

The Canadian Bee Journal

Published Monthly

New Series
Vol. 13, No. 3

BRANTFORD, CAN., MAR., 1905

Whole No
481

ANNUAL MEETING ONTARIO BEE-KEEPERS' ASSOCIATION

The President—I am sure we are much indebted to Prof. Harrison for his very instructive paper.

Mr. Holtermann—Prof. Harrison refers to the disease being transmitted not alone through what are admitted by bee-keepers generally to be the well-known channels, but he also mentioned the disease being transmitted through the queen and through the blossoms which the bee visits. I think it would be very desirable for us to know the ground of Prof. Harrison's conclusion. Foul brood is a disease which is dangerous to us, and it is well for us to know just how dangerous it is and then we will make every effort possible to have it stamped out.

Prof. Harrison—In answer to Mr. Holtermann's question. First, with regard to diseased queens, I think that is established beyond doubt. Chesham and Watson Cheyne, the two men who first described this disease, examined a number of queens and found the ovaries of two or three diseased; that is to say, the ovaries contained the organism of foul brood, bacillus alvei. Mackenzie, then bacteriologist of the Provincial Board of Health, now

professor of pathology in the University of Toronto, also examined a number of queens and found in the ovaries of some of these queens bacillus alvei. Personally I have examined a number of queens and have also found this organism to be present; and, further than that, I have examined eggs from hives in which foul brood was present and found in these eggs bacillus alvei. If any of you come to Guelph at any time I shall be pleased to show you bacillus alvei in the eggs of bees. I have shown that to some bee-keepers. I remember showing that to Mr. W. Z. Hutchinson of Flint, Mich., some years ago. I could instance a number of other competent bee men whose names, I think, you will be prepared to admit, stand at the top of the ladder with regard to bees. For instance, Mr. Bertrand, editor of the "Revue Internationale de Apiculture" in Switzerland, also recognizes the fact that queens are diseased, and in his little brochure upon foul brood he commends, when the treatment from medicated syrup fails, the removing of the queen because she is diseased. So that I think there are a sufficient number of observations upon this question to show that the queen does become affected, and, further, that the eggs may become infected.

With regard to flowers. I may say that it is simply a laboratory experi-

ment. It is possible; I have tried it, and, granting the possibility of it, it may happen to extend. It is a question which is a very difficult one; it means the taking of blossoms visited by bees from diseased hives and subjecting them to very careful microscopical studies. I have tried it on a small scale, and I am convinced, personally that such is possible, though to what extent it takes place under natural conditions I am unable to give you any information.

Mr. Byer—What proof have we that foul brood has been transmitted by using foundation made from the wax?

Prof. Harrison—I cannot say that it has been transmitted, but I can say I have examined wax which was being used for foundation in which the spores of bacillus alvei were found. So if the spores were found there, it is possible that they may produce infection. Under the natural conditions you can only look to all these probabilities. We don't know exactly how the infection takes place, but we must recognize all these channels, and if we find foul brood germs in foundation, that must be looked upon as evidence, and positive evidence at that.

Mr. Craig—The wax you refer to had not gone through any process of manufacture? The examination was made before the wax was made into foundation?

Prof. Harrison—This is wax which had been boiled and ready to be made up into foundation.

Mr. Craig—In the manufacturing of comb foundation the wax is kept at boiling point for several hours.

Prof. Harrison—Is that always the case, Mr. Craig? That may be from your standpoint as a manufacturer of bee supplies, but is that the case with those bee-keepers who make their own foundation?

Mr. Craig—I would not like to say that it is.

Prof. Harrison—I know that it is true from the manufacturer's standpoint, but I don't know how true it is with regard to the bee-keepers.

Mr. Craig—Would the addition of sulphuric acid, which we use for clarifying the wax, have any effect?

Prof. Harrison—Certainly.

Mr. Byer—About ten years ago we were making foundation, and we received about 100 pounds of wax from a yard badly diseased, and, sooner than take any chances, we made that into foundation and used it in our own yard, and there has never been a sign of foul brood.

Mr. Dickenson—How long was the wax heated?

Mr. Byer—I couldn't tell you that. I don't think we heated it nearly as much as in the Weed process.

Prof. Harrison—I think the danger is small. I have arranged them practically in the order of their importance. I have put the ones which are the worst first, particularly the bees robbing diseased colonies. I consider that probably one of the chief reasons. But in making these up I considered that there was evidence in each case. I have not elaborated on each of them, because I thought the paper would be too long if I did so, but there is a probability; just how much of a probability that is I can't say. It is a channel, however small it may be.

Mr. Holtermann—This matter of the queen transmitting the disease is one which has been up for a good many years, and it certainly is an important matter. I am one of those who would not ignore practical results and scientific investigation. I know Mr. McEvoy says that the disease is transmitted through the ovaries of the queen, and that he has again and again taken queens out of badly diseased stocks and put them into healthy colonies, and that the disease has not developed in the stock. We should

not ignore that. On the other hand, we should not ignore the scientific investigation; the two should go hand in hand. I would be strongly in favor of Mr. McEvoy and Prof. Harrison carrying on experiments this coming season in that direction, and if money is needed to do it, they should be paid for their work, I don't believe the Inspector of Apiaries is getting as much as he should. He should have more, in order that he may be justified in devoting more time to that work.

As far as the question of foul brood being transmitted through comb foundation is concerned, that was an experiment which, with the sanction of the Ontario government, I carried on one year. Prof. Harrison supplied culture for the bacteria, and that was put into the comb foundation and melted under as low a temperature as possible, and sheeted and put into the hive. The disease did not break out that season, and as far as I know it never did break out. But I ceased carrying on that line of experimentation for the government and what became of the foundation I don't know; it was lost track of. I have felt I would like to see that experiment repeated. I know Prof. Harrison has secured a growth out of the wax but practical experience would appear to indicate to us it is not transmitted.

Mr. Heise—Mr. Holtermann has intimated that a deep realization of the danger of the disease should be an incentive, and I believe it will be, leading up to its extermination. If it is possible that the disease is transmitted by bees from a diseased colony visiting blossoms there is a danger there that possibly many of us have never realized and besides that it is a medium over which the bee-keeper has absolutely no control, making it so much more dangerous.

Amendments to By-laws.

The report of the committee appoint-

ed to amend the by-laws of the Ontario Bee-Keepers' Association was taken up at this stage and considered. The president read the proposed amendment to sec. 4: "The board of management shall consist of the president, vice-president and five directors, and they shall appoint from among themselves an executive committee of three, and they shall elect from among their number or otherwise a secretary-treasurer."

