

...The Canadian Bee Journal

PUBLISHED MONTHLY.

NEW SERIES
Vol. IX, No. 1.

BRANTFORD, ONT., JULY, 1901.

WHOLE No
437

Annual Meeting

Twenty-First Annual Meeting Bee-Keepers' Asso., Ontario.

HELD AT
NIAGARA FALLS,
DEC. 4, 5, 6, 1900.

MOVING BEES TO FALL PASTURES."

Paper by Mr. R. H. Smith St. Thomas.

In many of the best honey-producing districts of Ontario the main crop of light honey is gathered from white and alsike clover and the linden or basswood trees. In my locality the clover yields from about June 18 to sometime in July, depending upon the condition of the weather. About July 15th, if the season is favorable, the linden commences to bloom, and bees start to work on it, and in some seasons gather a lot of honey from this source. Unfortunately it is very uncertain, as in the season just past. I yielded honey only a few days, and then very little. Brood chambers at this time crowded with bees in brood in all stages and with very little honey; what surplus they may have gathered will be in the supers, and in stories, as is often the case. If all the clover honey is taken and the linden fails, the bees are in a starving condition by August 1st. Of course the wise bee-keeper should have provided for such a contingency by leaving some of the

honey, but I have seen apiaries where this was not done, and the bees have starved to death in August. In some localities if there are sufficient rain falls there may be some sweet clover, catnip, etc., to keep the bees alive, but for a number of years in succession we have had dry summers with the result that no pasturage in the latter part of July and August was available, and when there is no honey being gathered by the bees the queen stops laying, consequently all the bees are old when the winter commences, and that we believe is one of the main reasons for bees dying in such numbers in winter and early spring. A great deal of this loss may be prevented in some seasons by sowing buckwheat, but where there are many colonies the average bee-keeper may not be able to sow enough to have a succession of bloom, or as it sometimes happens, there may be a large acreage in bloom at one time, but owing to unfavorable weather, it may not yield honey. Some of you may be wondering what all this has to do with moving bees. In my own case there is no buckwheat sown within reach of any of our three apiaries, but about eighteen or twenty miles east nearly every farmer will have a field of buckwheat from five to ten acres, and as some farmers sow it early it gives a succession of bloom from about August 1st to September 15th, while every patch may

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not yield much honey, the bees usually get enough to keep up brooding. When atmospheric conditions are right, as it is likely to be at least part of the time, it will yield abundantly, ensuring their winter store, and with some surplus, and what is quite as important, a fine lot of bees. However, before we can have this we may have to transport our bees to this location unless we can provide for them at home. To prepare bees for moving the bee-keeper has to be guided by a few simple rules. First. As the moving is usually done in warm weather they must have plenty of ventilation. One writer when advocating a certain style of brood frame says: "It is only necessary to fasten down the cover and put a wire screen at the entrance and the bees are ready to load." While this may do in cold weather, or for weak colonies, it would never do for strong colonies in warm weather, as they are sure to become too hot. I have usually moved full colonies of bees with the extracting super on. These have to be fastened down with two strips, one each front and back; a wire cloth screen is fastened on the top of super with screws, so arranged that it presses the frame down on the top bar and prevents them moving sideways, and at the same time provide a space of about two inches above the frames where the bees may cluster. The bottom board is fastened on with Vandusen clamps. This preparation can be done through the day, and as soon as the bees stop flying in the evening, the entrance screens may be put on with two small wire nails. It is some trouble to smoke in bees of thirty or forty colonies on a warm evening, and so it is best if possible to choose a cool day. They are now ready to load; this is done by placing the hives so that the frames run across the wagon.

I find that a platform wagon with strong springs is the best vehicle. The one we hire will carry thirty two-story hives in one tier, with covers, smoker and tools, and, when they are light, a few single-story hives may be placed on the top of the load. Then I have my one-horse wagon that will carry from twelve to fifteen hives. I drive this myself and let the teamsters drive on ahead so that I can keep an eye on the whole. After some experience with hives that leaked bees, I found it a good plan to have mosquito net to cover the load, especially when one has a nervous teamster, and any bees that escape from the hive are still confined and cannot frighten either horses or driver. If possible I try and have everything loaded up over night so as to make an early start in the morning. The horses are trotted when the roads are good so that we usually make a trip of eighteen miles in between three or four hours, and the bees can be unloaded and released before the sun is very high. I believe that some bee-keepers move only the lightest or weakest colonies. My plan, if I cannot move all, is to move the strongest, or those with the most bees fit to work. Then if there is only a short flow they are ready to make the most of it. The season of 1898 was very unfavorable for the growth of buckwheat and other fall bloom, and it seemed doubtful if it would pay to move the bees, but I thought I would try a few. I took forty colonies. They gathered enough for winter stores and came out in the best condition in the spring. The past summer I took a large number and they not only gathered enough for winter stores but gave an average surplus of about twenty-five pounds per colony. So I have come to the conclusion that where a bee-keeper does not have fall pasturage for

bees, it will pay him to move them, if it can be found within a reasonable distance. (Applause.)

The President called upon Mr. F. A. Gemmell to open the discussion on this paper.

Mr. Gemmell: Mr. President and gentlemen: I do not know that I can add very much to Mr. Smith's paper, although I have had considerable experience in moving bees at different times of the year, but I never, until the present summer, moved them to buckwheat. Years before I have moved them in the fall to get the fall flow. I have used different kinds of ventilation and different kinds of vehicles to convey them. With regard to ventilation, it all depends upon what time of the year they are moved, and what time of the day. Mr. Smith says he just gives the super with the wire about two inches above, and closes up the entrance with wire cloth. That in my case would never had done at all, considering the distance I had to take home. I had a wire screen underneath the hive and one on top; the one on top had two inches of a rim; and there was either a full super or a half super on top as well; but I found before I had gone five miles on the road I had to water those bees or I would not have had any bees when I got to my destination. It was a close, murky, warm day. Their tongues were sticking out through the wire netting on top just like so many needles. I had to water them three times in a distance of about 35 miles.

Coming home again we dispensed with so much ventilation. I had friend Newton with me to help. We had a wire screen on top, two inches above, and a wire cloth at the entrance. Sixty-four hives were put on the wagon; it wasn't a spring wagon either. I have always used

that before. But in this case we had an ordinary farmer's hay rack filled up with straw to about a foot above the rack; on top of this I laid a platform of boards; thirty-six hives were put on this and I think thirty-two on top of that again. We brought them all home in one load whereas I took part of them out by single rigs and part by train. I made four trips in taking them out and brought them home at one trip minus supers.

