

THE CANADIAN BEE JOURNAL

Vol. 20, No. 3.

MARCH 1912

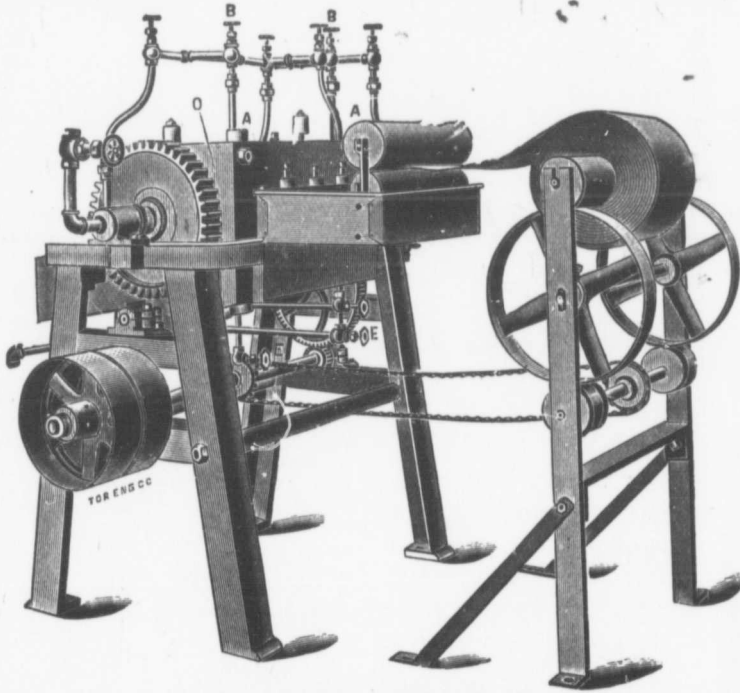
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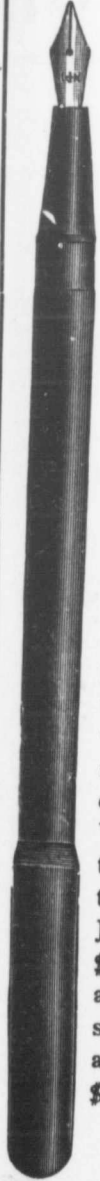
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The Canadian Bee Journal
BRANTFORD, CANADA

The
Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

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Vol. 20, No. 3.

APIARIAN CONDIT
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By F. Dundas

Sage Brush and Honey
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Apiary

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Journal
Canada

The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA
W. WHITE, ASSISTANT EDITOR.

Vol. 20, No. 3.

MARCH, 1912

Whole No. 565

APIARIAN CONDITIONS IN BRITISH COLUMBIA

By F. Dundas Todd.

Sage Brush and Honey in the Province

On page 52 of February issue Mr. E. F. Robinson is quoted as having said "He found that on the Okanagan

Not having been in that part of the Province I cannot say anything definitely on the supply, but I saw thousands of acres of sage brush in the Lilloaet district last summer, and though I watched closely, never saw a bee on a blossom. Furthermore I discussed the matter with every bee-keeper and all agreed that the sage



Apiary of Mr. H. L. Johnston, Chilliwack, B.C.

Lake there are hundreds of acres of sage brush, which in California, forms the chief source of honey supply." The dietion is not as clear as water white honey, but I assume that the intention is to express the idea that sage brush in the Okanagan district is nectar-bearing.

in that locality could not be considered as a honey plant.

Still further, being anxious to introduce into our dry belt a nectar bearing sage should one exist adapted to our climatic conditions, I entered into correspondence with prominent bee-keepers in Idaho and Colorado, where

the winter temperature conditions are fairly similar to those in our dry region and they report that the sage in their part of the world is not nectar-bearing. At the same time I communicated with a well-known bee-keeper in Southern California anent introducing the sage of that region, and in a very exhaustive treatment of the subject he says, among other things that it winter-kills at a temperature very much nearer freezing point than the minimum one in the eastern part of British Columbia, which temperature is considerably below zero in some years.

So my hopes of finding use for a vast area of land that is at present unproductive were dissipated. Also, provided always that he is correctly reported, Mr. Robinson is probably wrong when he includes sage-brush among honey-producing plants of British Columbia.

It is with some hesitation that I refer to the subject as the communication does not appear over that gentleman's signature, but is a quotation from a Victoria paper in which Mr. Robinson is said to have said, and that is not good evidence. My poor self was once a victim of just this kind of thing, for I was once quoted in a Victoria paper as having said a great deal that I never did say, and Mr. Robinson very properly started out to take me to task. But also for the edification of the community he very improperly, as I thought, saw fit to mix personal attacks with his polemics, and having advanced I hope, just a little beyond that style of argument I passed his communication by. Some one interested sent clippings to this journal, and they appeared in the issue of May, 1910. Therein I am spoken of as one "who is posing as an authority on bee culture," which is a rather unusual way to speak of a man when you want him to calmly prove his supposed statements. But I need not take up space with similar quotations, nor protest

against so-called quotations that are merely phrases wrenched from the contest, reminding one of Dean Swift's famous sermon on "Top-knot come down" which gave him excuse for a biting attack on the elevated mode of hair-dressing popular with the ladies of his day. A reference to the scriptures showed that the full text should have been "Let him which is on the housetop not come down," which was different and another story.

No sir, since I am a reformed character, I cannot quote against himself the words of Mr. Robinson "who is posing as an authority" neither will I follow the eminent example of Dean Swift and use the last part of Mr. Robinson's phrase, "an authority" when speaking of him.

Honey Production in British Columbia

At last we do really know something about bee-keeping in British Columbia for during the summer of 1911 over 300 bee-keepers were called upon, half of them twice. The inspectors collected very definite data right at the hive side, and after making very judicious allowances they arrived at the opinion that there are in the province at least 1,100 bee-keepers. They know for a fact that very few of them are familiar with even the elementary principles of the art. Mr. Jacob Alpaugh, who spent a couple of days with the writer, said he thought he knew something about the limits of poor bee-keeping, but what he saw beat anything he had ever come across in Ontario. The inspectors know that the average honey production per hive, spring count, among the men that were called on, was 19 pounds per hive, and let it be noted that each inspector reported the same average from his district. On my part I estimated as fairly as I could, taking the most skilled bee-keeper as the criterion, the possibilities of each locality and am of opinion

March, 1912

that in the region I could see a hive could easily have

Our opinion is that of British Columbia for 1911 amounted to a few pounds, and might have been times that amount has been known more about it.