The president also read the proposed amendment to section 8, as follows:

"It shall be the duty of the president to preside at all meetings of the association to call for reports, to put motions when seconded, to decide upon questions of order, and to declare the result of ballots and elections.

"The president shall also, as long as the foul brood demands it, direct the inspector or sub-inspectors, in accordance with the act, for the Suppression of Foul Brood Among Bees.

"The president shall also file all letters in connection with his duties as president of the Ontario Bee-Keepers' Association; also keep a copy of the letters sent out in said capacity, and hand the same to his successor in office

"The executive shall have power to call all special meetings when necessary.

The president shall be ex-officio chairman of the board of directors, and call it together when necessary."

Mr. Dickenson thought that it would be a mistake to curtail the board of directors; that if this was done larger districts would have to be made or the directors taken from some one part of the province might be the result which would mean centralization, which he did not think would be in the interests of the Association; that he would be in favor of extending rather than curtailing the board.

Mr. Evans thought that the large board of directors such as they at

present had was a farce; that the money was practically being frittered away to no purpose and that if the number of directors was restricted to five the business could be done quite as well.

Mr. Gemmell referred to the good work which had been done by Mr. McKnight in connection with the Association; that if it had not been for him the Association probably would not have the standing that it has to-day; that they had secured the government grant in order that the association might be made representative; the grant was given so that directors could be sent from different parts of the country for the benefit of the Association, and had it not been for that he thought we would never have had an association at all. He had attended meetings of the Association where there were not more than 25 present simply because it was a local meeting to a certain extent. He thought to appoint five directors and elect them in the towns where the meeting was held would result in a lack of representation and he thought it would be the greatest absurdity in the world.

Mr. McKnight, on being called upon to speak, was in a reminiscent mood, and entertained the convention with some of the facts connected with the early history of the association. He said that the country was giving the Association about \$500 a year, and something for the Inspector of Apiaries, and he asked whether the Association had not some right to return to the country something for the money that was being given them; that they were doing that to this extent, that they were giving the country now three pounds of honey, for the same price that a pound of butter would cost. The Ontario Bee-Keepers' Association had given to the country a supply of honey, and that honey could be purchased at a reasonable price from every well organized grocery store.

In his concluding remarks he thanked the association for having called upon him to speak and he wished to say that he appreciated very much the gold watch which he still carried, which had been presented to him by the Association, an honor which he thought had not been bestowed upon any other past president, and there was nothing that he esteemed more highly than this gift, and in presenting him with it the association had done a great deal more for him than he had ever done for it.

Mr. Holtermann in discussing the question of the reduction of the number of directors, stated that in the county councils in this province the number of councillors has been very much reduced, and it was also known that there were perhaps no constituencies in the province that would go back to the old system; that they had found according to the new system, that less men would do less talking and do their business in a more business-like way, in a shorter time and at less expense; that the same thing had taken place in other Provincial Associations which are under Government patronage, just as this association is. He believed the Association could be better worked if the board were reduced. He thought the money could be used in better ways and the work done more expeditiously. He thought it would be to the advantage of the Association if they could have taken a part of the money grant and arranged that every lady and gentleman attending the fruit, flower and honey show should have a sample of honey of the best quality, and in that way demand for honey and the market would be increased. It was for such reasons as these he favored the reduction of the number of directors.

Mr. Deadman was opposed to reducing the number on the board; he thought it would be a great mistake;

as it is now, the Association is well represented in every part of Ontario, but if the number of directors was reduced it would certainly lessen that representation. The matter of expense in connection with the Association for the extra directors is very trifling and the amount which would be saved by reducing the number of directors would also be trifling and he did not think it would be in the interests of the Association. As it was all the directors did not attend at every meeting of the board; most of them only attended once a year. The Executive perhaps met oftener, but that expense should not be avoided in any case. As far as using the money for opening up a market that was very good, but there were lots of ways of doing that and when a better or other way of increasing the trade for honey was found then the money would be found to meet that expense.

Mr. McEvoy stated that the Fruit Growers received a grant of somewhere about \$1800 but that this Association only receive \$500; that the other Association had thirteen directors; and he wished to know why they desired to cut down the number of directors in this association. He thought there were some who desired to accomplish something which would result in the breaking down of the association which at present was in a prosperous condition.

Mr. Gemmell stated that the dairy men and the florists and all the rest of them spent a great deal more money than this association, and if this association required more money he was sure the Ontario Government would only be too pleased to give it to them to make a display of honey in any place in the world but he did not think this association should be crippled by reducing the number of directors.

Mr. Grosjean thought that the

amendment hardly went far enough; that if the amendment was drawn so as to have five directors, one in each district of five districts, and have the meetings pass from one district to another that it would be more suitable to the association, but it was well known that under the proposed amendment that the association would likely localize in one particular part and all the members from that part would stop away, those that were present would have all the directors appointed from that district, and the president and the whole thing would stop there, and the association would go down to nothing.

Mr. Holterman talked of economy with the county commissioners but he (Mr. Grosjean) had seen a little of that; they had asked for a change, and there was now a chance to go back to the old system; the county commissioners spend more money than they did before; they have all the work to do, and in the place of having committees, the whole of them go. Under the old system they appointed four on the road and bridge committee and four or five on some others; these would serve on it with the warden; and now there were from twelve to twenty-four in the united county, and they all get together and they all go. He thought it a mistake to reduce the number of directors, to five and that that would be too small a number for the province of Ontario.

Mr. Holterman asked Mr. Grosjean if this should be found to be the case whether there would be anything to prevent changing the by-laws then.

Mr. Grosjean answered that just as soon as it was localized it could not be changed because the directors would all be there, and they wouldn't want it changed.

Mr. Darling stated that this same argument with reference to the extra

expense had been urged last year, which was attached to bringing so many directors together in the association. He did not know that it was going to benefit the association very much if a few of the individuals put the money in their pockets by it, helping them to get their honey to the market. With regard to the diminution of the number of men in the county councils he understood that there was a move on foot in a number of counties to go back to the old way because of the unsatisfactory way the business has been done since the change. He thought if that was so the association had better go slow.

There was one thing in connection with this that he could not understand and that was that while almost every association is compelled by law to have more directors than the beekeepers' association could possibly have at the present time, why there should be a desire to cut the number of directors in this association down.