In regard to whether it pays or not, I don't know; I am not prepared to say very much this year because it is my first year. I am not sure whether it would pay every year to move them but this year I think probably I was paid well enough for the trouble but not anything more. I think I secured honey enough to pay for the moving, not including the labor; that will have to go against the bees. I will be better able to tell next spring whether there will be more young bees and whether they will be in better condition than those I left at home.

I know that you can move bees late in the fall short distances without any ventilation at all. I have brought bees home five and seven miles about the middle of November when they had a wooden cover on top and a wooden strip right across the entrance, but they were not closed for more than three hours at the most; but you could not take them two miles on a hot day in that way.

The wire screen in my case was all over the top; the screens I had on the bottoms were used in the summer time on the hives in the yard. Mr. Post knows what they are; he uses them himself.

Mr. Post: Do you move them in August, in the hot weather, without the super?

Mr. Gemmell: I didn't this year. I had a full story or half story on

top; but I had to give them water. Underneath the wagon bed I had to throw pails of water to let it come up through.

Mr. Fixter: What time did you leave?

Mr. Gemmell.—I started at five o'clock in the morning and we were on the way all day. The frames ran crosswise on the wagon.

Mr. Newton: I didn't expect to have anything to do with this until my friend Gemmell wrote me. I never thought there was any great task in moving bees if you had the means ready and handy to do the work with. Friend Gemmell undertook to move quite a long distance. When you draw bees thirty-eight miles it is a long trip. And another thing, as I told friend Gemmell, if I were moving bees that distance I would not leave it till the morning to start; I would start between ten and eleven o'clock at night and draw all night and I would be near my destination in the morning. At night is the best time to draw bees in the hot weather.

Mr. Gemmell: I agree with you there.

Mr. Newton: Friend Gemmell's experience was that they were shut in the first night and all the next day and on account of a storm they were shut in again the next night. What a long time for bees to be shut in in a hot spell of weather! I know in drawing bees at St. Thomas we used to leave about 11 o'clock at night and we would usually reach our destination between 8 and 9 the next morning.

Mr. Gemmell: How many miles?

Mr. Newton: I think sometimes about 18 or 19 miles. It used to be 12 o'clock sometimes before we get started. And I think if you had started an hour earlier it would have been better. We made fairly good

time the second day over the roads. You want your bottom boards fastened; a good space out on top, a two-inch space or even more; and I don't think there is anything equal to an old hay rack with lots of straw for drawing bees.

Mr. Gemmell: I endorse that. That is the reason I got you there. I didn't know how to do it myself. I had very little faith in the thing before. I had always used a spring wagon but I have come to the conclusion that a large well-loaded hay-rack is all right.

Mr. Newton: When I came Mr. Gemmell said, do you think you can get them all on? I said yes, and a great deal more than you have got here. He says, probably we had better go down to the hotel and get that light wagon down there. I said no, we will take them on a hay-rack or nothing. We got them loaded but we had not got very far on the road when the horses got a little tired pulling through the hard sand, and the wagon rack began to shift back. He says, "if we ever get to Eastwood we will ship them." No, I said, we will carry them through if the wagon will hold us up. After we got through Woodstock he began to brighten up and we got to Stratford in good time. I think he felt satisfied that the hay-rack was the proper thing to draw bees with. I believe in moving to fall pasture, but if we have got to draw the distance that friend Gemmell has I don't think it is a paying thing. There is only one thing to be gained by it. Even if we don't get as many stores as we expected I believe the bees will be in much better shape for winter. When I saw friend Gemmell's bees and my own bees I feel sure that his were in better shape than my own for going into winter quarters; there were more young bees in his hives when I saw them

last than there were in mine, because they were breeding up on the buckwheat, and the chances are that they will winter better on that account. Next spring he will think he was paid for the moving.

Mr. Smith: Mr. Newton, what advantage has the hay-rack over the springs, if it has any?

Mr. Newton: The springs have too much of a quick jolt.

Mr. Smith: Doesn't that depend upon what kind of springs you use?

Mr. Newton: I have seen a good many. Mr. Alpaugh thought he had the best wagon in existence; you could put on probably about 16 or 18 hives, and the faster you went the nicer it rode; if you went slowly and struck a stone the jerk was so much the quicker. With the straw there is no motion like that at all. The straw forms a gradual, easy spring. We put it on a foot higher than the sides of the rack. Straw does not give the jolt that springs give. Then, you can't get enough on a spring wagon to make it pay.

Mr. Smith: In our section of the country they use springs such as are on wagons that are used to draw milk cans; that is a different kind of spring, but many farmers use them for drawing their loads on. You can get them of different grades and they do not spring so very much but still efficient, and you can get a platform large as you like and apply it to any wagon. Straw is not very convenient to us but we find the springs I speak of just the thing.

Mr. Newton: I think any farmer is sure to have straw. I know where I send Gemmell and I were, we struck any amount of it.

Mr. Coggs shall: The springs are right, and there is a wagon such as is used in lumber yards; they are the thing to use. The hay is all right but the springs are much more

convenient; you have not got that bulky hay to contend with, and the extra rack on top which makes quite a load.

Mr. Picket: Mr. Coggs shall has struck it. I happen to be one of those men who build those wagons, and I find that you can have the springs strong enough. Have them a good length so that they haven't got that teetering motion. It is not the "Armstrong" spring that we want, it is what we term the "Hog-nose" spring; get them heavy enough so that they will take fifty or sixty hundred, and load up until your wagon will ride easy. I had a case in point. I had a son who was suffering from peritonitis and some one said, can you move him on the democrat wagon and I said we could. There were two or three neighbors and I said just get onto the wagon. No, they said they wouldn't. I said, I want you to get on; we will load the wagon down until it rides easy and then we can drive as fast as we like. That is the kind of wagon we want, with heavy springs so as to take all the team can draw. If you haven't bees enough you can find stones or something. You are not bothered with shifting of the hives or any of those inconveniences; and they are quickly handled; they are within reach and you can load and unload quickly.

Mr. Holmes: There is a point that has been passed over by the gentlemen who have had experience in moving bees, or else I did not catch it, that is in reference to an attendant at the place where the bees are left, if such is necessary; and another point is as to the date when the bees are brought home.

Mr. Smith: Do I understand, Mr. Holmes, that you want to know if there is anyone left in charge of them?

Mr. Holmes: Yes.