The highest average very fine bee-keeper in this district being in the part of Vancouver Island a gentleman took 1,100 pounds of honey from 7 colonies. One of his colonies in succession yielded 11

Fraser River

The Fraser river from the coast seems to have been the establishment of apiaries, as there are a many ranches on which are grown for seed. The bee-keeper, Alex. Lochore, has more than 20 hives, produced, partly to make use of the alfalfa for the pollination of the alfalfa he gets pretty steadily about 28 pounds of extracted per season. He is about 28 miles from Lytton. We figured up the fruit acreage in the 48 miles between Lytton and Lillooet to the conclusion that a great deal of honey were going to be produced every year.

Mr. Alpaugh will doubtless learn that Chilliwack has produced up a little towards the coast and cheered Mr. Johnson with an average crop of 66 pounds

Lulu Island.

I peeked into Lulu Island at the mouth of the Fraser River just to get a line on the possibilities, and found one bee-keeper bottling a beautiful crop

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that in the region I covered 60 pounds
 a hive could easily have been secured.

Our opinion is that the honey crop
 of British Columbia for the season of
 1911 amounted to at least 100,000
 pounds, and might have been three
 times that amount had the bee-keep-
 ers known more about bee-keeping.

The highest average was made by a
 very fine bee-keeper in the Comox
 district, Rev. T. Menzies of Sandwick,
 this district being in the northern
 part of Vancouver Island. The Rev.
 gentleman took 1,100 pounds of ex-
 tracted honey from 7 hives, spring
 count. One of his colonies for two years
 in succession yielded 175 pounds.

Fraser River.

The Fraser river from Lytton to Lil-
 looet seems to have big possibilities
 for the establishment of a line of out-
 apiaries, as there are along its banks
 many ranches on which alfalfa is
 grown for seed. There is one able
 bee-keeper, Alex. Lochore, who runs not
 more than 20 hives, partly as a re-
 creation, partly to make certain the
 pollination of the alfalfa blossoms, and
 he gets pretty steadily close on 100
 pounds of extracted per hive every
 season. He is about 28 miles above
 Lytton. We figured up the alfalfa and
 fruit acreage in the 48-mile stretch be-
 tween Lytton and Lillooet and came
 to the conclusion that at least 5 tons
 of honey were going to waste in the
 valley every year.

Mr. Alpaugh will doubtless be glad
 to learn that Chilliwack district chirk-
 ed up a little towards the end of June
 and cheered Mr. Johnson's heart with
 an average crop of 66 pounds.

Lulu Island.

I peeked into Lulu Island, at the
 mouth of the Fraser River, one day,
 just to get a line on the season's out-
 put, and found one bee-keeper busy
 bottling a beautiful crop of clover

honey. From 30 hives, spring count, he
 had taken an average of 60 pounds. At
 Nanaimo I found an average of 50
 pounds, but have grave doubts as to its
 source. It looked first-rate, but refused
 to dissolve when I mixed it with hot
 water and some other liquids, and tast-
 ed so bad that I threw the compound
 down the sink. Some folks on this
 island think that the bees sometimes
 gather an exudation from the pine
 needles, which may not be soluble in
 water.

The Department of Agriculture of Brit-
 ish Columbia will probably soon issue
 another bulletin on bee-keeping in the
 Province, and I think considerable
 space will be devoted to statistics re-
 ceived from most regions where bees
 are kept.

No Foul Brood in British Columbia.

I am glad to report that so far as we
 know there is no foul brood in British
 Columbia. In 1910 one case was dis-
 covered, imported by a settler from
 Ontario, and was wiped out by fire.
 The past season another was found,
 this time imported from England, and
 it met the same fate. We do not pre-
 tend to cure the disease in this part of
 the world. We simply make sure that
 the diagnosis is correct. Dr. Phillips is
 just as kind to us as he is to the good
 folks across the line. I repeat, we first
 make sure that the disease is present,
 then we make sure it is not present by
 applying the torch. We have a clean
 bill of health and mean to keep it.

There is no necessity for any one to
 bring bees into British Columbia, as
 they are even more plentiful than the
 population would indicate. In some re-
 gions bee-trees are in plenty, while in
 Chilliwack I several times saw swarms
 hanging on branches by the wayside
 and nobody caring to gather them in.
 The foul brood act gives power to
 quarantine all imported bees for nine
 months, and our inspection work justi-
 fies the existence of the clause. The

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inspectors call upon every bee-keeper in the district where they are working, get well acquainted with every one, and learn the history of every apiary, so that at the least hint of anything suspicious they can trace back to the source. Every imported hive is as a consequence necessarily conspicuous and will be under surveillance for quite a while.

First Pollen in 1912.

We have been having very mild weather on Vancouver Island for several weeks, so that our 'bee year has made

an early start. Since my arrival here the first pollen has been carried in about Feb. 22, and I was not expecting its appearance much before that date this year, but happening to be among the hives on the 11th, I was surprised to see pollen being carried in quite freely. On mentioning the matter to another bee-keeper, he assured me the bees had been working on pollen for several days, at least as early as the 6th, and that on the 11th he had observed them busy on chickweed.

Victoria, B.C.

WOMAN'S DEPARTMENT

CONDUCTED BY

Miss Ethel Robson, Ilderton, Ont.

Dear Readers of the C.B.J.:—Last month I promised you that I should have something interesting to tell you this month, so I'll have to make good. In the first place I wish it were possible for every girl who keeps bees to go out upon an institute trip, for such a tour gives one an opportunity for knowing the country as nothing else does. But the thing which surprises me is that so few girls keep bees. Here and there you find a woman interested in bee-keeping, but almost never a girl. Yet the work is just the sort of work that girls can easily do! The stings and swarms seem quite enough to frighten off most enquirers and they look at you incredulously when you tell them that you get used to being stung.

Mr. Harkness and myself travelled through North Renfrew and South Lanark, and in both counties found conditions well adapted to bee-keeping. There were, however, but few bee-keepers. The people up there were not interested in side lines such as those we were advocating. Mr. Harkness was speaking on orcharding and the

farm garden. This latter won the hearts of the women. The men want to stick to straight farming; but I've noticed that it is where the people are developing the side lines that agriculture is flourishing and remunerative. It is surprising, too, how much gross ignorance still prevails among people who are keeping bees on a small scale. They seem to think that all they have to do to get honey is to put a hive of bees out in the back yard, and then go on the principle that the "Lord will provide." It rarely works out profitably though, as too many have found to their cost. The Lord has provided the nectar in the flowers, the instinct for honey-gathering in the bee, brains in man, and these three have to be combined in order to get a good surplus of honey.

