a few pieces of lath, rip your lath up the centre, cut them into pieces about two feet long and nail them around on these eight bevels, one after the other, till you get it filled down well, six or eight inches would be quite sufficient. At the other end cut a tin ferrule, put it on the stock, with perhaps two inches or two and a half inches to receive the stick that you put into it. Have in your yard half a dozen or more different lengths of stick that will slip easily into this socket. When your swarm is clustering, that is the best time to do it, but it does not matter; you can do it almost as well after it is clustered. You can see at once what length of stick is required to reach the cluster; take the stick that you have in hand, put it into the socket and as they are clustering put this in amongst them and they will cluster on it every time. I have taken swarms of bees off the top of a big old elm tree; simply by tying one onto the other you can reach

away up to where the cluster is. If they are clustered, as very frequently they are before you have noticed them, take your stick again and give a sudden jerk near the cluster of bees till you dislodge them from their resting place. I will guarantee to catch ninety swarms out of one hundred with that simple contrivance. Having them clustered, then you can set your stick on the ground and take it away. When they are all settled upon your chimney sweeping brush, lower your stick, drop the stick that was in the socket, carry home the swarm of bees to the front of your hive and give it a sudden jerk and there they are. I may tell you that when one of the prominent members of the British Bee-Keepers' Association was over here during the Chicago Exposition he stopped at my place for a while and I was showing him this contrivance. It was in the morning and I was not sure, indeed, I had little hope that I would be able to give him a practical demonstration of its usefulness. In going through the orchard which was composed mostly of old trees—my bees were in the orchard—there happened to be what an Englishman calls a cast and evidently it had been there all night and it was worth having. I took the stick and I went through the simple operation with that little cluster, and in less than ten minutes the cast was upon my chimney sweepers brush. He was so much interested in it that he wrote and asked me to give him a full description. It is not worth more than ten cents; a boy of twelve years old could make one. The only thing that costs anything is a tin ferrule, and it only costs five cents. I would recommend every one of you here to try it and I believe if you try it one season you will never dispense with its use.

Mr. McEvoy—The question asked can perhaps be answered in another way; I find a pair of scissors a good way to get them down.

Mr. McKnight—I never clip my queens.

Mr. Evans—I suppose this does not interest expert bee-keepers who clip their queens, but there are some who do not; I have had some clipped queens and I do not like them at all, in coming back they are liable to pile onto the adjoining hives. Coming to the fact that we allow the bees to swarm, and what is the best way to get them down, I have found this device of Mr. McKnight's an excellent thing; I didn't bother with the tin; I made a couple of them of different lengths and then I fastened a hook on the end, at the top, and I have another pole with a hook

on it. I take the precaution to hang the pole with the hook on it on the limb and hold the device under the limb. I give it it a jar, then hang it on the limb and the rest go to it.

Mr. Frith—It puts me in mind of a device I saw when I first commenced to keep bees; it was made on the same principle only the man had, I think, holes bored in the central piece and corn cobs stuck in it.

Mr. Hall—There was a man who married a school teacher and the bees were given to the girl baby; this man used to keep some thirty to seventy stocks of bees and the product of the bees belonged to the baby. I said to him how do you manage when the bees swarm? He says, don't you see that in there; I just get a lot of those ready in the morning or evening as the case may be, and there are none of the bees more than about fifty feet from the kitchen door. He says, I don't have to come up from the field; as soon as ever my wife (Betsy, I think he called her) sees that the bees are swarming and they begin to cluster, she does not go near them. They begin to cluster and she takes this thing on a pole, it looked as if they were a lot of corn cobs stuck in it, and on top of it was a hook and she would raise up the stick with the hook on it and she would shake the limb and then she would put it on the ground and go away and wash her dishes.

There was one fellow here who says the best plan is to use the scissors. I use a pen knife.

Mr. Holmes—I have used a device something similar to the one described by Mr. McKnight.

Mr. Hoshal—I have just been wondering in my mind whether the use of the scissors works out as practically as it does in theory.

Mr. McEvoy—Every time.

Mr. Hoshal—I suppose the bees go back every time just where they came from.