Mr. Smith: In my own case I simply leave them with the farmer and I give them super room enough so that they are not likely to overflow or get up a swarming fever, and although they are there from the first week in August until the middle of October they do not want any further attention, only to see that the covers are not blown off.

Mr. Darling: How late will those bees breed that have been taken to fall pasture?

Mr. Smith: When we brought them home in October they were in all stages of brooding.

Mr. Post: I have found when the buckwheat ceases to bloom and the cool evenings come on, the brood diminishes very fast and by the first week of October it was altogether out of the hives.

Mr. Gemmell: That was so in my case.

Mr. Post: October is too early for me to bring my bees home. I bring them about the first of November. This year I unloaded them the 7th November. I am determined they shall not be a nuisance to anyone in the town. I bring them home to winter. I don't team them at all; they are all brought home on the train or by boat.

Mr. Gemmell: That would be almost too late to leave them in case of bad roads.

Mr. Post: I don't know, I am sure.

Mr. Holmes: In case it should happen that after you bring your bees in from the pasture grounds on the first of November that it should continue to be cool and perhaps showery weather until you want to put them in winter quarters, what then?

Mr. Post: They are in winter quarters now without getting a fly and I have never seen a particle of difference. I have brought them

home in November and I didn't see a bee outside of the hive until they were moved out in the spring; they wintered perfectly. This fall the last load I brought home was brought on a steamboat about eight miles and then transferred to a car; election day was a wet day and they were unloaded the next day, and were placed in the cellar, I finished them on Saturday I think. They had no flight. The first load did have a flight and I have marked them to see if there is any difference, but I have never noticed any so far. I am speaking of other years.

Mr. Brown: In that case it would be about as well to put them into the cellar immediately after moving.

Mr. Post: Yes. When I put them in the cellar they are simply out of the elements; they are set in the cellar with the windows and doors open; they are just under shelter you might say; they get the same pure air as though they were outside. They are left in that condition until after the holidays if the winter continues warm; that is, not extreme weather. I allow the place to be light; you can read anything in there.

Mr. Gemmell: That is until cold freezing weather?

Mr. Post: Yes. The cellar is as dry as this room.

Mr. Brown. Do you find you lose any by their not finding their way back to the cellar?

Mr. Post: Do you think they fly? If a bee wanted to fly out and get lost I would be perfectly willing to let her go; it would be an old straggler that would come out before March.

Mr. Smith: I suppose you would give them all the attention necessary such as removing supers, etc.?

Mr. Post: Certainly. When I expect I have my testers with me and test as I go along. The honey

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drawn right off the extractor and the whole thing is done up as I go along. When I get through extracting I will guarantee they are all right for the winter.

Mr. Darling: You feed extracted honey back to the bees?

Mr. Post: I don't want any surplus honey to go in the brood chamber. I feed with a top feeder and I can feed thirty pounds at one feeding. I just weigh it right out in one bulk, and the next morning the feeder is generally taken off and changed to the others. Sometimes there will be 30 or 40 that do not require feeding, and then we will come to one probably that is quite light. You will know how it is. They will not be all alike.

Mr. Dickenson: I make a flat platform of boards and on that I put the first tier of hives; I put down some tacks here and there so that the heads will sink both ways, into the platform or bottom of the hives, so that there is no possibility of shifting in any way.

Mr. Darling: Ordinary carpet tacks?

Mr. Newton: Yes.

Mr. Craig: We have had some experience along the line of moving and it paid so far as the amount of surplus honey was concerned, and the feeding up for winter, but we have had some trouble with the bees bringing up the dark fall honey from the brood chamber and mixing it with the light in the supers.

Mr. Post: They can be manipulated so that there will be nothing of that kind. I have a sample I can show you. My first extracting and my last extracting is water white, and they wintered on dark honey.

Mr. Coggshall: If you put on supers for extracting honey, just before the white honey comes, until they have got some of that which is

below up there, you will have that dark honey in the extracting combs. Take them off and put on your boxes and you will not only retard swarming but pretty nearly stop it.

Mr. Craig: Have none of the members found this bringing up of dark honey from the brood chamber continued during the season?

Mr. Post: I convert my dark honey into bees. I don't put my supers on until the clover is yielding honey, and the buckwheat honey is all consumed before that. I keep uncapping and putting frames of honey in the centre and I have a perfect brood nest from one side to the other.

Mr. Dickenson: As to carrying dark honey up into the super, I think the difficulty could be overcome in the way mentioned in the first place. Mr. Craig wished to know whether there is any member who had had experience in connection with the bees continuing to carry up this dark honey. The working up of this dark honey into brood I believe is the right idea. Uncapping it right in your hives before the clover blossoms have come out at all and before you put on your supers for your good clover honey.

Mr. Gemmell: I am willing to take all the risk of the dark honey; if I can get it I will take good care it does not go upstairs. What I can't turn into brood I will have in such a shape that I can take it off so that it can't get into the white.

Mr. Sparling: I have been in the habit of getting buckwheat honey and I can assure Mr. Craig that he need not be alarmed about the bees taking up the buckwheat honey into the clover honey. In fact I would not worry at all if the bees did take up a little into the sections to start with.

Mr. Darling: A number of gentlemen here, yourself amongst the

number, Mr. President, have intimated that we are supposed to know or do not need to know whether there is much or little in the hives, that there will be just enough and none to spare of this dark honey when the white clover honey starts to come in.

Mr. Post: I think if you get a powerful brood that they will consume the whole of it before the clover blossoms, if there is enough to carry them through. If there is not give them something just before the clover comes in. Do not let them run out. I try to have my nine Langstroth hives, without sun-caps to weigh 75 pounds when they are put in the cellar; and I never have any too much honey.

Mr. Neesam, a Thirsk hairdresser, has had a remarkable experience, which proves him to have a wonderful presence of mind. While crossing the street he saw a swarm of bees. The queen settled on him and her subjects followed suit. He stood calm and still, and was soon covered with the creatures. An expert apiarist was fetched, and he transferred the queen into a hive, where she was followed by the rest. The discreet Mr. Neesam went his way unharmed.

To reduce one's weight, cut off one meal a day, breakfast preferably. Take a cup of clear coffee sipping it slowly. Live largely on lean meat. Take plenty of exercise. Avoid sugars and starchy foods.—July Ladies' Home Journal.

Flowers spring up
Unseen, and die ungathered.—

BRYANT.

DISTRICT INTELLIGENCE.

District Number 1.