Just now I am down in Essex Co., and here again we find excellent conditions for bee-keeping, but few bee-keepers. I have seen a few colonies out in back yards, quite unprotected, and I fear the zero weather we have experienced will have proved a little

hard on them. Please tell me it is very hard to buy and I have posed for sale in the have seen an abundance of syrup. There is even yet for a while in the honey market.

Macdonald

But now about Michigan. It is a wonderful institution have taken a good build it, and it is cost the money has been p purpose. My ideas o college had been fo and the Michigan Agri Now these institution slowly. New buildings as they were needed s they are of all sorts and in various states Macdonald was all p There is complete uni out and everything is an educational committ it from the old land s not been private capi it it would have been so much money." Bu truly goodly to look feels a tremendous satis in a place where every all the way through.

After its wonderful next distinguishing feat is the huge dining ro and women eat together mise that this is an u in manners, and the res must be to send out a ished product than coul secured. They tell me marriages have resulte this mingling of the sex less, the older heads in find a great amount of in ing track of the "st year.

Macdonald has been

hard on them. People in the towns tell me it is very hard to get honey to buy and I have not seen any exposed for sale in the stores, although I have seen an abundance of corn syrup. There is evidently no danger yet for a while in flooding the home honey market.

Macdonald College

But now about Macdonald College. It is a wonderful institution! It must have taken a good many smokes to build it, and it is comforting to think the money has been put to such a good purpose. My ideas of an agricultural college had been formed by Guelph and the Michigan Agricultural College. Now these institutions have grown up slowly. New buildings have been added as they were needed and consequently, they are of all sorts and conditions, and in various states of preservation. Macdonald was all planned at once. There is complete uniformity throughout and everything is of the best. As an educational committee which visited it from the old land said: "If it had not been private capital which built it it would have been a sin to spend so much money." But the result is truly goodly to look upon, and one feels a tremendous satisfaction in being in a place where everything is so good all the way through.

After its wonderful equipment, the next distinguishing feature of the place is the huge dining room where men and women eat together. I rather surmise that this is an unofficial course in manners, and the result, I am sure, must be to send out a much more finished product than could otherwise be secured. They tell me that not many marriages have resulted so far from this mingling of the sexes. Nevertheless, the older heads in the institution find a great amount of interest in keeping track of the "steadys" each year.

Macdonald has been given a won-

derful start. In spite of this there will doubtless be hard places ahead. It is but a young institution, and it has yet to determine very argely what place it will play in Canadian national life. There are however, many earnest men and women working together and we cannot doubt that they will make the college count for the best.

Macdonald Bee Club

But there is one thing at least in which our O.A.C. has the advantage over Macdonald. We have a course in apiculture and they have none there. But in its place they have a good live bee club, and a number of students interested in bee-keeping, so there is little doubt that this work will soon be added to the curriculum. Mr. Durost, one of the horticulture men, is the enthusiastic president of the club, and Mrs. James, the librarian is the no less enthusiastic secretary. For the meeting which I addressed they combined the work of the club and that of the short course. Mr. Pettit was there also to give a talk on the honey bee and the commercial possibilities of honey production. There was a good turn-out, many of the staff being present, and the interest shown quite swept the Ontario speakers off their feet. A rapid fire of questions was sent in from all sides, and although many of them displayed a great lack of knowledge they certainly promised well for the future of bee-keeping among some at least, of the students of Macdonald. One of the short course men asked me how he could keep the combs in the super from being built down to the brood chamber combs. A few questions elicited the fact that his methods of bee-keeping were somewhat primitive, and the speaker was unwise enough to remark on this. He squared things later, however, when the question of feeding came up, as then I had to admit that my methods of feeding were somewhat

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latter won the n. The men want farming; but I've ere the people are lines that agricul- remunerative. It v much gross ignor- among people who a small scale. They ll they have to do out a hive of bees d, and then go on e "Lord will pro- rks out profitably y have found to l has provided the s, the instinct for he bee, brains in e have to be com- a good surplus of

own in Essex Co. find excellent con- ing, but few bee- on a few colonies quite unprotected, weather we have e proved a little

and buckwheat in creted very little case? Will some-

of Ontario want n inspection work, s appointed at the on the Minister of hat could be done. a mix-up over it nen not being able ect! I'm sure men y matter of recom- Dominion Govern- aw was before the subject of an ap- al government for ight up, and for wo got hopelessly ould brood question a committee and le to rescue from seemed likely to evious motion for or more money.

Honey Exhibit.

oped that the bee- old of the honey ultural show and s next year. We y-operation at all y, a large part of ntario convention it, all of which to the fact that oming policy for is so it is only begin our practi- id the making of d seem to be the

Mr. Tyrrell laid principles for co- must have a de- working for; see- and third, unity. ig of a creditable big horticultural rth working for. to the pride of eper, and would

do much to give the honey business a better standing in the country. We have the beginning of a plan in the motion passed by the convention, asking the various local associations to put up exhibits. It now remains for these associations to take hold of the matter at an early date and get their plans in shape during the slack season. For unity there must be a general willingness to sacrifice to the general good, otherwise it will only be the source of much petty bickering. The Woman's Department commends the scheme to the favorable consideration and active co-operation of all bee-keepers.

I believe Mr. Hodgetts has sent out a circular letter to the secretaries of the local branches, in which he asks that the matter be brought up at the spring meetings. Being away from home, I have not received mine yet. As none of the executive committee know much about exhibiting honey it is sincerely to be hoped that every bee-keeper will take a personal interest in the matter. This is the only way it can be made a success. As I have already said, after our talking co-operation at all our conventions, it is surely time to show that we can do something else than talk.

[Hear! hear!—Ed.]

DINES' METHOD OF RAISING QUEENS.

By Oscar Dines.

[The other day, when Mr. Holterman was telling us of some of the good things said and done at the recent New York State convention, we were particularly interested in a new method of raising queens, which seemed very ingenious and at the same time exceedingly simple. Mr. Oscar Dines, of Syracuse, N.Y., its originator, furnished a description of the method at the convention, and, at our request, has writ-

ten the following article for the C.B.J. We have already heard of several of the most prominent bee-keepers of this continent who intend to give the method a trial during the coming season, and we are sure that its simplicity will ensure for it a widespread adoption in Canada. We shall be very glad to hear from our readers who may desire a fuller explanation of any of the points touched upon in the article.—Ed.]