With regard to the spending of the money by the board of directors he had understood that it was granted for that particular purpose in order to make the influence of this association more widely felt, and more for the general good of the province. He thought from what was said last year that probably the wording of the by-law as it stood now was not just exactly what it ought to be. It was said there a man didn't really know where he lived. He (Mr. Darling) was probably responsible for the faulty wording of the by-law by simply leaving out a few words, instead of naming the different ridings as they were named in schedule A in the Agricultural and Arts Act, and simply giving the counties. The objection was made that the counties were not outlined the same as the different ridings so that it caused confusion. To remedy this and still make practi-

cally no change in the manner of government of this association or its managers he had prepared an amendment to that, which he would read, as follows:

Moved in amendment by Mr. J. K. Darling, seconded by Wm. McEvoy, that by-law No. 4 be amended as follows:

District No. 1—No change.

District No. 2—To read as follows: Lanark North, Lanark South, Renfrew North, Renfrew South, Carleton, Russell and the city of Ottawa.

District No. 3 as follows: Frontenac, City of Kingston, Leeds and Grenville North, Leeds South, Grenville South and Brockville.

District No. 4 as follows: Hastings East, Hastings North, Hastings West, Addington, Lennox and Prince Edward.

District No. 5, as follows: Durham East, Durham West, Northumberland East, Northumberland West, Peterboro East, Peterboro West, Victoria North (including Haliburton) and Victoria.

District No. 6, as follows: York East, York North, York West, Ontario North, Ontario South, Peel, Cardwell and the City of Toronto.

District No. 7, as follows: Wellington Centre, Wellington South, Wellington West, Waterloo North, Waterloo South, Wentworth North, Wentworth South, Dufferin, Halton and the City of Hamilton.

Division No. 8, no change.

District No. 9 as follows: Elgin East, Elgin West, Brant North, Brant South, Oxford North, Oxford South, Norfolk North and Norfolk South.

District No. 10 as follows: Huron East, Huron South, Huron West, Bruce North, Bruce South, Grey East, Grey North, Grey South, Perth North, and Perth South.

District No. 11 as follows: Essex North, Essex South, Kent East, Kent West, Lambton East, Lambton West, Middlesex East, Middlesex West, Middlesex North and the City of London.

District No. 12, as follows: Algoma East, Algoma West, Simcoe East, Simcoe South, Simcoe West, Muskoka, Parry Sound East, Parry Sound West, Nipissing East, Nipissing West and Manitoulin.

The president stated that if there was no objection he would put Mr. Darling's amendment as a motion.

Mr. Holterman moved, seconded by Mr. Marrison, that the vote be taken by ballot.

Mr. McEvoy moved in amendment, seconded by Mr. Darling, that an open vote be taken.

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

The president put the amendment to allow the by-laws to stand as at present with the exception of inserting the necessary details as to the different ridings as set forth in Mr. Darling's amendment, which on a vote having been taken, was declared carried.

THIRD SESSION.

A Season With Bees and How to Manage Them.

(W. A. Hoshal, Beamsville, Ont.)

Mr. President and Gentlemen: I have no apology to offer this afternoon for being here. The secretary asked me to come, and I haven't the least doubt at all but that he was prompted by the president himself. If this address at this time does not come up to your expectations, and you do not get full value for the time you waste in listening to it, don't blame the speaker altogether.

I might say I have been assigned no subject. It was left to myself. Under the circumstances I was partial to myself and chose an easy one. What I chose for the occasion was "A Season with the Bees and How to Manage Them. You will notice that this is quite comprehensive as well as being an easy one, and if I deal

with it in a comprehensive and thorough manner I presume when I get through with it there will be nothing left for any one to say.

To get down to real business in this matter and tell you why I chose the subject may help us a little bit in the discussion of it. I have attended a few meetings of this association, and I have read the Journals from time to time and one subject I failed to get hold of entirely was, so to speak, a general outline of a system of management which covered a whole year, or a general plan which could be filled in afterward in minutiae and detail. I have noticed bee keepers begin to

build up a system the other way. They get an idea here and another some place else and then they try to put them together. It is something like a man starting to build a house and going to onemanager and ordering a door



A. E. HOSHAL,
Beamsville, Ontario

and to some one else for two or three window, lumber from someone else in indefinite quantities, and finally he gets all together, and says, I am going to build a house; and then he tries to patch those parts up into something the best he can. The intelligent way is to obtain a plan from the architect first, and get something that you can fill out. In going into bee-keeping it strikes me that the same logic holds good if we are to make a success. Get a general plan in your minds in the first place and then go to work and fill it out afterwards with such devices and means that fit the system.

In addressing you this afternoon I

might say that I have prepared this address mostly for what you call beginners. A good many of you are old hands in the profession and I am not directing my remarks so much to you as I am to the beginners. You have got your plan already started, and you can't very well change it. In presenting this system, it is therefore for the benefit of those who are starting out or have not gone so far but what they can remedy a mistake if they think they have made such. You will notice here around me quite an amount of paraphernalia, and you may ask me what I am going to do with all that old stuff. It is not as nice as you see at the exhibition, but I intend to illustrate my thoughts this afternoon to show you how different things are done. Now, in choosing the implements to do that with I have not bought new ones, but out of our own yard implements used year after year and are still there in use and we expect to use them for some time to come unless we find something better. It is just what you would see in the yard. You don't see these polished up things. I have tried to put on things that are natural and represent them just as they are.

There are three systems of bee keeping I believe that cover the whole ground. There is the box hive system, the movable frame system, and the case system. I don't think there is anything besides these. I presume it is unnecessary to explain what we mean by the box hive system; bees are put in a hive or box, sometimes into a nail keg, sometimes into a stump and sometimes into those little woven straw hives and left to take care of themselves. When the bees have got such filled they will swarm and they are given another one by their owner, and when they fill that they are given another one, and so on *ad infinitum*, and

when the fall comes those that have not sufficient stores to go through the winter are killed and the honey taken from them. I don't know who was the inventor of this system, but I presume it was the bees themselves.

The next is the movable frame system. We have hives called the "Jones," "Root," "Smith," and Brown, etc., etc., hives, double walled, dovetailed and everything else. They all come under one system namely a movable frame system. They are built with the idea of manipulating bees or accomplishing certain purposes with bees with a system of frame or comb manipulation, and I presume nine out of ten if not nineteen out of twenty of those present use that system largely. It is called sometimes the Langstroth system, but it does not make any difference what size of frames or how the frames are made as long as you manipulate those frames which contain the combs.