Swarming is very general throughout the whole district. Basswood is just coming in bloom. Clover in every place is splendid. Weather for the past week too warm for the bees to do good work, 100° in the shade at 6 p. m. some evenings.

W. J. BROWN.

Chard, June 29th.

District No. 3.

The month of June is giving the bees a pretty lively turn in these counties. Frequent showers with a few very warm days have caused excessive swarming in many yards from which I have had reports.

The clover is finer in appearance than we have had it for many years, and the honey from that source has been coming in fairly well for just a few days now. The basswood is said to be looking well but of it we are yet unable to speak.

M. B. HOLMES.

Athens, June 25th.

District No. 6.

I cannot speak for the whole of No. 6 as to honey flow but one complaint is universal, namely: excessive swarming. As for this vicinity there is a good clover bloom, especially White Dutch, but the yield of honey is very light so far. My bees "loaf" until three or four o'clock and then work lovely for the rest of the evening. Yesterday I walked a mile among clover at 2 p.m. and never saw a bee on it. This morning at 8 a.m. I looked carefully over some alsike just over the fence from my apiary and could not find a bee on it. Too much heat I think.

J. D. EVANS.

Islington, June 26th.

District No. 7.

Clover has blossomed well and bees are gathering some at present. Basswood looks as if we might expect a good flow, weather being favorable. There has been heavy loss among the small bee-keepers, many losing all they had.

A. PICKETT.

Nassagaweya, June 26.

District No. 8.

Clover is only yielding fair at my home yard, but is yielding good at my out yard, and that is the way as far as I can hear; some places good and some fair. Prospects for basswood are good, everything in the shape of a tree is going to have blossoms on it. If we have the right kind of weather we will have a good flow.

JAMES ARMSTRONG.

Cheapside, June 28.

District No. 9.

Flow from clover: never had bees do better. Prospects are good. Basswood, as far as I have seen, promises well if weather keeps warm.

JOHN NEWTON.

Thamesford, June 26.

District No. 10.

The past winter for those who wintered outside was not as favorable as was expected it would be, and considerable loss has therefore taken place. Cellar wintering had the advantage owing to the little sunshine that prevailed to enable the bees wintered on the summer stands to have sufficient flights.

The spring also was not favorable for the building up of colonies, so that the bees were not as numerous as they generally are at the time when clover came into bloom, and as a consequence, the honey crop, notwithstanding the good showing of clover and basswood bloom will not be as large as anticipated. At the present writing, a cool spell is upon us, and unless we get a prolonged honey flow, I am not

so sure that the crop will be a large one, if indeed as good as last season. We will however hope for the best. I do not think it wise on the part of those having a fair crop to be very anxious to sell soon or at a very low figure.

F. A. GEMMELL.

Stratford, June 26.

District No. 11.

Clover is yielding splendidly. Weather very favorable for the secretion of nectar. A good half crop has been gathered already. Basswood is well loaded with bloom producing buds, and if weather conditions continue favorable there will be a good yield from basswood.

W. A. CHRYSLER.

Chatham, June 28.

Division No. 12.

We have lots of clover, but very little honey coming in. I have not extracted any; none ready to extract. Think basswood will blossom very well.

S. WOOD.

Nottawa, June 26.

The honey flow started here on the 17th, from white clover, and the bees are storing honey very fast now. The season promises to be extra good. There is an abundance of white clover and if the weather does not continue too dry we are pretty sure of a good honey crop.

A. A. FERRIER.

Osceola.

The honey flow with us up to this date from clover has been fairly good. The excessive heat of the past week has not benefitted the bloom and the best is over. The season being later than usual little extracting has been done yet. The basswood will be out in a week and appears to be loaded with blossoms

DENNIS NOLAN.

Newton Robinson, July 2, 1901.

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.

JULY, 1901.

EDITORIAL NOTES.

The Toronto Globe says:—"The Ontario Department of Agriculture has practically completed arrangements for an extensive exhibit of Ontario honey products at the Pan-American Exposition. The exhibit will be secured by the Bee-keepers' Association."

We are sorry to learn of a very serious accident to the little son of Mr. John Newton, (Pres. O.B.K.A.) The little fellow was playing around a team of horses when one of them kicked and struck him on the face, leaving an ugly cut, the mark of which he is likely to be the bearer for life. It seems almost a miracle that he escaped being killed.

Call the attention of your friends to the C. B. J. clubbing offer in last month's issue. Canadian Bee Journal and The Family Herald and Weekly Star, including the beautiful premium pictures "Christ in the Temple," and "Home from the War," until January

1st, 1902, for 75c. to new subscribers. The supply of premium pictures is now very limited. Those intending to take advantage of this offer should subscribe at once.

The following circular has been sent by Secretary Wm. Couse to each member of the Ontario Bee-keepers Association:—

DEAR SIR,—The Executive Committee of the Ontario Bee-keepers' Association have decided to make an exhibit at the Pan-American Exposition, of honey (any varieties of good quality) to the extent of about 3000 pounds of extracted and 2000 pounds of comb, also wax, foundation, honey vinegar, honey plants or any other articles to make an interesting exhibit. The extracted honey is to be put up in clean 60lb. cans, cased, and the comb in 1 doz. crates.

The honey and any other articles are to be shipped to W. Couse, in care of Rutherford & Marshall, Front St., Toronto, and to be in Toronto by July, 10th, where it will be inspected by the Executive Committee and all forwarded in one lot to Buffalo, where it will be put up for exhibition in glass, etc., by Mr. Jno. Newton, President, and be in his charge for several weeks, when other members of the executive will be in charge at different times.

The committee will not accept honey of poor quality to put on exhibition and any they consider unfit for exhibition will be returned to the parties sending it, or sold if requested.

As the honey will likely be sold after the exhibition the committee will only refund in proportion to the net sales as to the amount sent by each party.

I would be pleased to have you fill in the enclosed circular what article

you can offer and how much of each.

The committee can not guarantee to take all goods offered, but will take all possible. A printed label will be sent to you when the committee decide what they can accept, giving full particulars how and where to ship.

It will be a great advantage in saving freight for several parties to ship their goods together, where convenient, as the committee will pay all reasonable freight rates.

The committee are very anxious to make an exhibit of honey second to none and it will only be by the assistance of the Bee-keepers that they can keep up the reputation of the province.

Prizes will be awarded individual exhibitors where their goods are worthy of it.

Trusting that you will assist the committee as much as possible.

Yours truly,
W. COUSE.

Streetsville, June 7, 1901.