I have been desired by the Editor to describe my new method of obtaining queen-cells, exhibited by me at the recent New York State convention. By way of preface, let me say that I do not claim credit for any originality in the matter. Something over a year ago Dr. Phillips of Washington told us of laying a piece of brood comb on the top of the frames of a queenless colony and of the bees building queen-cells. Mr. Case then spoke of placing a whole frame of brood on top of a queenless colony, raising it above the frames by means of small blocks of wood placed under the corners, and then covering the comb with a cloth. He thus used the entire colony for queen-cell production. My present method of using the device described below in which to support the comb of brood was evolved from the ideas just referred to.

Bee-keepers who, like myself, are honey-producers, and not queen-breeders, find that methods involving the transferring of royal jelly and young larvae are far too delicate for the average bee-keeper. This transferring is rendered quite unnecessary in the plan that I have practised during the past season, and I find that by its means I am able to raise queens at a much more rapid rate than formerly. Its simplicity is such that it is a wonder to me that it was not thought of long ago, and for my own part I believe, and have no doubt, that it will come into general use amongst the ordinary run of honey producers. With me the

method has been very successful, and I have been able to obtain thirty, forty and sometimes even double that number of perfect cells, with absolutely no disturbance to the colony, and with the work going on in the super as though no cells were being drawn out below. Bearing in mind the encroachment of foul brood upon our apiaries, and the consequent necessity of Italianising for protection against it, the value of a method whereby we can obtain with ease and rapidity queen-cells in sufficient numbers to re-queen whole apiaries, cannot be overestimated.

I might explain here that I use the half-chamber hives in my yard, and for that reason my combs are of the shallow type, of which I use two in the device described below. The principle, however, is precisely the same, and no doubt as good results would be obtained from the use of a single full-depth comb supported above the colony; and as by far the largest number of bee-keepers use the Langstroth frame, the device described will be for supporting one full-depth frame.

The framework that I have already referred to as forming the support of the comb, which is to rest horizontally above the brood-chamber, is in the form of an extremely shallow super, two inches only in depth. This is made by taking a narrow board two inches wide and $\frac{7}{8}$ in. thick and cutting it into such lengths that when nailed together they are of the length and breadth as the hive you are using. I halve the corners and nail both ways to obtain greater strength and rigidity. The length of the framework or shallow super inside should be just sufficient to give a bee-way at each end when a comb is suspended in it. Now, if we propose to use the ordinary Langstroth frame, lay a comb in the centre of the framework, and where the top bar of the comb rests on the edge, cut a mortise or slot in the

framework just large enough for the shoulder of the top bar to slip into, and deep enough so that there will be $\frac{1}{4}$ -in. of bee-way above the top of the bar and below the top edge of the framework. Now hold the comb level and drive two wire nails through the sides of the super or lift, so that the comb will rest level upon them. Next take some narrow pieces of wood $1\frac{3}{4}$ inches in thickness and fill up the remainder of the space, leaving a bee-way next the top and bottom bars of the brood frame. The pieces should be nailed even with the bottom of the framework so that there will be bee-ways when the device is in use on the hive, and with the super above.

Now we are ready to make preparations for the building of the queen-cells.

No queen should be bred from which has been reared in a weak colony. Six days before the cells are to be started, put a nice clean worker comb into the colony from which you wish to raise your queens. At the close of these six days the comb should be well filled with eggs and young larvae.

By some it is claimed that queens raised from larvae two or three days old will give as good queens as those raised from the egg. This is, however, a fine point, and one we will not stop to discuss here. I am simply giving you the working lines of the new system. Next take your honey knife and shave down the cells to about one-half of their natural depth. Commencing next the top-bar, and using some blunt instrument, crush down the first two rows of cells containing eggs. Do this right across the frame. Leave the next row of cells, but break down the two following rows. Repeat this operation of preserving one row of cells and breaking the next two until the whole frame is so treated.

Take a match, and the single rows of cells in two adjacent combs contained eggs or larvae behind a phosphorus prevent the bees from passing over the cells; pass over the cells and continue to do so every three in this along the lines of the whole frame is complete.

We have now a comb of eggs and young bees posed over one whole comb in such a way that it gives plenty of room for the individual cells, each completely separated from the comb of brood is sometimes use a dull knife breaking down the cells a little of the comb the eggs will be removed by the bees the frame of eggs will have specially treated in the device, and put the strong queenless queenless colony should be prepared by one of the methods adopted in bringing condition for building it. Of course, it is well known colonies should have young bees, and be numerous. Now replace the supers. Do not be surprised if you receive some thirty, forty nice queen-cells as one to see.

[Mr. Case recommends the top of the comb with a pasteboard held to the comb the time the bees gnaw the pasteboard the brood has the same bee-keeper recommendation of the West cell-protectors should be used in the same manner: When the queen is about ready to hatch out the colonies you want to re-

ge enough for the bar to slip into, and there will be 1/4-in. the top of the bar edge of the frame the comb level and nails through the super or lift, so will rest level take some narrow inches in thickness under of the space, next the top and brood frame. The filled even with the work so that there when the device is and with the super

y to make preparing of the queen-

Take a match, and, commencing on the single rows of cells left, insert it in two adjacent cells, breaking the contained eggs or larvæ, thus leaving behind a phosphorus odor, which will prevent the bees building queen-cells; pass over the next cell and continue to destroy two eggs out of every three in this manner. Do this along the lines of cells until the whole frame is completed.

We have now a large number of eggs and young larvae disposed over one side of the whole comb in such a manner as to give plenty of room for the queen-cells, each individual cell being completely separated from its neighbor. If the comb of brood is old and tough, I sometimes use a dull knife to assist in breaking down the cells. If we break down the cells a little on the other side of the comb the eggs on that side will be removed by the bees. Now place the frame of eggs with the side we have specially treated laid downwards in the device, and put the whole on the strong queenless colony. This queenless colony should have been prepared by one of the various methods adopted in bringing a stock into a condition for building fine queen-cells. Of course, it is well known that such colonies should have abundance of young bees, and be numerically strong. Now replace the supers, if necessary. Do not be surprised if you find in due course some thirty, forty or more of as nice queen-cells as one can ever wish to see.