Mr. McEvoy—Nearly always.

Mr. Hall—Where I live it is close to the market, and I would have as many as eighteen farmers there a day teasing me with questions; it wasn't for my benefit and sometimes I got annoyed. One fellow named John Lewis came along one day and he said, how are you getting on? I was sitting on a hive taking a rest. He says, what is that? I says, it is a bunch of bees; he says, I never saw a bunch of bees like that; why don't you take them. I would if they were mine; I said, I am too tired; he says, they are worth \$30; I says, I would'n't take \$36 for them; he says, how many swarms are there; I said,

seven. Just then they started to fly and he says, there they go; I said, where are they going; he said, they are going to the woods. But, instead of going to the woods they went into seven different hives.

Mr. McEvoy—I have had as many as ten or eleven, and I just catch the queens and put them in the hives and have fed them for hours and I let them all return, every one of them.

Mr. Darling—We do not all have the opportunity of living alone; it was my misfortune to have a neighbour that was exceedingly troublesome, the longer we lived opposite each other the more troublesome he got, whether it was his fault or mine I don't know. My bees used to go across; they don't mind fences and there did not happen to be any fence between his place and mine. He had made some pretty hasty threats about what he could do with me and my bees, and I wasn't what Mr. Hall calls a clipper then; I believe a clipper is a ship they used to depend a great deal on in the olden times. However, I made up my mind rather than have any difficulty with a neighbour I would try what the scissors would do and I clipped my queens. The next year I put my bees out again right around my house, and when swarming time came one or two of the neighbors thought there would be some fun. When the swarm would come out I captured the queen and let the bees go, and some four or five times when parties saw the bees come out they watched to see whether there would be any trouble or not, and the bees would circle around and around, and after I had my queen caged and everything ready I sat down and waited quietly and they came back to where I was sitting and commenced going in the hive. Finally one of the neighbors said, what ails your bees? I said, I don't know that there is anything wrong with them. He said, you don't have to go after them; I says, my bees have good manners and they go away and come home when they get ready. He says, they don't seem to go over to the neighbors; I said, my neighbor don't want them. They go away and when they get tired they come back. I believe I told them at last what had been done. It saved me a good deal of trouble. I found further before that season was over if I had not had my queens clipped I would have lost a good many swarms; they tried to get away and they would have left only for the fact that they could not take the queen with them. I have had as many as five swarms piled in a heap on the fence

But, there is a difficulty here and not one has touched upon it; I will guarantee Mr. Hall has met with it; sometimes we have maybe three swarms in the air at one time and there chances to be one or two young queens that come out for a fly; they get in that swarm and you would not have to wait very long before you would see them go to the bush. I believe in clipping the queens because it saves a good deal of trouble.

Mr. Alpaugh—I do not think you will find an old swarm go away with a young queen; that is, a swarm that has had an old queen.

Mr. Darling—I have had it done, and have had them leave the old queen there and have had to kill it.

Mr. Alpaugh—They found the swarm with a young queen and an old queen to; they would not go to the woods with a strange young queen.

Mr. Hall—From personal experience, with your permission, I can corroborate what Mr. Alpaugh says. You cannot have a swarm of bees fly away with a young queen belonging to another hive; that does not take place and cannot take place because it is not natural. I have had the experience of the old queen and the young queen coming out together. Mr. Darling received a queen from me; there was a queen of that kind and it came out on the Sabbath, it was just before dinner and it was lying on one of these little new thorn hedges we are putting out; we went to dinner and when I was coming from dinner they were going to the woods. I had my old queen in the cage and I went to the hive and I saw there were other young queens there. This swarm of bees had got its young queen and I had got the the mother at home. But, they went off to the woods. Another time there were three swarms of bees hanging on the apple trees and I had bundled two of them into a hive and the other one went back where its queen was; we hunted around and found the queen in the grass. I hadn't got things settled and they came out again and I said, they are going to the woods, but not so. They went to the hives. They went to where they came from; when I went there there were bees there; they had simply gone in with a small swarm with a young queen, and the small swarm with the young queen stayed where they were put.