The third system is the case system. By that system I mean a system of manipulation by which instead of manipulating combs we manipulate cases to accomplish the different objects which we desire in our work. Cases are built usually with frames. I have here a case. You will notice everything in it is solid. The purpose of that is to carry out the idea of manipulating your bees through a system of cases. You will notice here I have what is called a frame. (Refers to diagram.) You recognize it at once as the Langstroth frame, and the idea is that the frame is hung in a hive and when you want to do anything with your bees it is done by the manipulation, largely, of these frames. In the other, it is done by the manipulation of the case.

This afternoon in outlining a system of management for the year I am going to confine myself necessarily

to one system, that system to be the case system. I believe it to be the best because I use it myself. That is natural. And the different manipulations which I shall detail shall be adapted to that, not to the movable frame, or the box hive systems at all.

Now, to begin with, I will suppose we are all beginners here. I want a man for the season and I am going to engage him and he knows nothing about bee-keeping. It is now about the last of May or the first week of June and first of all we will go out to the yard and see what is there. If you are a beginner there are certain things which are adjuncts, a smoker, a veil, a straw hat and a bat. Those are the implements which I consider necessary. If you are starting in I do advise you above everything else get a good smoker, not a cheap one or a makeshift. If any one can get along with a poor one it is the experienced man. Next, get a good veil. A great many use this mosquito netting. It is very poor. Use Brussels net and use no other color but black. Put it over a straw hat. I have noticed when beginners get into the yard they usually wear these things pretty faithfully for about three days over their faces, and then they begin tucking them in around their neck; soon after that the veil will be taken off the hat and a few days afterwards will be left in the shop. Another adjunct is an instrument something like this old chisel. We go to the yard with these, and we will see what is there. It being about the last of May, you will find something like what you see here, a wintering case with a colony of bees in it. They are packed on the outside, and the first operation is to unpack them. It is a simple operation. Along about the last of May or the first week of June you take these wintering cases off. There may be individual colonies

where you will have to take them off earlier than May, but usually about the last of May. In removing them we use an old sheet. Spread it out on the ground. Quiet your bees with your smoker at the entrance. Remove your cover, grip your hive, case and all, and lift it on to the sheet bodily. Put your foot on the hive, pull up your case and it is off. Next brush your packing down from the hive on to the sheet, which is spread around to catch it. Pick up your hive and put it on the stand. Take up your bottom and put your case upon it. Gather up your sheet by the corners with the packing in it and dump it with the packing back into the case. Throw in it the bridge, cover it up and set it away. That is the first operation that takes place about the last of May.

There now is a hive I have taken from the case, a single-storey Heddon hive. Some of the cases will contain these single stories, some of them double stories, just depending on how they have been wintered. To start with, we will deal with the single case first. It is along about the first of June. That case will be full of brood in various stages of advancement, some of it hatching, and considerable honey not capped enough to keep them going. It is full, and it is time for the upper honey case to be added. It is done this way: (places super on hive). Here is a queen excluder which we place between to keep the queen below. This may be done a couple or a few days after, or if it is not of sufficient strength you let it stand till about the 8th June, when the ~~cover~~ begins to open up better, a short time before that. If for extracted honey we put on one of these supers.

We will suppose, again, that there are some of these which have come out of winter quarters in double-storey hives. We have then a different condition of affairs to deal with. Taking

two hives, one a double case full of honey and brood, and beside it another hive, a single case of brood and honey, and I am asked the question, which of those hives will give the best results during the season by putting a case on top? They will give about equal results.

Mr. Holtermann—What length of season?

Mr. Hoshal—My season begins about the 10th June and goes to the 20th of July. You would naturally suppose this double one, with twice the bees and twice the brood, would give, if not double, at least better, results. It will



THE HEDDON HIVE

not do so. To get around that difficulty and make this double one exceed the other is what we are after now in our management. This larger one corresponds more with the general hive that is used. You would naturally expect from the other hive pretty much the same results as you would from an ordinary movable frame hive. To get at how to deal with that I have prepared two or three charts. If you have observed your bees you know it is natural for them to store their honey at the top of the hive, and the brood is reared immediately next to it and below. In other words, I have

sketched a frame, what may be called a deep frame. I have marked a line just as a matter of convenience to indicate the point where the brood and honey meet. That is the separating point between the two. Above this little dotted line is the honey, below it is the brood. I don't know whether I have exaggerated that drawing or not, but I presume in a deep-framed hive you will find about that much honey. Then your bees in working, as the season goes on, as the brood along the top of this line hatches from the cells, if the honey is coming in sufficiently fast, will fill these cells with honey. Consequently this honey will be extended downward, extending downward all the time. They store it between the brood and the honey, and with it the brood is extended at the bottom downward until there is no more room. On the other hand, if the honey is not coming in fast enough to keep that space filled where the brood is hatching, the queen fills it with brood again. They are continually working to keep the brood and honey connected there. I have another drawing here, on which I have illustrated it a little farther. There is another frame of medium depth, Langstroth. Notice where the line on that comes. The depth of honey at the top of that frame is not so great; it is shallower, in other words; the shallower your frame the less depth of honey there will be at the top of it. Carrying it on still farther into what we call a real shallow frame, I have illustrated it here with this drawing. In that frame the quantity of honey at the top of it is not as great as in those others. Maybe you think that is not fair, that we should put in at least as much honey there as in the top of the others. There is not as much honey at the top of that frame as at the top of the others. You will find about what I am showing you here in

ft. comparatively little honey at the top in a single case.

Coming back; if we are to arrange our hives so that the bees can store in them according to their instinct. I think it becomes plain at once where the division must be made between the honey and brood departments of our hives. Supposing you were wanting to add space there for the bees to store in, you would add it right along this line. The vacancy to store must be right along where that line comes. Coming back to these cases, I had two hives set up here a moment ago and you will see the analogy between these and the diagrams I have given you. You will notice the single case contains the shallow frames and the brood is practically right at the top of the frame at once. So that if you put a case on top of that hive as it stands there in the bottom your bees have got to cross that body of honey to store above it. Consequently they are working there contrary to their instinct and you get less honey. To get around that difficulty in this double story instead of adding a surplus case to that hive when we start in I take and run the queen into the lower case. We will suppose it is full. You raise the cover and a few puffs from the smoker will send the queen down—you need not hunt for her—out of that upper case into the lower one. As soon as you have her there raise this up and put the excluder under. When I have shut the queen below I have made this upper case the first surplus case on that hive. I allow that case to remain that way until the brood is sealed. Then if the colony needs more room for storing this case is raised up and another one put between it and the brood.