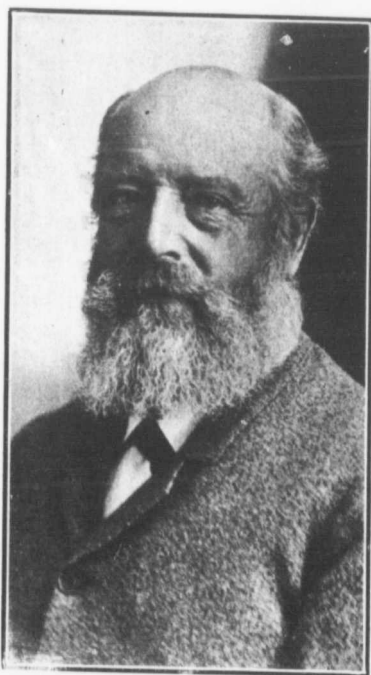
[Mr. Case recommends covering the top of the comb with a piece of pasteboard held to the comb by nails. By the time the bees gnaw through the pasteboard the brood has perished. The same bee-keeper recommends the use of the West cell-protectors. These protectors should be used in the following manner: When the queen-cells are about ready to hatch out, go to the colonies you want to requeen, remove

the old queen and immediately insert the queen-cell with the protector. As is well known, the queen-cell would be destroyed by the bees if the cell-protector did not prevent. By the time that the cell hatches out, the bees are ready to receive the virgin queen. In our next issue we will give a cut illustrating clearly the manner in which Mr. Dines' device is constructed. —Ed.]

OBITUARY

Mr. J. B. Hall

The death of Mr. J. B. Hall removes from among us another of the band of veteran apiarists who have helped to raise Canadian bee-keeping to the



plane it now occupies. Though not for several years has he been an active participant in the events that form apiarian history, yet his name and his influence have counted for much in

Index

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s claimed that arvae two or three as good queens as he egg. This is, t, and one we will ere. I am simply king lines of the take your honey own the cells to eir natural depth. the top-bar, and instrument, crush rows of cells con- is right across the next row of cells, e two following operation of pre-cells and breaking he whole frame is

our councils, as many of our readers are aware. His demise occurred at his home in Woodstock on the 21st October last, after a confinement to his bed for only a very short time.

The late J. B. Hall was born at Great Yarmouth, England, in 1833 and settled in Canada when 21 years of age. For five years he found employment as a salesman in Grafton's establishment at Dundas, Ontario, and subsequently was in business for a number of years at Woodstock. Finding his occupation somewhat ungenial, and being advised, on account of ill health to seek an out-door life, he took up bee-keeping, starting with a very small amount of capital. At the outset he met with reverse after reverse. His apiary at first consisted of a single colony, but after having made some increase his whole stock was exterminated by foul brood. His determination to succeed was characteristic of the man, and at twelve dollars a stock he purchased more bees. Success came with experience and he now threw all his energies into the bee-keeping business, and became a very devoted attendant of his "pets" as he called the bees. He subsequently became the proprietor of some four or five hundred colonies in several out-apiaries, running them both for comb and extracted honey. His great harvests of comb honey running into the tons, earned for him the title of the "Comb Honey King" of Canada. He achieved great distinction at the fairs and honey shows, and he was the winner of many prizes, medals and diplomas. It goes without saying that from a commercial point of view his undertaking was eminently successful. He was always in attendance at the various conventions where he was greatly sought after, both on account of his ability to impart practical knowledge and his genial and happy manner.

Three years ago he was stricken

with paralysis, which left him very lame in the right side, so that he was unable to read, write or talk except with great difficulty. Though after a few months he recovered sufficiently to walk a little, yet when he found that he could not work amongst the bees, his disappointment was very great indeed. The bee-journals were read to him, and as far as he could comprehend them they afforded him much pleasure. In spite of his infirmities his memory was very keen.

Among his friends he was always known as possessing a disposition that was always cheerful, energetic, independent and very active.

We much regret to record that Mr. Hall's death was shortly after followed by that of his only daughter, on December 7th, after a very short illness, in her twenty-third year.

The sincere sympathy of every reader of the Canadian Bee Journal will go out to Mrs. Hall and her relatives in their two-fold bereavement.

BEE-KEEPING IN NEW ONTARIO

Writing us from Cobalt, New Ontario, Mr. E. G. Hand, says: "There is a future for the bee-keeping industry up in this north country, all right, as it is the greatest clover country I have ever seen—has Old Ontario beaten hands down in this respect, and it has already been practically demonstrated that bees will do well up here. I enclose a photograph of what the owner claims to be the "farthest north" apiary in Ontario, and for all I know he may be right, though, that he will hold the record very long, I very much doubt, as there is practically unlimited country with equal possibilities for a hundred miles up the line. The apiary shown is that of Mr. Michael Anderson, and is located on his homestead in Hilliard Township, Nipissing District, about 16 miles north of New Liskeard,

March, 1912

and in latitude 47. In the summer of reported to have been record the country o creased by natural colonies in the spring 800 pounds of su which amount could doubled, as Mr. And bees had been wor were worth, instead



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AMERICANS AND C

Why Lose Fifty Per

By R. F. Holter

Some of the bee-keepi must have looked about ishment when they saw written by Samuel Sim

and in latitude 47.45 or thereabouts. In the summer of 1911, which is reported to have been the worst one on record the country over, this apiary increased by natural swarming from 9 colonies in the spring to 36, and yielded 800 pounds of surplus comb honey, which amount could have been easily doubled, as Mr. Anderson says, if the bees had been worked for all they were worth, instead of having been

field England, which appeared in the January number of the Canadian Bee Journal. Mr. Simmins is well and favorably known to British bee-keepers and others, and many bee-keepers here will not be surprised to find that in his advocacy of a large brood chamber to the hive, he finds in me a strong supporter.

I use a twelve-frame Langstroth hive, and have yet to learn of any bee-



BEE-KEEPING IN NEW ONTARIO

more or less neglected. Mr. Anderson winters both outside and in a special repository built in his workshop, and surrounded by about a foot of sawdust. The bees winter well both ways, but the outside wintered ones always come along faster in the spring."

AMERICANS AND CANADIANS

Why Lose Fifty Per Cent. Profit?

By R. F. Holtermann.