Mr. Holmes—What is likely to occur if the attendant or man in charge of the yard happens to be off duty when a swarm issues with a clipped queen?

Mr. Hall—The bees come back again

mostly; the mother goes back with them. That is the only way you can run out apiaries. I go out to my apiaries once a week. If they swarm they will have to go back again and then they will swarm again the next day. Very likely they will get dissatisfied with the mother and they will kill her. If the queen is there and the cells are capped we know what to do. They will go back again and the mother will go back again; she does not want to go to the woods. We have got erroneous notions from these John Bulls and these Dutchmen as well, as to the queen leading off a swarm, She is not a queen, she is a mother; old queens never lead off a swarm. She is never out until after the bees are out; and she does not want to come out, therefore, an old queen never leads off a swarm.

Mr. Darling—Did you ever see the bees crowd them out behind?

Mr. Hall—I can't say that I have.

Mr. Hoshal—I have been wondering if there is any difference in bees as to their hiving qualities the same as there is in their honey gathering qualities?

Mr. Darling—Yes. Some of them come out and if they come out a second time you cannot get them to go back again; they will go anywhere in the world.

Mr. Hoshal—What made me ask the question was principally this, I have not been in the habit of clipping, but in these Conventions I find that there are bee keepers who do clip and it makes me somewhat sceptical in my position as to whether I have got the right end of the thread or not.

Mr. Alpaugh—If you place your hives along in rows, very uniform, just so far apart, you will have any amount of trouble in your swarms returning; if they cannot get into a hive they will go into the next one, and follow right along. But if you turn your hives in clumps, four in a clump there, and another clump here, you will have no trouble in the world; they will find their own hive every time.

Mr. McEvoy—In a swarm returning to the wrong hive what would you do?

Mr. Alpaugh—I just stuff up the hives with anything.

Mr. McEvoy—I have tried throwing a cloth over them, but of late years I find the best thing is to get a Winchester Red Smoker and I can cover the hive.

Mr. McKnight concluded the evening session by giving an interesting reading entitled "Shaun McLean's Wedding."

Mr. W. M. Orr, Fruit Lands, who has charge of the government fruit spraying experiments gave an address. Mr. Orr

stated that he and the government would do everything in their power to prevent the spraying of fruit trees when in blossom. He said:—

Now, I may say that when this work was committed to my hands by the Honorable Mr. Dryden, Minister of Agriculture, he wrote me certain instructions, which I will give you saying, "Word has come to me that some of the spraying has been done while the trees were in bloom. I think this must be wrong information, but I hope you will guard against making this error." That was the first letter I received from him. I may say, I at once telegraphed to each of the men who were doing work in different parts of the province, instructing them not to spray under any consideration when the trees were in full bloom, and to instruct others not to do it. Every intelligent fruit grower knows that it is not only useless but injurious to spray when the trees are in full bloom. Thirty thousand copies of a bulletin were issued. I daresay many of you have seen them, probably all of you, and in this bulletin we say, in no case spray while the trees are in bloom, but immediately after, it is contrary to law. We are going to add in our new bulletin that offenders are liable to a fine of from \$1 to \$5 for each offence. We can not get things perfect just at the start. There is no conflict, or at least there should be none, between fruit growers and bee-keepers, our interests certainly are one.

The attendance having dwindled and the Court Room being required, the Convention adjourned to the Jury room.

Mr. Hall moved, seconded by Mr. Post, that the objectionable words "foul brood inspector" be eliminated from the statute and that the words "inspector of apiaries" be added in their place. Carried.

Mr. Course moved, seconded by Mr. Gemmell, that this Association endorse the action of the government in the appointing of a Commissioner in London, England, to place honey on the list of Canadian products; and that we would recommend Mr. C. W. Post as a fit and proper person to act as inspector for the purpose of guaranteeing any honey which the members of the Ontario Bee-Keepers' Association may export to England.

The president put the motion, which on a vote having been taken, was declared carried.

Mr. Frith moved, seconded by Chas. Brown that the name of Mr. John Newton be added to the list of those recommended for the position of Dominion apiarist.