Referring back to these charts again. A great many may never have thought of the reason why we put cases below or next to the brood chamber. Why

not put the case on top? Simply because the bees will not work as satisfactorily if you put them on top. If you remember what I told you a moment ago you will see the reason why. When the case is down here and you put another one above you are compelling them to pass over a body of honey. So in adding cases, when you make an opening for them to store in always make it between the brood and the honey that is in the hive. you notice that there will be no honey below that honey board. By putting that case on they will give you about equal results. If you treat them properly this colony will beat the other one all to pieces.

There is another reason for doing this and that is the cutting off of unnecessary brood. It cuts off a supply of bees that will be thrown on your hands at a time of the year when they are only consumers instead of gatherers, and it prevents them from using a lot of energy in the raising of brood during the season when they should be gathering honey.

We have got these surplus cases on and the question is what to do next. We have to watch these cases. With this single case the management is the same as the double case. When the first case becomes half or two-thirds full we have to add another. That is simply done by, as I said before, raising the under one up and adding an empty one below it. From the diagrams you will understand why the empty one is put below and not above it. Another thing about it is this, the shallower that case is made the more readily your bees will accept it. Now, we let them stand that way until the second case is about two-thirds full. It is raised up and a third one put under and they are left again until that is about two-thirds full and we raise that up and put a fourth one under and you continue that operation as long

as the season lasts. When the upper case became filled, ready to take off it should be pretty well capped over.

Mr. Deadman—Will you kindly tell us when you know that is two-thirds full, when it is ready to lift up?

Mr. Hoshal—I will show you how I do it. We always quiet the bees at the entrance with a whiff or two of smoke. The case will stick a little bit and will need either a jack-knife or chisel. Loosen it and blow some smoke in and that is all there is to it.

Mr. Byer—But when you have three or four cases on how do you do?

Mr. Hoshal—Put the three or four on. You will understand that the hive sits on the ground. Catch it a short distance from the ground and lift it. It is first loosened with your chisel. These upper cases are stuck sufficiently that they won't slide. It doesn't matter whether there are three or four or half a dozen. I raise them and put the smoke under.

Mr. Deadman—Won't the bees come out the side of that hive?

Mr. Hoshal—No, sir. One thing I want you to notice in this hive. It is built to carry out a case system of manipulation. If you will look into those cases you can see right through them and at once recognize the condition they are in. Those frames are only thirteen-sixteenths of an inch wide. They are built intentionally with that in view.

(Continued next month)

Digestive Lozenges can be made by melting in a bain-marie 3 oz. of pure gelatine in 3 oz. of water; then add carefully, while stirring thoroughly, ½ lb. of honey previously warmed. When well incorporated add a little cochineal and five or six drops to every 3 oz. of English essence of peppermint. This is then run into lozenge moulds or thinly on to a plate, dried in the cool, cut into shapes, and finished drying for eight hours in a dry place.—Rucher Belge.

THE NATIONAL BEE-KEEPERS' ASSOCIATION.

Office of General Manager,
Platteville, Wis., Feb. 23, 1905.

To the Members of the National Bee-keepers' Association:

The chairman of the Board of Directors is in receipt of a letter from Mrs. G. W. Brodbeck, dated February 11, 1905, announcing the death of her husband, Secretary G. W. Brodbeck, and enclosing the following result of the ballot taken last November for officers of the National Bee-keepers' Association, 355 votes cast:

President—J. U. Harris, having received a plurality of the votes cast for president, was elected president; 232 out of 355 votes.

Vice-president—C. P. Dadant, having received a plurality of the votes cast for vice-president, was elected vice-president; 251 out of 355.

Secretary—W. Z. Hutchinson, having received a plurality of the votes cast for secretary, was elected secretary; 203 out of 359.

General Manager—N. E. France, having received a plurality of the votes cast for general manager, was elected general manager; 336 out of 349.

Directors—E. Whitcomb, R. L. Taylor and Udo Toepperwein, having received the greatest number of votes for directors to succeed those whose terms expired, were selected; Whitcomb, 100 out of 165; Taylor, 102 out of 256; Toepperwein, 189 out of 311.

The result of this ballot should have been declared last December, but owing to the fatal illness of Secretary Brodbeck it has been delayed.

W. F. Marks,

Chairman Board of Directors.

Compresses made of honey and acetic acid, and applied in the case of burns have had good results.—Praktischer Wegweiser.

THE CANADIAN BEE JOURNAL

Devoted to the Interests of Bee-keepers.

Published Monthly by

**Goold, Shapley & Muir Co.
Limited**

Brantford - - - Canada

Editor, W. J. Craig.

BRANTFORD, MARCH, 1905.

EDITORIAL NOTES.

Sorry that Editor Hutchinson of the "Bee-Keepers' Review" has resurrected the old-time "Sugar Honey Question" that we thought was dead and buried never to rise again. It seems so inconsistent in the face of the general indignation expressed over the "Wyley lie," and other "manufactured comb honey" stories.

‡

Another few weeks will tell the tale of how our pets came through the long winter. The general impression is that cellar-wintered bees are in good condition, and will come out well. Those outside have not had a flight since early in November. This, of course, has been the case for several years back, and does not seem to make so very much difference if conditions are right other ways. Those that were put away well will probably come out well.

‡

With other agricultural papers, we have pleasure in greeting the new Minister of Agriculture, the Hon. Nelson Monteith. Mr. Monteith was born and brought up on the farm, and is a thoroughly practical, modern farmer, acquainted with every department of farming and farm life. He is a graduate of London Commercial College, and a B.S.A. of the Ontario Agricultural College, Guelph. Bee-keepers will be

delighted to know that Mr. Monteith is also a practical bee-keeper, having kept bees on his farm in Perth county, as one of his specialties. He expresses himself as being friendly to the bee-keeping industry, not only as an occu-



HON. NELSON MONTEITH
Minister of Agriculture for Ontario.

pation, but because of the value of bees to the farmer and fruit grower as fertilizing agents. Through the kindness of "Farming World," we are enabled to present to our readers, in this issue, a picture of the Hon. Nelson Monteith, Minister of Agriculture for Ontario.