We understand that comparatively few offers have been made so far, not nearly enough to make a proper exhibit. Probably many are waiting to make sure they have the right qualities. The executive would urge the members of the Association to attend to this matter and to report to Secretary Couse at the earliest possible moment as the time is now short.

The following letter from Secretary Mason of the National Bee-keepers' Association, U.S., re. the union convention to be held at Buffalo, Sept. 10 and 12, will explain itself. We are all interested in this meeting and hope to see a large representation of Canadian bee-keepers present as every effort is being put forth to make it a success. It will be noted that there

will be no fixed program and that the answering and discussing of questions is to be a leading feature. Editor Root says in "Gleanings" that "the committee would be glad to have these questions sent by mail in advance, so that all duplicates may be stricken out."

Editor Canadian Bee Journal:—

Will you please say in the July and August numbers of the C. B. J. that all arrangements for the next convention of the National Bee-keepers Association have been completed in so far as possible, and that the convention will be held in the lecture-room of the Buffalo Society of Natural Sciences, on the 10-12 of September next, commencing on Tuesday evening.

The Natural Sciences Society, through Mr. Smith, its president, has also very kindly offered our association the use of their library and other committee rooms during its meeting, and to do all in its power to help make our convention a success. The place of meeting is in the Buffalo Library building, on the corner of Washington and Clinton streets, near the business centre of the city.

Railroad rates will vary in the different passenger association territory, from one cent a mile each way to one and one-third fare for round trip. Each one can readily learn the rate on enquiry at their railroad station.

The Buffalo bee-keepers will try to provide entertainment at reasonable rates for all attending the convention who will notify Mr. Sidney S. Sleefer, of Holland, N.Y., of their wish for entertainment, on or before Sept. 2nd.

In a letter just received from Mr. Sleefer, he says, "We want all to come that can, for we wish to make the Buffalo meeting the most pleasant and instructive one that was ever held

in America. We will have the cooperation of the Society of Natural Sciences as well as the School Board," and names some professional men who are interested in our specialty and will be at the convention to help make it instructive.

In a long letter from Mr. Hershiser just received, he closes by saying, "call upon me for whatever further assistance I am able to render," and Mr. Penton, an ex-president of the Erie County Bee-keepers' Society, and others have offered to do all they can to provide for the comfort of the delegates.

As stated in my previous convention notice, there will be no fixed program and no papers, and the time will be occupied in the answering and discussing of questions.

Arrangements have been made for a joint session of our association with the American Poenological Society on the evening of the 12th, to discuss the mutual relations of bee-keeping and fruit-growing, and Prof. Beach, of the N. Y. Agricultural Experimental Station, and Prof. Fletcher, of the Central Experimental Farm of the Dominion of Canada, will help talk for the bees at that session. As this is the first time bee-keepers have had a meeting with the Poenological Society, it is hoped that much good will result to fruit-growers and bee-keepers from this joint session, for we expect a large attendance of the members of the Ontario Bee-keepers' Association, and many of the leading bee-keepers of N. Y.

If any bee-keeper who cannot be at the convention has any knotty questions he would like to have answered at the convention, will send them to me I will see that they are presented.

A. B. MASON, Sec'y.

Station B. Toledo, Ohio, June 22, 1901.

Conversations With Doolittle.

Working For Comb Honey.

"Good morning, Mr. Doolittle. I came all the way from Iowa [by letter] to have a talk with you regarding how best to work for comb honey so as to be sure of securing a good crop should the season prove favorable"

"Well, not knowing your surroundings, etc., I will say that, to be successful, you must have a simple movable-frame hive of some kind. I formerly thought that there was nothing equal to the Gallup form of the Langstroth hive; but with years of working with the regular Langstroth hive at the out-apiary, together with cellar wintering, I am quite sure that the man who adopts the regular Langstroth hive and frame is making no mistake."

"How large a hive do you use?"

"In using the Langstroth hive I make the bodies to hold ten frames, and work all good colonies on the ten frames till the honey harvest opens, when the colonies are each confined to the number of frames the queen has brood in at that time."

"But how do you manage to confine the bees on any certain number of frames, that number being governed by those having brood in them?"

"This is done by division-boards or dummies, as you have frequently read of in the bee-papers of late. The combs not having brood in them are taken out, and one of these boards put in the hive in place of each frame taken out. In this way, the colony having brood in only six combs is fully prepared for the honey harvest as is the one having brood in eight, nine or ten frames, and will store fully as much in proportion to its numbers, according to my experience while if the whole ten combs were left

in the hive, scarcely a pound of section honey would be obtained."

"Does this include all that is necessary in order to secure a good crop of comb honey?"

"By no means. But it is one of the very important factors in the matter."

"Well, what of the other factors?"

"All know that bees gather honey or nectar, instead of producing it, and that the eggs laid by the queen produce bees; consequently the more eggs the queen lays at the proper time the more bees we have on the stage of action at the commencement of the honey harvest, and the more bees we have at that time the more honey they gather."

"That sounds very pretty."

"Yes. But it is a matter of fact as well, that the queen is really the producer of the honey; for without her no honey could come about, from lack of bees. Therefore, if we wish good returns from our bees we must see to it that we have good queens—queens that can be so worked that they will give us combs full of brood before the honey season commences, so that when the honey harvest comes, these solid combs of brood, together with the boards taking the place of any combs not containing brood, will compel the bees to place the honey in the sections, as there will be nowhere else for them to store it."

"Very good. But how shall we secure combs full of brood and plenty of bees to do all the necessary labor, to secure the best results by the time our honey harvest begins?"

"As soon as spring opens, our bees should all be examined by lifting the frames in each hive; and any colonies which are weak in bees are to be put to one side of the hive by means of one of the division-boards spoken of before, so as to economise the heat of the cluster of bees so far as possible, confining the bees to as few

combs as have brood in them."

"But suppose there is not honey enough for food in the combs they are shut on?"

"In case there is not, I leave a comb of honey next to the side of the hive, and between that and the first comb of brood; and if a part of the cappings to the cells are broken a little on the side next the brood, it will help on the brood-rearing so much the more."

"How long do you keep them confined to these few combs?"

"Till the queen has filled them solid full of brood, and the bees begin to be crowded out beyond the division-board."

"What then do you do?"

"As soon as the queen has filled these combs and the bees begin to be crowded on them, they are spread apart, and a comb of honey having the capping somewhat broken is set in the centre of the brood-nest, or between those occupied with brood, and in a few day's time the queen will fill this also, and thus we are to keep on till all the combs the hive will hold are filled, or the honey harvest arrives, when, as spoken of before, the queen is now limited to as many combs as are filled with brood on the arrival of the honey harvest."