Some of the bee-keeping fraternity must have looked about with astonishment when they saw the article written by Samuel Simmins, Heath-

keeper, who, looking well after his bees, and keeping prolific queens (available to almost any bee-keeper) has found the twelve frame hive too large. But why should a large hive man quarrel with a bee-keeper who insists on closing his eyes to the advantage of this hive, after having fairly set forth his views upon the matter? He can devote his energies to his own business and let the small hive man suffer the consequence of his own error. I have over four hundred twelve-frame hives, about two hundred ten-frame hives and more than a hundred eight-frame. I am getting in addition one hundred more twelve-frame hives, and have made another bee-

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NEW ONTARIO

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Mr. Michael Ander-
on his homestead in
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keeper a proposition on a hundred twelve frame hives with bees he has bought, offering to take the empty 12-frame hives, and giving him twelve ten-frame hives for every nine twelve-frame hives he gives me. This will pretty clearly set forth my opinion; based on the experience of about ten years.

The Frame

When it comes to the size of frame however, Mr. Simmins uses a very poor illustration of what can be done with a frame deeper than the Langstroth, when he quotes Dr. Gandy. If I am not very much mistaken, Dr. Gandy uses the Langstroth hive. In any case, however, his large honey crops were a myth. The committee that went to see his fields of catnip and sweet clover, his bees, and his crops were treated in a royal manner (if I may use the expression) and came home well satisfied that in his enthusiasm, (many bee-keepers, especially beginners, unconsciously possess it), the Doctor had greatly exaggerated, no overestimated, matters! The catnip fields were not there, and in the newspapers they let him down as easily as possible.

I would probably prefer a frame an inch deeper than the Langstroth but that frame is a standard frame in this country, and I do not venture to say that the Langstroth frame in any way prevents perfect wintering either inside or outside. What is needed to give good results in wintering in these sections, where the honey-flow ceases at the close of clover or basswood bloom, is the feeding of sugar syrup in the autumn, to fill, or partially fill, the comb-cells which are then empty on account of their having been occupied with brood during the honey-flow. To have a deeper comb with a circle of honey is only a poor substitute for the artificial stores. I find that in the twelve-frame Langstroth with two or

more extracting supers, I have the ideal condition, one which delights the eye of a bee-keeper, viz.: brood in almost all the frames to the top bar, and then the honey in the supers. With honey at the price it is one need never mourn that the bees do not store enough honey in the brood chamber for winter.

This week, (February 19th) I was in one of my apiaries and examined quite a number of colonies which had shown no desire to fly on the previous mild Saturday, and I found no dead colonies, and all the bees appeared as clean, slim and bright as when they were packed—and this after six or seven weeks of weather almost continuously down to zero and as low as twenty below zero at night. Mr. Simmins states that Mr. Root estimates the average yield of extracted honey in the United States as "probably 75 lbs. per colony." I do not believe the average is as much as that, nor that in England it is more than half of that. I do not think that the Canadian average is anything like 75 lbs. to the colony. The best bee-keepers I believe, report to the Ontario Honey Committee, and the average of their reports has run between 50 and 60 lbs. per colony for years. Beginners, note this and do not get carried away with big one-sided stories.

There is quite an effort made to call the ten-frame Langstroth hive about right for a brood-chamber. Let me make the prediction now. Should the world continue in its present condition much longer, bee-keepers will find out that this hive is a mistake, and that only two bites have been taken of a cherry in turning from the eight to the twelve-frame hive.

Mr. Simmins is quite right in saying that if the large brood chamber wears out the queen, so let it be. No one makes the claim that prolific breeds of fowl die sooner—the contention is absurd, and I do not believe that a large

brood chamber for shorten the queen's the contrary is my case, what we want compared with which ment of the queen :

One secret of suc is strong colonies al spring, at the open honey flow, during it it, and for winter. it is popular to co chamber during the means less young be the flow, less young and, of course, less b spring, owing to the before the honey-flc vision of the work, there are fewer yo early flow, thus plac the colony all throu; it may be, to the abs of a honey crop if t and short.

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Second. It is less la brood all in one tier. low queens the range o clover, after fairly twelve-frame brood cl queen excluder is bet below and the brood in the brood has to be vent queen-cells matur well as most of us, wan ers, no matter how muc denounced by a few). great deal of valuable for these cells.

Third. The bees can

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uite right in saying rood chamber wears let it be. No one at prolific breeds of ie contention is ab- believe that a large

brood chamber for a queen tends to shorten the queen's life at all. Quite the contrary is my experience. In any case, what we want are populous stocks, compared with which the early replacement of the queen is a small matter.

One secret of successful bee-keeping is strong colonies **all the time**—winter, spring, at the opening of the surplus honey flow, during it, at the close, after it, and for winter. I know, with some it is popular to contract the brood chamber during the honey-flow. This means less young bees at the close of the flow, less young bees for winter, and, of course, less brood rearing in the spring, owing to the shortage of bees before the honey-flow. As a result, vision of the work, with the co-operation there are fewer young bees for the early flow, thus placing a handicap on the colony all through the flow, and, it may be, to the absolute annihilation of a honey crop if the flow is early and short.

In my discussion of the large brood chamber I have tried to be fair and I would say this:

First, Queens can utilize a twelve-frame brood chamber to much better advantage than we may imagine, and she will live just as long. But who would kill a hen and exterminate her progeny because she laid 50 per cent. more eggs and it shortened the time of her productiveness?

Second. It is less labor to have the brood all in one tier. (I sometimes allow queens the range of the super until clover, after fairly well filling a twelve-frame brood chamber). If a queen excluder is between the brood below and the brood in the first super, the brood has to be watched to prevent queen-cells maturing (and I, as well as most of us, want queen excluders, no matter how much they may be denounced by a few). It takes a great deal of valuable time to look for these cells.

Third. The bees can work to better

advantage with say three tiers and thirty-six frame capacity than five tier, which would be needed to accommodate an eight-frame hive. The ventilation and comfort of the bees are also greater in the hive with the wide entrance and there is less tiering up.

Now if anyone thinks otherwise, they are welcome to their opinion, as far as I am concerned, and I have not the least intention to follow up a discussion of the merits of the two hives. Pay your money and take your choice.

Brantford, Ont.

THE LIMITATIONS TO IMPROVEMENT IN BEES

Indexed By J. E. Hand.

There is a wide diversity of opinion among bee-keepers concerning the probability, as well as the possibility of further improvement in bees by selection. Some claim that the bee is so highly specialized as not to admit of further improvement, while others are equally confident that much may be accomplished by way of improvement in bees by careful selection and judicious breeding, even expressing an opinion that the swarming impulse may be entirely eliminated by such methods.