The Bee-Keepers of Norfolk and adjoining counties held a convention in the town of Simcoe February 9th and 10th, as announced in our last issue. Owing to the inclemency of the weather and the difficulty of travel the sessions were not as largely attended as they probably would have been under more favorable circumstances. Mr. Trinder, president of the local association, occupied the chair. General management of bees as applicable to the

districts was fully discussed, also the marketing of honey, a synopsis of which we hope to give in a later number of the Journal. Definite and permanent arrangements were made for an annual joint meeting of the beekeepers of these districts, place of meeting to be agreed upon by the county associations. The matter of "foul brood" in Norfolk county was dwelt upon at considerable length and a resolution passed memorializing the Provincial Minister of Agriculture to make a special effort to combat the disease during the honey flow of next season, also that the sum of money which has so far been spent for the inspection of apiaries is entirely inadequate and that a larger expenditure for this purpose should be made until the disease is more thoroughly stamped out in the province.

R. F. Holtermann challenges James Armstrong of Cheapside, to a debate on small versus large hives in The Canadian Bee Journal. Should friend Armstrong take up the subject, (and we hope he will) we can expect an entertaining number in the near future. We question, however, if there will be many converts on either side, but it would be a certain amount of satisfaction to compare what are the merits and demerits of the hives in question.

"Notes and Comments" in The Canadian Bee Journal is presided over by a York County Bee-Keeper, who is evidently a capable apiarist as well as an entertaining writer. He objects, however, to the language used in one department of a certain American bee-paper, and says it borders on the bar-room type of talk. If our York County friend intends this for a slap at "Deacon Hardscrabble," we advise him to keep a light burning in his room hereafter, unless his nerves are in excellent trim. The Deacon intimates that he has a little score to settle over in Can-

ada, and maybe this is it. We all make mistakes sometimes, and York County Bee-keeper makes a big one in the same issue of The Canadian Bee Journal when he credits the article "A Popular Fallacy," to "A. B. K."—"American Bee Journal."

We have pleasure in introducing a new contributor to our columns in this issue, Mr. Frank P. Adams of "Bow Park Farm." Mr. Adams is a young man of considerable experience in apiculture, and has the use of one of the finest and best-equipped bee-houses and cellars in the province, a description of which was given in the C.B.J. February, 1902. In his management, Mr. Adams is cautious and a close observer, characteristics which add much weight to his opinions and statements. His article in this issue goes rather hard on setting out bees for a winter flight.

We would ask special attention to the following from the Freight Rates committee:

BETTER FREIGHT RATES FOR BEE-KEEPERS.

Editor Canadian Bee Journal:

Dear Sir,—It is thought advisable by the committee on freight rates appointed at last meeting of the Ontario Bee-keepers' Association, through the columns of The Canadian Bee Journal, to ask bee-keepers to let the committee know of any suggestion they have which might be of help when applying for a reduction of the freight rates upon goods which interest them—the discrimination between points or the too high rate for the risk and value of the commodity. Be sure and write as soon as possible, within three days of receipt of this. Make it a business letter and write to the point, and upon the subject in hand only, even if you have to add another letter upon some other subject. Address letters to any of the undersigned:

H. G. Sibbald,

Claude, Ont.

William Couse,

Streetsville, Ont.

R. F. Holtermann,

Brantford, Ont.

Hints for Beginners

R. F. HOLTERMANN

Novice is sincerely to be pitied, he comes to a convention and after listening to the discussion on hives cannot decide which is the better, the large or the small hive; there may possibly be some other questions which novice cannot yet decide, such for instance, as whether the froth on top of the honey is wax or what, and whether it is two inches deep, more or less.

Has novice not heard that there is no royal road to learning, has novice not yet reached the age where they have discovered by experience that there is not that royal road. I have heard and found it out long ago. It was for this reason that I slightly objected to having the Heddon hive upon the floor twice during one convention; our report goes out to a lot of "novices" some, unlike the person under discussion, are always filled with the last dose given to them. "York county Bee-keeper" well says: "The most of us big-hive fellows have simply given up the other chaps as incorrigible and well-nigh inconvertible, and that "a man convinced against his will is of the same opinion still." And more, let me ask, by the time the Heddon hive address was over what time did the poor, modest, large-hive men have? None. And then, let me ask where was the small hive? I did not see any. We call an 8-frame Langstroth hive a small hive, I would call a 10-frame Langstroth a medium-sized hive and a 12-frame Langstroth a larger hive, but there are still larger used by some of our best bee-keepers. The Heddon hive proper consists of a divis-

ible brood chamber, and that hive is equal to a ten-frame Langstroth.

"Novice" will have to go through the stages of knowledge (if he has not already gone through them) until enough practical information is secured, prejudice laid aside, to weigh carefully the evidence presented and accept sound reasoning and reject the faulty. We also may have bee-keepers who having reached the stage where they were at the top of the profession, but carried away by their exaltation, thinking they know it all, from that day stood still and were soon passed and out-distanced by perhaps less capable and less experienced persons. It is a nice thing to be able to be in the position where we can weigh and where we will weigh, feeling we do not know it all, and yet not be carried away by every new doctrine that comes up in bee-keeping. The trouble with our conventions is, in my estimation, not that we take up subjects unworthy of our attention, but that we take them up in such a way that when through we are no wiser than when we began. Oh, for the reasoning faculty for the **why** and **wherefore**, a mere statement as to a result is worth little compared with **the reason why** certain causes have certain effects. I was not guilty of bringing up the annual froth discussion (a discussion on wind and honey) some of us are not a particle wiser than when we began. I have made some progress, but rather out of than in convention. So long as this matter is not settled surely it is important enough to take some time to discuss. Are we sending out upon our honey what will injure the market? If we are we should know it. This could be settled at one convention in one hour, and it should be; I mean settled to the satisfaction of anyone open to conviction. To do this the one undertaking the subject should know before the honey season that he or she

is to take the subject in hand. And here, let me say, I believe better addresses could be secured by the executive of an association meeting before the honey season begins, not after, asking who they will to take part, letting those invited have months to get up their address. In the United States certain associations have gone to the extreme, having no, or practically no, discussions upon the management of apiaries. This may be all right for the National, but in my estimation not for others. The Ontario Bee-Keepers' Association takes the opposite extreme. It would be well for us if we could calmly, without personal feeling and motives, discuss topics of vital, general and sweeping importance to the bee-keeping industry at large. Our honey markets are demoralized, certain sections glutted, a great many lying idle, the people not being able to buy a good quality of honey. Our governments doing less than nothing for us only using the industry to the extent that it can produce a fine product, and exhibiting it to show those it wishes to draw to its shores the excellence of its products, and what it can do. Fruit, dairy products, poultry, eggs, bacon, upon all these vast sums have been expended to produce them and find a market for them but the bee-keeping industry welters on in the mire. But the novice has a right in our convention, all the above is of interest to this class, and we all have yet much to learn (of course I am always willing to except the 8-frame Langstroth men).