"Why do you put these combs of honey in the centre of the brood rather than on the outside?"

"Because the centre of the brood-nest is the warmest part of the hive or colony; and this, with the removal of the honey, which the bees never allow (at this time of the year) in the centre of the brood-nest, stimulates the queen to greater activity at egg-laying than otherwise would be, so that we are rushing on with mighty strides toward the army of workers which are to gather our nectar during the harvest time. To this one idea of securing workers in time for the

harvest, every effort of both the keeper and the bees is to be directed at this time of the year if we would succeed."

"But do you not help some of the very weakest colonies in any way?"

"Yes. As soon as the strongest colonies have their hives full of bees and brood, or even when they have eight frames full, I take a frame of brood just gnawing out and place it in the next weaker ones, giving the stronger an empty comb for the queen to fill again, and so keep on until all are full, if this is possible, before the harvest arrives."

"But does it not injure the strongest to thus take brood from them?"

"It would were we to do this early in the season; but as we do not do this till some of the colonies have their hives nearly or quite filled, it does not materially weaken them, but on the contrary, stimulates the queen to still greater activity at egg-laying, and at the same time tends to check any desire to swarm."

"How about putting on sections? When is this done?"

"I generally put them on all good colonies a week or ten days before the honey harvest is to arrive, so that the bees may enter them on warm days and get used to going 'upstairs.' With the weaker colonies they are not put on till they are ready for them, or till they are confined to the brood they have at the time of the opening of the harvest."

"How are the sections prepared?"

"I now fill each section with the extra-thin foundation, while three or four sections to each hive should be those which are full of comb, or nearly so (called 'bait sections'), left over from the previous year, the same being those which were filled hardly well enough to be saleable. These latter are very important, as they are the means of getting the bees at work

in the sections at once."

"Are not these sections filled with comb finished quicker than those with foundation?"

"Yes. As a rule these are finished from three days to a week before the others; and where one has the time I think it pays to take these out as soon as filled, putting those with foundation in their places, thereby causing the bees to work with renewed vigour to fill up the vacant space left where the full ones were taken out. But where time is scarce, or where sections are handled by the full super this course cannot generally be taken. This, in short, is the way I have worked my bees for the past thirty years, during which I have been enabled to take an average of very nearly 80 lb. of comb honey each year from each old colony in the spring."—Gleanings

—◆◆◆—
"The world goes up and the world goes down,
And the sunshine follows the rain,
And yesterday's sneer and yesterday's frown
Can never come over again,
Sweet wife:
No, never come over again."—

KINGSLER

—◆◆◆—
The brain-children of a writer are as precious to him as are the blood-children of a mother to her. Each are perfect in the eyes of its parent.—July Ladies' Home Journal.

—◆◆◆—
Flowers preach to us if we will hear.—ROSSETTI.

—◆◆◆—
Food cools, to a certain point more quickly in the open air than in a closed refrigerator.—July Ladies' Home Journal.

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SCENT ORGAN IN THE BEE.

The Scent Produced Forms a Means of Communication Between a Swarm or Colony.

By F. W. L. Sladen, in *British Bee Journal*.*Concluded from Page 281*

As I thought it probable that communication of the kind I have been noticing was carried on chiefly (if not entirely) by scent, and not so much by sound, I tried to prove this by placing a strongly scented canvas screen across a line of "calling" bees which were standing on the extendedighting-board of their hive, so as to cut off communication by scent, but not by sound, between the party standing round the mouth of the hive and that at a further distance. Scents such as rose-water produced very little effect. The smallest trace of creosote produced a marked effect, and I think that the bees have an aversion to the smell of this substance, as they are known to have a similar smelling substance—carbolic acid. On the whole this experiment, which was repeated in various ways, produced no definite result one way or the other.*

The following, experiment which I quote from my notes, may be interesting:—

July 30, 1900. 5.30 p. m. I put a fertile queen from one of my nuclei into a wire-cloth cage with twelve workers.

6.30. I went to the the cage and shook it. All the workers hummed and protruded membrane. A very sweet odour was noticeable, mingled with "seaweed odour"—sweet odour more noticeable.

10.30. When quiet I fed the bees with a drop or two of syrup, and returned to the cage. Four or five bees were standing round queen with membrane exposed, wings standing

out; some vibrating feebly almost without sound. Some bees got out.

10.45. One bee dropped on to the floor, and ran about as if searching for something. I held cage with queen and workers in it, near her. She did not notice the cage for a long time. The bees in the cage hummed occasionally. This did not perceptibly attract her more. After five minutes' searching, when the bees were quite silent, she discovered her proximity to them. She was then fully $1\frac{1}{2}$ in. off. She exposed her membrane, elevated her abdomen, and hummed. Other bees did not follow suit. She continued humming for about ten minutes, gradually working nearer till she reached cage. Then she ran over it and tried to get in."

The membrane in question appears to have been first noticed so long ago as the year 1883, when Nasonoff, a naturalist of Moscow, described the organ, and an account of his description was sent by Zoubareff to Swiss Bulletin d'Apiculture (translated by Mr. Frank Benton in the *British Bee Journal* of Dec. 15, 1883.)

The organ is described as a canal. "At the bottom of of this canal a large number of small glands open, each one of which has an oval cell with a well-defined globule. From each cell a fine duct starts out and extends out to the bottom of the canal." Nasonoff further says that the walls of the ducts are of a chitinous texture. He assigns a secretory function to the glands, suggesting that they produce the perspiration. Zoubareff, while not absolutely rejecting Nasonoff's theory, connects the existence of the glands with the little drops of liquid that bees were said to let fall when they are on the wing, which, he says, represent the excess of moisture which nectar, freshly gathered from flowers, con-

tains over ripened honey, and which, he thinks, is collected and thrown off by these glands. These ideas seem very crude, and would hardly be believed at the present time, but they are copied in the present edition of Cowan's "Honey Bee," which seems to indicate that the organ in question has not been further investigated since 1883.

I have constructed a special stage to my microscope which holds a bee's abdomen in a distended condition, enabling me to examine the surface of this organ under a high power. It then has the appearance of being paved with a mosaic of minute semi-transparent vesicles. At the outer margin of the vesicular area is a long hollowed out depression.