Mr. Frith claimed that it was only mentioning Mr. Newton's name as another competent person and adding it to the recommendation of last year (Mr. Holtermann). Perhaps another year more names would be added.

Several protested, saying this move was a mistake.

Mr. R. McKnight said the late Mr. S. Cornell was the only competent man bee-keepers had for the position; that they needed no one at Ottawa, but Mr. Newton was an excellent man. Mr. Holtermann was entirely unfit for the position, he was a leach on the Association. Last night, when Mr. Holtermann sat side by side with Prof. Shutt, he could not help noticing the marked contrast between the two and how markedly the contrast was unfavorable to Mr. Holtermann. Prof. Shutt was a gentleman of whom he had a very high opinion.

The motion was carried.

The convention then adjourned.

Bees at the Toronto Fair.

—JAS. J. HURLEY.

The management of the Toronto Industrial secured from Mr. R. F. Holtermann for its late exhibition an exhibit of the honey bee, together, with lectures and discriptions thereon. To say that it was a success, would be to put it mildly. The display was shown in a large tent immediately opposite the C. P. R. exhibit. Just adjoining this was a large screen tent which contained three hives of bees. In the first tent was shown bee-keepers' supplies, and comb honey in its different stages of development, together with the different varieties of honey and bees. The public was shown the difference between extracted and comb honey, and the different methods of obtaining the same; the effect of the moth upon honey-comb, and various other interesting points bearing on the natural history of the honey bee. But the screen tent was the great point of attraction. Here the gentlemen in attendance took frame after frame out of the hives and passed them about, briefly describing the habits and home of the bee.

Many were the exclamations of wonder and surprise by those who saw for the first time the honey bee "At Home."

Hundred of persons from all parts of Canada and the United States were interested spectators, and plied question after question, chief among which was "won't they sting you?" The reply of the attendant invariably was the picking up of a handful of bees and shaking them on the out-stretched hand of the questioner, whenever he or she could be induced to hold their hand out. Of course, the enquirer was assured that we had no guarantee that the bees would not sting; that it depended largely upon their humor, but with proper handling and manipulation, the chances were very much reduced. It is a most surprising fact that, notwithstanding the constant handling of the bees for five or six hours every day, for two weeks, not one of the spectators got stung. One gentleman, who was a "doubting Thomas," and who had experienced considerable trouble in handling his bees at home, insisted that we had something on our hands or had done something to quiet the bees. He declared that he did not think it was possible for him to handle them as we were doing. He was immediately invited inside with the assurance that he would be perfectly safe. He came in and was soon convinced. The bees were just as gentle with him as with ourselves. He was a beginner and had had very little experience.

Mr. R. F. Holtermann gave a lecture each afternoon on the natural history of the bee, in addition to answering all enquiries and giving all the information he could to those who sought it.

We had the privilege, while there, of meeting with some of the prominent bee-keepers of the country, and enjoyed their acquaintance very much.

Mr. McEvoy we found to be a quiet, plain, unassuming, gentlemanly man, who, at no little trouble, described to us the nature of foul brood. Our chat with Mr. McEvoy was very profitable indeed. Another man whose acquaintance we appreciated was Mr. C. W. Post. He gave us a detailed description of his method of keeping a record of his queens and swarms. We also met Mr. Alpaugh, whose conversation we enjoyed very much. Also Mr. Hall, of Woodstock, who, on coming up to us when showing a frame of bees to a few interested persons, reached out his hand, caught up a handful and asked, "What are they, flies?" He is quite a joker. On the whole, the exhibit was quite a success and no doubt the management will have it repeated next year.

ACCURACY.

How Essential it is to the Bee-
Keeper's Success.

—J. E. CRANE.

(The Bee-Keepers' Review.)

What I shall say in this paper is largely for the benefit of beginners, or those of small experience in keeping bees, and something that they might not otherwise learn except in that school which is proverbially expensive. There may be some who are older that can read it with benefit.

Few things, including bee stings, are more provoking or trying to the temper than a set of hives which vary in size, or the different parts of which are ill-fitting, or poorly made.