Now, although I have a patent on my portico hive with a screen, the screen not nailed, detachable by any method, and although I have a patent in Canada and the United States on any method of finding without removing supers or cover of hive, queen cells for swarming, for beginner or expert, a far-reaching and valuable patent, in my estimation, and although

these hives are now manufactured, and for sale, yet I have no patent on a large or small hive, these attachments can be applied alike to either I intend, for the benefit of Novice and others in the next number to try and show the value of larger hives. If Mr. James Armstrong, of Cheapside, who I like to oppose, or anyone else likes, in the same number to take the side of the small hives, and both of us will give the why and the wherefore we should have an interesting and valuable number of The Canadian Bee Journal.—Brantford, Ont.

NOTES AND COMMENTS

By a York County Bee-Keeper

Clover Along Railways.

Dr. Miller says in Gleanings that in Alsace-Lorraine, Germany, the railway authorities urge their employees to engage in bee-keeping, agreeing to aid them in starting, and also to sow clover along the different lines. This reminds me of the time the C. P. R. was built through our section. A bee-keeper asked permission to sow "clover" on the freshly-graded banks and cuttings. The authorities quite readily acceded to his request, and the bee-keeper promptly seeded the ground with sweet clover. It was a "good catch," and every season since, for miles and miles, there is a rank growth of the stuff, which makes a great amount of work for the sectionmen, who have to mow it two or three times each summer. Possibly if the C. P. R. officials were ever asked a like request again, before granting same, they would likely specify kind of clover seed to be sown.

What Queens Shall We Breed From?

Another "straw" of the Doctor's in

February 15th "Gleanings" advised bee-keepers to breed from the queen that is "clear ahead of all the rest." Pretty sound advice, no doubt, in the majority of cases. With the most of us being "clear ahead" would mean the colony that would fill up the most supers of honey, regardless to what their temper and other characteristics were. Possibly have mentioned before of a colony in my possession that have in the last three seasons stored over 750 pounds clover honey and have never yet offered to swarm. They are of the black "persuasion," very irritable and a little difficult to handle. While I have spared the queen on account of her progeny's splendid work, I would hesitate to breed from her on account of the bad temper of the bees, something that can be endured in the home yard, but which is better eliminated as much as possible at an out-apiary near the farmer's buildings.

Closing Entrances of Outdoor-wintered Bees.

Editor Root urges his subscribers to try the plan they are following this winter, viz.: Closing the entrances of the hives with snow or straw to "confine the heat yet allow a sufficient circulation of fresh air." While this advice is all right for any one who can be right with the bees, for an out-apiary think I would prefer to have a fairly good-sized entrance, with as little clogging as possible. With us the snow gathers there rather too much to suit me, without having to pile it around the entrance. Mr. Root admits that it is necessary to rake out the dead bees to prevent the entrances from being clogged. Formerly I was very anxious about the entrances, and spent a lot of time going around with a hooked wire pulling out dead bees, but for past few years have come to the conclusion that with a fair-sized entrance (mine are equivalent to five square inches) and good colonies, they

can do their own "undertaking" better than I can. Even with weaker colonies have been bothered so much with ice clogging contracted entrances that I now prefer to give plenty of room, and then contract entrances in early spring.

Honey 9,000 Years Old (?)

"Stenog" gives a newspaper clipping in effect that a farmer in the States was recently digging a drain, and at a depth of four feet came across a large tree trunk, in which was found a quantity of honey in good condition. A professor to whom the honey was shown estimated that the honey was 9,000 years old. It was not stated whether it was clover, basswood or buckwheat honey. Perhaps it would be well for the learned professor to look up the matter and tell us what honey-producing flora existed in antediluvian times. Until further evidence accumulates, would move that the reporter who manufactured the yarn be awarded first prize as the champion "sensationalist" of America.

How to Detect Adulteration of Beeswax.

Mr. C. P. Dadant, at the Northwestern convention, gave some practical tests, which I take pleasure in copying from *The Bee-keepers' Review*. Of some three or four tests given, will copy the two simplest, viz.: Specific gravity test—"Alcohol, which is lighter than water, is mixed with water until a piece of pure beeswax will sink very slowly (almost remaining standing where it is placed), then a piece of suspected beeswax of similar size and shape is placed in the mixture. A very slight percentage of paraffin will cause it to pop up out of the mixture, as an iceberg stands up above the sea." Saponification test—"With concentrated lye and hot water make a strong lye. Into this pour melted beeswax, and stir it up, when real soap will be formed, having a strong, dis-

agreeable odor. Beeswax is an animal secretion, might even be compared to animal fat, and will unite with lye in making soap, the same as will grease. Paraffin is of mineral origin, and when added to the lye will not unite with it, but remain on the top and cool in a nice hard cake." It would be well for every bee-keeper to have these tests pasted in their hats, as it is needless to say, the same tests could be applied to suspected foundation. By the way, Prof. Wiley, of "manufactured comb honey" fame, has again come under the ban for stating in Rural New Yorker that manufacturers of comb foundation in America are using paraffin to adulterate their product. Granted that the Professor may have found adulteration in some samples, too bad that he should throw out such a wholesale statement, which is bound to produce prejudice in the minds of consumers of honey.

Swarming Likened to Broodiness in Fowls.

L. M. Gulden, of Minnesota, in an interesting article in the "Review" on "Swarming and Kindred Topics," has the following to say on above caption: "Let us not despair of ultimately perfecting a strain of bees that will be practically non-swarmer. That end will certainly be accomplished some day by diligent and persistent effort at selection in breeding. We know that the primary instinct of broodiness in fowls has been practically eradicated, and we know that the swarming instinct can be eradicated. Although one is a fowl and the other an insect, their mode of reproduction is the same, and broodiness in the one is identical with swarming in the other." Perhaps with Mr. Gulden, as with many others of us, "the wish is father to the thought," yet I have looked upon the question as one not beyond the realms of possibility.

York County, Ontario.

Communications

A Northern Michigan Experience.

The Editor Canadian Bee Journal :

Dear Sir,—A correspondent in Northern Michigan writes for a sample copy of The Canadian Bee Journal, as he thinks it would apply to his section of the country. He then goes on to make some remarks which may interest your readers.