From the above notes it seems clear that the organ under consideration is connected very closely with the means that bees have of attracting one another. There is strong evidence in favor of its being a secretory organ. This being the case, it seems but natural to suppose that it produces some kind of scent by which bees are attracted to one another. This theory is strengthened by the fact that we know that bees are greatly influenced by scents some of which we can hardly perceive. They can smell honey and syrup far better than we can. There can be no doubt the antennæ, are the principle organs of smell in insects generally. Lefebvre so far back as 1838 made experiments on bees which seemed to assign the organs of smell to certain pits in the antennæ, and this is the theory now generally held. On the other hand, no certain organs of hearing have been found in bees. Sir John Lubbock, (now Lord Avebury) says in "Ants, Bees and Wasps" (page 290): "The result of my experiments on the hearing of bees has surprised me very much.

It is generally considered that to a certain extent the emotions of bees are expressed by the sounds they make, which seems to imply that they possess the power of hearing. I do not by any means intend to deny that this is the case. Nevertheless, I never found them take any notice of any noise which I made even when it was close to them." Lord Avebury goes on to say that he tried his bees with a violin, dog-whistle, tuning-fork extending over three octaves, shouting, &c., all to no purpose. Lord Avebury was, on the contrary, very successful with his experiments testing the sense of sight and smell in bees. Forel, an eminent authority on ants, denies that these insects can hear. My experiments with humble-bees have indicated a similar conclusion in their case. While the evidence regarding the absence of the sense of hearing in bees is entirely negative in character, one must not declare positively that they cannot hear and they are, at any rate, extremely sensitive to certain forms of vibration. It is possible that the membrane we have been considering might in some way act as a moderator of sounds produced in another part of the body, or even produce certain sounds itself while exhaling scent as well. Such sounds might be inaudible to the human ear (infra). Sound producing organs situated on or between the abdominal segments are by no means unknown among other hymenoptera. In the male of *Mutilla rufipes* a metallic chirping sound is produced as the abdomen contracts and expands caused by the segments rubbing on finely ribbed surfaces on one another. This insect is closely allied to ants. Though the ants are not known to produce audible sounds in this way, yet certain of them have

similar structure to the Mutilla, which Lord Avebury thinks it "not unreasonable to conclude may produce sounds even though we cannot hear them." He figures a section of the junction of the second and third abdominal segments in the worker of *Lasius flavus* (the common yellow ant), the outline of which is not unlike that of the organ under consideration. It is, however, chitinous and finely ribbed, and occurs between all the segments of the abdomen. ("Ants, Bees and Wasps," page 230.)

Turning now to undoubted scent-producing organs in the abdomens of insects, we find that they are commonly developed, and for a variety of purposes. The scents may be divided into two classes: those that are intended to allure and those that are intended to repel. Certain sphingids exhale a distinct odour, which was traced by Fritz Muller to a tuft of hair-like scales at the base of the abdomen, which fits into a groove in the first segment, and is ordinarily invisible. Peculiar white threads are thrust out of the narrow openings near the tip of the abdomen of certain moths. Smith found a peculiar brush of hair-like scales in a groove between the dorsal and ventral parts of the basal two segments of the abdomen of *Schinia marginata*, a moth belonging to the family Noctuæ. H. Garman and in a species of locust (*Hadæncus subterraneus*) "a pair of white fleshy appendages protruding in the form of slits between the terga of the sixth and tenth abdominal somites, the nature of which was not clear," as they were thought to be scent glands.

A few days later I was fumigating with burning sulphur some wet combs to destroy some larvae of a wax-moth that had got into them, and I was surprised to find that robber-bees could smell the sulphur quite well through the dense sulphur fumes. Under the above experiment was not successful.

OUT APIARIES.

(Fourth Article.)

G. A. Deadman, Brussels.

There is another way besides those previously mentioned to prevent swarming, but it applies only to an apiary run for extracted honey. The tiering up system, provided plenty of room is given, and the supers put on before the bees get the swarming fever, will largely deter but will not altogether prevent swarms issuing as the heat increases and the season advances. If however one adopts the "long idea" hive, and extracts from the brood chamber, one can quickly put them out of the notion of swarming for a time at least. In my early days of bee-keeping this was what we did, but the objections were a quantity of inferior honey to be extracted, and an empty hive to be filled with the best clover for the use of the bees. If we had a good fall flow it would have mitigated things somewhat but too frequently the honey flow would suddenly cease and we would not only have to feed for immediate use but for winter also. Then again it was so much more work getting them ready for winter, such a contrast to that of never disturbing the brood nest as when working on the tiering-up plan. It has the advantage, however, of not only doing away with swarming but one can see the condition of each colony when taking the honey. I could not be induced to return to it though. I simply cut the 30-inch hives in two, placing one part above the other, and all is lovely, any surplus from fruit bloom, etc. is left in the brood chamber for present or future use. Not only this but the bees are much better natured. Dear me, I don't wonder at them getting cross when their home is completely upset as it is when extracting from the brood chamber. There is one thing that I have not mentioned in

connection with out-apiaries which is
WINTER ENTRANCES AND PROTEC-
TION FROM SNOW.

At the home apiary it is an easy matter to remove any board or other covering used as a protection from snow when a warm day comes, but with an out-apiary it is quite different. What is required then is something that will prevent the snow from clogging the entrance, and yet not interfere with the bees coming out on warm days. Formerly my hives, like most hives, have had projecting bottom boards but I have ceased to make them in that way, unless for summer use. I make them now with either the bottom board flush with the end or one half an inch shorter. To accommodate those with projecting bottoms I made a "lean-to" out of two or more boards cleated together and sufficiently wide that when placed a foot or so from the hive at the bottom would come below the cover at the top when leaned against it. The openings at each side were covered as well. This formed a large air space in front of each. I found, however, that even with these the snow would sometimes blow in and lodge near the entrance. This was happily overcome by a piece of board about a foot wide or so, slanting it against the hive and over the entrance before putting up the larger or outer one. Any snow that blew in fell against this inner board and did no harm. As I use all double hives for winter this is not much trouble and will last a lifetime. The hive I make now and which I prefer for the home yard is one that has a recess just above the entrance which answers to a portico, but is different in as much as it does not project past the front of the hive, in fact half an inch back. Where your hive is to have two inches of chaff or other packing in front it is an easy matter

to make it; not only is it an advantage in that it is easily covered for winter but when the bees come in with a load they can fly to within an inch of the inside of the hive instead of having to walk three or four inches. The board I use for these I have hinged on to the front, and other than warm days and nights in the spring it is left down. For the out-apiary we want something that will not interfere with the bees flying when they desire to do so. This is accomplished by having no projecting bottom boards and taking a three-quarter-inch strip say three inches wide and about two inches longer than the entrance; this strip has a rabbit half inch by three-quarter on the lower side; one end of this is screwed to the hive so as to come below the entrance, the other end resting on a nail. The rabbit on the under side allows the bees to pass down and out. In summer it is swung back out of the way. We find this not only all that is required in winter but valuable as a protection from the cold winds in the spring. The entrance of course in addition to this is contracted to suit the requirements of each colony. Possibly I am too particular about this matter but it is worth considering. What surprises me is that "Roots A, B, C" and "Langstroth Revised" make no mention regarding any protection which is so necessary where snow is abundant. In another article we will discuss or give an outline of the time given to an out-apiary of a given number of colonies, and the profit and loss accruing therefrom in an average season in an average locality.