The large number of manufactures who make a specialty of making bee-keepers' supplies render it very much easier to get well made hives and other fixtures than was the case twenty years ago. Still, there are many who do not care to pay large freight bills, and who have mills near at hand doing work of a similar character, and would prefer to have their work done near at home. To such let me say that before making a large number of hives, make a careful study of hives and find out accurately just what you want, or is best adapted to your work or business. If you propose to produce extracted honey, your hives may be quite different from what would be required for comb honey. Make out a bill of pieces for hives and fixtures. Make out an agreement that each and every piece shall be got out accurately from well seasoned lumber without the variation of an eighth of an inch; one-sixteenth of an inch would be better. Then put them together so that every part will fit accurately with no loose joints or leaky roofs. Let the frames be made square, not even a little diamond shape, or the bees may stick one end to the end of the hive with propolis, and at the other end build a "bit" of comb between. See that the space between the top of the frames and the honey board is just right, and will stay so. If the top bars are too light they may sag, and thus while the space is one fourth inch at the ends, it may be one-half inch in the middle when the frames are filled with honey. See that just the right space is given at the ends of frames; for, if too much is

given, combs may be built between the ends of the frames and the hive; and, if too little, the bees will fill up that little with propolis. The same rule applies to the space under the frames. I had one lot of hives made where the brood chamber shrank so as to let the frames of many of them rest on the bottom board. Not only must the frames be of the right size, but so arranged as to space at exactly the proper distance apart, I have looked over bees for others and found the frames anywhere from one and one-fourth to two inches apart. The nearer the brood combs can come together and leave sufficient "bee-space" between them, the better can the bees economise their heat in spring time, and advance their brood.

When all is completed the foundation must be put into the centre of the frames and the foundation drawn out so as to remain inside the frames. When the hives are placed upon the stand where they are to remain, see that they are leveled up accurately, and not leave them looking too much like the head stones in some cemeteries; pointing to every star in the heavens. The bees, with only their antennæ for compass and square will build their cells with the greatest accuracy, and without plumb line or level will build their combs exactly downward. Shall we by a little carelessness allow the hives to stand tilted a little this way or that so the combs will sag or be built partly in the frame and partly outside, and thus be unfitted to exchange with some other comb that is perhaps out of the frame in the other side?

If we turn to the surplus department we shall find that even greater accuracy is demanded than in the brood chamber of the hive. If our clamp or section holder is 17 inches inside and we order our sections cut $4\frac{1}{2}$ exactly and we find when put together they are a 1-32nd of an inch over, we shall be in trouble. Or if they are cut exactly right and then set up the least bit diamond shape, the same trouble comes in when we place four of them end to end—they will not go into our clamp. Again, if not quite large enough, or 1-32nd of an inch too small, when four are put together there may be left a space of one-eighth of an inch to be filled by propolis, very much to our discomfort and the appearance of the sections when ready for market. The sections should also be of exactly the right width and quite smooth. I have found them vary so much as to make it very difficult to get in the full number; or, again, they would not fill the space in the clamp. Where honey is

sent to market in paper boxes, or cartons as they are called, it is very desirable that they, too, should fit accurately. One year a new firm begged my trade in paper boxes, offering to make them much cheaper than I had been paying. I gave them two or three orders of several thousand, and when received, notwithstanding that they had the exact size of the section, not one lot was of the right size. One lot was so small as to make it quite impossible to get my sections into a large share of them; while another lot was so large as to make it almost impossible to get them into my packing cases.

Thus it will be readily seen that where we purchase our sections of one firm, our paper boxes of another, and our packing cases of a third, accuracy is a prime factor in our success in getting our honey to market in good shape.

Not only in the matter of making hives and surplus arrangements is it necessary to be accurate, but in the management of our bees will it be found equally so. How many times I have seen it stated in print that bees would not rear a queen from brood four days old, I do not know; but I do know that I have found them doing it many times; very much to my disadvantage and their's too. Again it has been said that they would not hatch out a young queen in less than ten days after being deprived of their queen, and without brood in queen cells, but I have found out that they will sometimes do so to my sorrow.

And now, in conclusion, let me say that we should not only make our hives and sections, our management and queen rearing accurate, but let us learn to observe closely and think accurately and clearly if we can.