While the fact that the honey bee is perhaps the most highly specialized of all animals and insects in which we are commercially interested, renders their improvement somewhat difficult, it is by no means impossible so long as sports and mutations occur. Undoubtedly the peculiar circumstance surrounding the mating of the queen, as well as a misconception of the power and scope of the law of parthenogenesis is in a great measure responsible for the fact that so little has been accomplished along the line of improvement in bees. Since these obstacles may in a great measure be removed by a correct interpretation of the law of par-

thenogenesis, coupled with an isolated location in which it is possible with a tolerable degree of certainty, to mate select queens with choice, hand picked drones, it is evident that there is yet much to be hoped for by way of improvement in bees by selection and breeding.

The fact of the existence of two distinct types of Italian bees in this country, namely, "goldens" and "three banders" is prima facie evidence that much has already been accomplished by selection and breeding for color. Further than this, however, it is difficult to determine whether any improvement has been made in bees since the day that Sampson discovered that colony of bees in the carcass of a lion. While the bees that the strong man discovered under such peculiar circumstances may not have been so beautifully marked as the three banders, somehow I cannot get rid of the idea that they were the equals, as honey-gatherers, to many of the alleged improved strains of to-day. My reasons for entertaining this belief are based on the knowledge that while the color of bees may be materially changed in a few generations by selection and breeding their habits and instinct must ever remain unchanged.

Since bees are incapable of reasoning they can work only within a prescribed circle, in which their acts are guided by unseen forces, over which they have no control. If therefore, we would change the habits of bees we must first repeal the laws by which they are governed. Since the laws that govern the acts of bees are immutable as the universe, a correct interpretation of the law that governs the acts of bees with respect to the phenomenon of swarming, will forever set at naught any attempt of man to change the habits of bees or to eliminate the swarming impulse of bees by selection and breeding, or otherwise. There can be no mutations along this

line, since the non-swarming characteristic cannot exist beyond the first generation of queens. The phenomenon of swarming is inseparably connected with queen rearing. Without the rearing of queens there can be no swarming, hence in order to eliminate the swarming impulse, we must first eliminate the queen-rearing instinct, which would seal the fate of the colony. A wrong interpretation of the laws that govern the acts of bees with respect to the phenomenon of swarming has led to various impossible theories concerning the possibility of eliminating an instinct that is a part of the very nature and existence of bees.

In order to place ourselves in position to receive instructions along this line, we must first disabuse our minds of the idea that the prime cause of queen cell construction is for the purpose of swarming. While the swarming instinct is always present, there can be no swarming unless the forces are present to develop the queen-rearing passion. Since this impulse can be developed only through the inborn instinct of bees to supersede a failing, or a departed queen, it is doubly evident that the swarming impulse may be easily controlled, but not eliminated. From this point of view it is evident that all queen cells are virtually superseded cells, and that swarming is the result of a combination of purely natural forces, over which the bees have no control, and in which queen rearing is an important factor.

The queen is the motive power that starts the wheels of progress for the prosperity of the colony, and queen-rearing is the central figure around which must revolve the prime factors in the correct solution of the swarming problem. The natural function of the queen is to lay eggs and so highly developed is this function that it is said that a good queen is capable of laying from 2000 to 4000 eggs per day during the height of the breeding season. If

from any cause the or interrupted in her natural function the hive is affected. The queen withhold her eggs, promiscuously as she mechanically moves about the nest, thus stant emerging of young bees with the elimination of the nurses and the amount of larval food causes an accumulation within the chyle stomach which causes no little inconvenience. Thus the queen is thrown into an anarchy by purely natural forces and they have no control over the combination of internal and external conditions of itself induce swarming. The queen rearing instinct is the highest pitch, and queen cells are constructed regardless of conditions.

If from the nature of the colony a diminution of egg production, a defect of the queen, or a departure be the result, especially during a dearth, it frequently happens that a colony in this condition during the honey flow will soon supersede the old queen to the detriment of the colony. The inability of the queen to fill the brood chamber with honey, cause it to become a honey, after which the queen ceases to do satisfactory work in the colony. The importance of always having a vigorous queen in every hive is evident every year.

On the other hand, if the queen is not exhausted, the diminution of larval food, an overcrowded condition of the brood chamber with reference to food and pollen, providing the temperature and thermal conditions are favorable, swarming will be the

warming character beyond the first. The phenomenon is inseparably connected. Without the cause there can be no effect. In order to eliminate the cause, we must first understand the rearing instinct, the fate of the colony. One of the laws that governs bees with respect to swarming has been the theory of eliminating a part of the very young of bees. The bees themselves in positions along this line abuse our minds. The prime cause of swarming is for the purpose of while the swarming is present, there can be no forces are the queen-rearing impulse can be defined. The inborn impulse is superseded by a failing, it is doubly evident. The swarming impulse may be eliminated. It is evident that it is virtually superfluous. The swarming is the result of purely natural which the bees have which queen rearing or. The motive power that progress for the colony, and queen-rearing figure around the prime factors of the swarming. The natural function of the queen and so highly defined that it is said to be capable of laying eggs per day during the rearing season. If

from any cause the queen is restricted or interrupted in the performance of her natural function, the whole of the hive is affected. The queen, unable to withhold her eggs, must drop them promiscuously as she aimlessly, and mechanically moves about. The constant emerging of young bees, coupled with the elimination of larval brood, places the nurses greatly in excess of the amount of larvae to be fed, which causes an accumulation of larval food within the chyle stomachs of the nurses, which causes no little suffering and inconvenience. Thus the whole colony is thrown into an abnormal condition by purely natural forces over which they have no control; and whilst this combination of internal forces will not of itself induce swarming, the psychological condition thus produced will excite the queen rearing passion to the highest pitch, and queen cells will be constructed regardless of external conditions.

If from the nature of the case, the diminution of egg production is due to a defect of the queen, supersedure will be the result, especially if the event transpires during a dearth of nectar. It frequently happens, however, that a colony in this condition will cast a swarm during the honey-flow, in which supersedure will soon follow, to the detriment of the honey crop, since the inability of the queen to occupy the brood chamber with brood, will cause it to become a store house for honey, after which they will not do satisfactory work in the supers. Hence the importance of always having a vigorous queen in every hive by requeening every year.