An Interesting Report from Leeds

My locality during the last two or three years has been very unfavorable for bee-keeping—a combination

causes in my case, and only for great vigilance my bees would have been lost. I believe, however others may view it, that open air or decoy feeding more than doubled the courage of my bees last spring. The benefit depends on outside conditions, of course, as well as those inside the hive. Mr. Hough, who gives lessons to beginners, insists on arranging the supers in such a way after the flow of white honey is past so as to persuade the bees to surely provide ample supplies of dark honey till the next flow, at the same time if the flow exceeds this the excess will be stored in the supers. The plan, I think, is his own, and it is fine. I put in 77 colonies and put out 76 on their stands on April 27th; temperature 75° in the sun. Bees worked well same day. I had two winter-dwindled queenless colonies to unite with their more fortunate neighbors without the observable loss of a bee anywhere, besides I had one colony that was more thoughtful than their keeper was observing, they carried over a dozen drones; I took the hint without waiting to look, I added in a frame of brood and bees (I represented them) which made matters all right. Such a case seldom occurs. I have three more which I think require cold spells would hurt. With the exception of the above the hives were well stored with honey and bees. I winter without bottoms, hives placed on 2x4 scantling, 20 in. apart, over a 4 in. bed of forest leaves, (ample) three leaf beds 12 feet long, over the other, 8 hives on each stand, 24 in all, supported on two under trestles which can be quickly removed; 100 hives quickly packed in a space 10x12; no hives nearer than four inches. This also Hough's system, sixteen years in use by a few. The plan is pleasing to the bees apparently.

Mr. John Kendrick, who is one of

the largest bee-keepers in eastern Ontario, has used Hough's system four years. He put in 350 colonies in this way last fall, lost two in cellar, had three queenless; bees in fine condition. He would, on no account return to his former mode of wintering.

R. C. HASKINS.
Leeds Co., May 20th, 1901.

Central Canada Exhibition, Ottawa.

The Central Canada Exhibition, Ottawa, prize list contains the following section:

SEC 57--HONEY AND APIARY SUPPLIES

Exhibitors showing honey not the product of their own apiary, in competition for prizes, shall forfeit any prizes awarded and be debarred from exhibiting for two years hereafter. This rule will be strictly enforced by the directors. The directors wish it to be understood that no bees will be allowed upon the grounds or in any of the buildings thereon. Bee-keepers who have supplies manufactured specially to order can exhibit such in competition for prizes.

Best 20 lbs. of extracted granulated honey, in glass, 1st prize \$4, 2nd prize \$2, 3rd prize \$1.

Best display of 100 lbs. of liquid extracted honey, of which not less than 50 lbs. is in glass, quality to be considered, 1st \$10, 2nd \$5, 3rd \$2.

Best display of 100 lbs. comb honey in section display, fresh appearance and finish to be considered, 1st \$10, 2nd \$5, 3rd \$2.

Best 10 lbs. of comb honey, quality and finish to be considered, that is to say, body and flavor of honey, and clean and best filled sections to be considered, 1st \$5, 2nd \$3, 3rd \$2.

Best 10 lbs. of extracted clover honey in glass, 1st \$2, 2nd \$1.

Best 10 lbs. of extracted Linden honey in glass, 1st \$2, 2nd \$1.

Best beeswax, not less than 10 lbs.,

1st \$2, 2nd \$1.

Best exhibit, the object being to educate the public as to bees—their natural history, the bee-keeping industry and its relation to horticulture, 1st \$5, 2nd \$3, 3rd \$2.

Display of bee-keepers' supplies, diploma.

Best foundation for brood chamber, 1st \$1, 2nd 50c.

Best foundation for sections, 1st \$1, 2nd 50c.

Best hive for comb honey, 1st \$1, 2nd 50c.

Best hive for extracted honey, 1st \$1, 2nd 50c.

For the largest, most tasty and neatly arranged exhibit of honey in the apiarian department, all the honey to be the product of the exhibitor (\$10.00 of this prize is given by the Ontario Bee-keepers' Association,) 1st \$10, 2nd \$6, 3rd \$4.

THE ANNUAL FETE

The Central Canadian Exhibition Association

Will hold their Fourteenth Annual Fall Fair at

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Entries Close on September 11th.

The Gold Medal Special Prize List is bigger and better than ever this year. \$250.00 offered in cash prize by the Massey-Harris Company.

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Special rates on all railway and steamboat lines both for visitors and exhibitors.

For prize lists, entry forms and all information, address the Secretary.

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LIBERAL PRIZES FOR HONEY
AND APIARY SUPPLIES.

ENTRIES CLOSE AUG. 3

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For prize lists, etc., address

A. SMITH, H. J. HILL,
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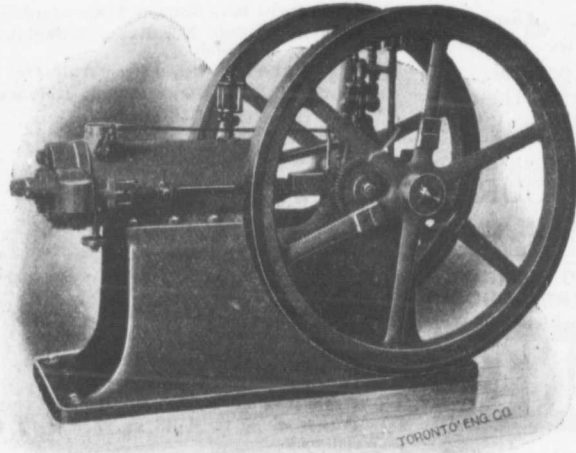
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