Middlebury, Vt. June 20, 1898.

Do Bees Move Eggs or Larvæ?

In the American Bee Journal, page 578, Doolittle places "himself on the side of those who claim that bees never remove eggs;" but he holds to the opinion that they transfer larvæ from one comb to another and to queen cells; of which transference he believes he has observed many instances, and of which he gives one strong case, but the particulars of which he confessedly quotes from memory after a considerable lapse of time. The case was this: A swarm issued and returned, and the queen cells were cut out the same day. The next day the swarm issued again and returned, and almost

immediately three other swarms issued and entered the hive of the one in question, without their queens. The day following all the swarms issued as one; after which the hive was examined and a great number of queen cells were found containing larvæ; many of them being in places where "it would have been impossible for larvæ to have gotten in them (or the cells built over larvæ) other than by bees carrying them there," as he says. His statement, backed by the strength of his name, furnishes what the editor of "Gleanings" would call "heavy testimony." I have not observed the ways of bees for so long a time as has Doolittle, but for a good many years I kept a sharp lookout for just such cases as the above, in many instances where such transference would seem highly desirable to the bees, but though in a considerable number of cases I thought I saw what might be evidence of the transferring of eggs or larvæ, continued observation showed that it was not. Of course this does not show that Doolittle is wrong; but I may be excused from registering my doubts.—R. L. TAYLOR, in The Beekeepers' Review.

Why Hybrids are Preferred.

The writer of "Beedom Boiled Down" (A. B. J., 586) quotes Gleanings as thinking "that the majority of progressive beekeepers use hybrids because they secure as much honey as the Italians and more than blacks," and says The American Bee-Keeper thinks that that is not the true reason, without giving any other. The Boiler then asks "Don't they have hybrids just because it is too much trouble to keep pure Italians?" That is not the true reason I opine. They keep them because they are better bees. They are as good honey gatherers, they go readily into the comb-honey supers—no fussing with bait sections—combs and comb-honey supers are freed from them very much more readily; and as to the color, handsome is that handsome does. I discovered recently that I especially admired the appearance of the sorts of grapes of which I am the fondest.—R. L. TAYLOR, in The Beekeepers' Review.

Cuba can at least boast of enormous grasshoppers. They grow there to a length of five inches, and their wings spread out ten inches.

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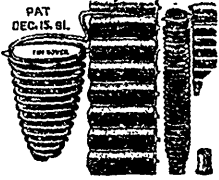


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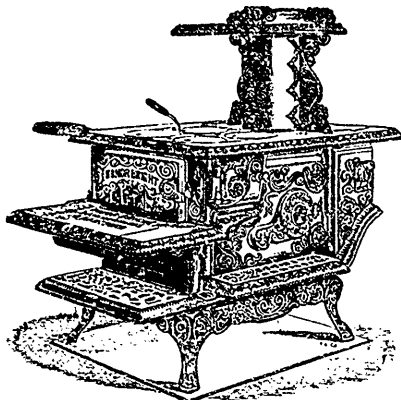
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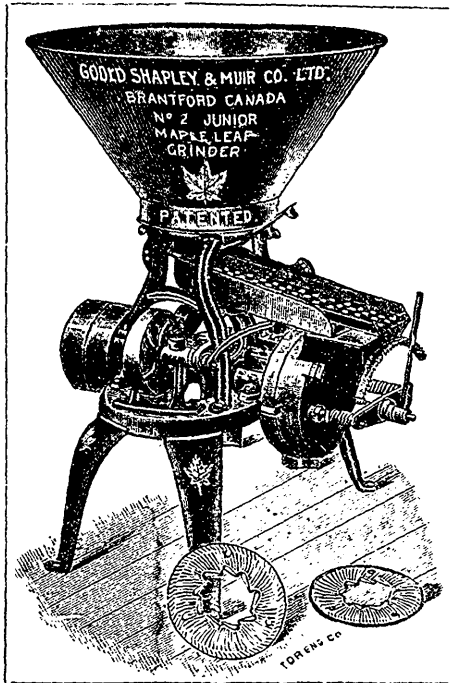
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