"I am using the Dadant hive (a very large hive, by the way) and it comes very near a non-swarmer with me. My bees do not swarm, but 10 per cent. The best bees I have are Cypro-Carniolans, either queen or drone. There does not seem to be any difference except that the Carniolan queen-crosses are the gentler bees to handle. My hives are too large for the Italians, I think, and the Italians crossed with Cyprians are too cross. The Cyprians are the best honey gatherers I have ever owned. They would average 50 pounds more honey per colony than Italians, but my! what stingers! always ready for you. I could not handle frames excepting in the honey flow without having my hand in a cloud of smoke."

He does not find Carniolans swarm any more than Italians.

Speaking of the honey-producing flora of Antrim County, Michigan, the correspondent says :

"This year the honey flow started a precedent. I think it began with squirrel corn, and adder-tongue with willow, and colonies strong enough got quite a lot for about 10 days. I did not note the date, but there was plenty of snow on low land in the woods, while on warm soil it was nearly all gone. It turned cold and I did not get much honey till June 15th. Then alsike, red raspberry, basswood, thistle, milkweed till August 1st. Gener-

ally a killing of drones at that time. Then I got some honey from buck-wheat, aster, goldenrod and boneset until November. I do not get much in supers, as I make my increase mostly then. It goes into the brood chamber for winter stores. I have worked it this way for four years and keep my colonies intact till then if possible, and don't have any dark honey to sell."

He attributes out-door winter losses in some degree to sugar syrup.

In conclusion, the correspondent states that he came to the United States from England in 1871, but finds it a "semi-civilized nation." Whisper that to some of our friends over there and see what they will say.

MORLEY PETTIT.

Belmont, Ont.

Our Michigan friend's experience is certainly very interesting, but we must not whisper his opinion of the Americans. It is not very flattering, and, besides, coming from MICHIGAN! what would Editor Hutchinson say?—Ed.]

STINGLESS BEES.

M. D. Halleux alludes to these bees in *L'Abeille et sa Culture*. Recently an explorer in South America stated that he had discovered stingless bees in Venezuela about the same size as our honey-bee, and of a beautiful yellow color. A colony of such bees sent from Brazil to the editor of *The Bienen Vater* in Vienna only lived until January, notwithstanding that every effort was made to keep them in a similar temperature to the climate that they had been used to. M. Halleux says these bees are of the genus *Melipona*, and although they have no stings they can defend themselves in other ways. They attack fiercely and bite with their powerful mandibles. In Central America there are varieties that bite so cruelly and with such ferocity that they are quite as formidable as our most vicious colonies.—British Bee Journal,

TAKING BEES FROM THE CELLAR FOR A WINTER FLIGHT

Frank P. Adams.

The experiences of last spring will not soon be forgotten by bee-keepers in this locality, it was certainly a trying time to those of us who wintered in cellars, and I suppose doubly so to those who wintered their bees outside.

The long cold spring coming after the severe winter proved disastrous to many colonies which otherwise might have survived had the weather proved more favorable. It is just at this time, the early spring, when bees are first taken from the cellar and commence brood rearing, that so many stocks go to the wall. In some cases this is due to starvation, but in many instances it is due to exhausted vitality caused by undue exertion too early in the season. It might be of interest if I give my last year's experience in this connection, as it serves to emphasize the fact that bees should be kept quietly in the cellar until it is fairly certain that moderately warm weather has come to stay; or if they have become too restless in the cellar and this is impossible, then they should be set out on their summer stands on a warm bright day, and left there, after being packed as snugly as possible. And now for a bit of history: Wednesday, March 23rd, came out bright and warm, although the ground was still covered with ice and snow. The bees had wintered well but they were becoming restless, and I decided to set them out, as this was about the time that I had taken them from the cellar in former years. Before taking them up I spread a load of straw over the yard, adjusted the stands and by noon had the hives in place, one hundred and twenty-six colonies in all. They had a splendid flight

on that day and the next, and on the day following (the 25th) I went over the yard, and gave those that were light in stores combs of honey or when these gave out sugar syrup in Doolittle division board feeders. On the 26th the weather turned colder again and forty colonies that were somewhat light in stores, but a good average strength in bees were put back into the cellar. I thought at this time that a week or ten days would be the limit of their confinement, but winter had settled down in earnest again and day after day the cold continued. On April 12th I put a cake of candy on top of the frames and under the curtains of each hive in the cellar, and by the 14th they had taken this down. Again, on the 19th I fed in the same way. The 22nd of April came out fine and warm, and with a good deal of relief I set the bees up out of the cellar. Two colonies had died, and the rest were greatly reduced in numbers. The effects of the confinement were not apparent at once, but later in the season when other colonies were building up fast there seemed to be a lack of energy about them that was in marked contrast to the rest of the yard. Whenever I noticed a few grains of granulated sugar on top of the frames or on the bottom board of a hive, which denoted a colony that had been fed in the cellar, that colony invariably proved to be a weak and backward one. There is no question in my mind but that they would have been better had they been left out to take their chances with the rest. If a few had died through starvation their loss would not have been so serious as that of having the whole lot weak and exhausted at a time when they should have been putting forth every effort to build up in time for the honey flow.

When bees have once been taken up out of the cellar I am of the opinion that they should be left up. Pac.

them up snug and warm and if they need feeding give them sugar syrup on the first mild day after they have had their cleansing flight then leave them alone until they can be handled safely without chilling the brood.

Bow Park, Brantford.

Portion of the Hive Entrance—Query.

Editor of Canadian Bee Journal.

I am glad to have awakened a chord of pity in York County Bee-Keeper. His evident disposition to "bless my heart," makes me bold to ask for a reply in next month's Journal, if it be not too much trouble, to the queries herewith subjoined regarding his note, "Position of Hive Entrance Relative to Field of Honey," C. B. J., page 110) for although I have gotten out of my former difficulty by purchasing my hive for next season's use, I am in a greater dilemma than ever, in regard to this question of hive entrance. My limited experience does not give me confidence that I should succeed in this new plan without a few suggestions from some one who knows.

1. Should the entrance, when made between the super and the brood chamber, be small or full width of hive?
2. Would there be danger of chilling the brood with full width entrance over the brood chamber?
3. With the entrance at the top of the hive under the cover, would the bees not be likely to besmear the honey with pollen and other travel stains?
4. In putting on an empty super, would you raise the one already on and put it under or put it on top next the cover? The location of entrance would be changed in either case.

Thanks for hint on dignity of subject. I shall not mention "size of hive" again only to remark here, that my former stock, and recent purchase of small hives, will probably carry me well within the pale of the incorrigibles and may be one means of preventing me from becoming "one of us big hive fellows."

NOVICE.