On the other hand, if the fertility of the queen is not exhausted, and if the diminution of larval brood is due to an overcrowded condition of the brood chamber with reference to brood, honey and pollen, providing the honey flow and thermal conditions are favorable, swarming will be the result. Should

the honey-flow suddenly cease at this stage the queen cells will usually be destroyed, and the colony, quickly recovering from the shock caused by the removal of one of the external forces will continue on in the even tenor of its way until such time as nature shall again interpose for the welfare of the colony. If the above deductions are correct it is evident that all queen cells are constructed in obedience to an inborn impulse to supersede either a failing, or a departed queen, and that this impulse is developed by purely natural forces over which the bees have no control.

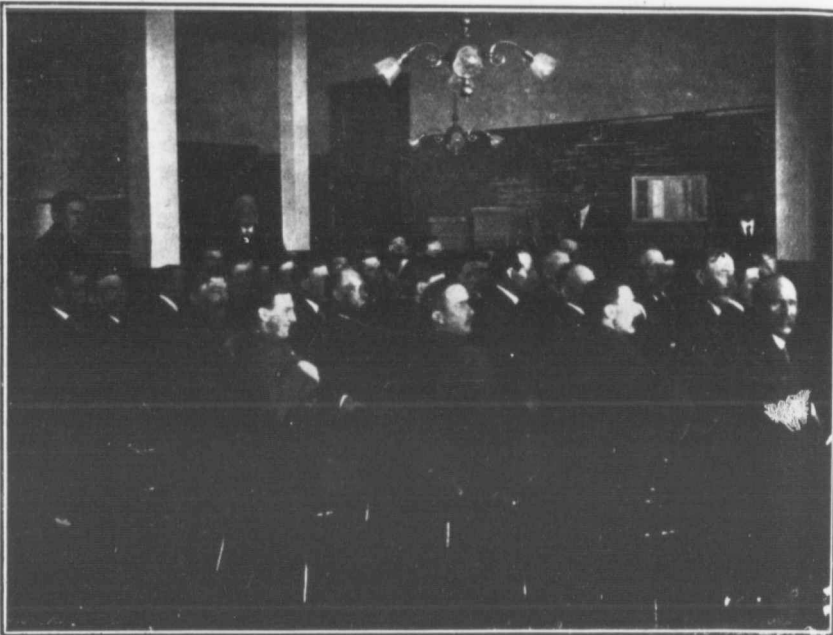
The fact that a certain colony may not have cast a swarm for 10 years is no proof of the existence of the non-swarming characteristic, but is prima facie evidence that the forces that nature employs to develop the swarming impulse have not been present during that period. This is no idle theory and anyone can develop the swarming impulse, or the queen-rearing passion by imitating nature's methods. Concerning the matter of swarm control, any method that will prevent the development of the queen rearing impulse will prevent swarming.

Birmingham, Ohio.

APPRECIATION—THANKS

The British Bee Journal says in a recent issue:

"The Canadian Bee Journal is of late becoming more of a 'living' concern. It is extending its list of contributors, and these are dealing more with practical subjects which must enlist the attention of both novice and veteran. What a glorious field it would have to work in if bee-keepers from Newfoundland to Vancouver would only subscribe and thus make it more and more an active force in apiculture."



Short Course, O.A.C., Guelph

THE CAMPAIGN AGAINST FOUL BROOD

By Morley Pettit, Provincial Apiarist,
O.A.C., Guelph.

The inspection of apiaries for 1911 was reported in a recent issue of the Canadian Bee Journal and it has occurred to me that some readers may be interested in the plan of campaign proposed for 1912. Some radical changes are proposed which we hope will be improvements. Dr. E. F. Phillips, of Washington, who has his eye on the inspection work of the whole United States, said at the Convention in Toronto last November, that there was no system on the Continent superior to ours. But that is not enough. We wish to lead.

First, the organization will be closer and more centralized, and the work more uniform. The Conference of In-

spectors, held in Guelph during January, passed some important resolutions, which when carried out, will help towards this end. Reports of inspection will be sent to the head office every day, instead of every week, and the summarized weekly report from each inspector will show how he is getting along and what districts may require special attention. The months of office work we have spent in going over the reports of past years, filing them, and copying them on the card record, are beginning to bear fruit, and it is very gratifying to see the grasp one is able to get of the whole field by this means. Only half the work is done when an Inspector, finding foul brood in an apiary sends in the report properly filled out; in some cases less than half. The organized record reveals some very weak points in the system of inspection which we have followed in the past.

For example, it has that whole township or five years ago t not since been visi tor. In other cases that had been gone and found to be wi again visited the Thus useless work I great expense, while were rotting out and done for them. Disc reported in the same years in succession a dicate that the bee- an earnest effort to

Now there is no us "spilt milk" but suc be remedied by a ce tion of the Inspectors concerned. It will n personally I would ju one else did the worl did it well, but there ite forward movement in this way. With thi has been made out of where we have report past years. This list townships and will be s respective inspectors, v pected to visit these ap report on every name whether the party is d or out of bee-keeping, or still or has it ul cured. bored foul brood for seve out making an earnest cured, something more have to be done, than him again how to treat Second, the co-operat keepers themselves will sought by correspondence time and travelling exp spectors. First, a letter to the complete list of bee about 7,000, early in the ing them against the dang ing foul brood by allowin take place in the apiary,

For example, it has been discovered that whole townships, ascertained four or five years ago to be diseased, have not since been visited by an inspector. In other cases, whole counties that had been gone over thoroughly, and found to be without disease were again visited the following year. Thus useless work has been done at great expense, while other Counties were rotting out and nothing was being done for them. Disease has also been reported in the same apiaries for three years in succession and nothing to indicate that the bee-keeper is making an earnest effort to get it cured.

Now there is no use in crying over "spilt milk" but such conditions can be remedied by a centralized supervision of the Inspectors and bee-keepers concerned. It will not be easy, and personally I would just as soon some one else did the work, provided they did it well, but there will be no definite forward movement until it is done in this way. With this in view, a list has been made out of all bee-keepers where we have reports of disease in past years. This list is arranged by townships and will be submitted to the respective inspectors, who will be expected to visit these apiaries first, and report on every name on the list, whether the party is dead or removed or out of bee-keeping, or has foul brood still or has it cured. If he has harbored foul brood for several years, without making an earnest effort to get it cured, something more radical will have to be done, than simply telling him again how to treat it.

Second, the co-operation of bee-keepers themselves will be earnestly sought by correspondence, so as to save time and travelling expenses of inspectors. First, a letter will be sent to the complete list of bee-keepers, now about 7,000, early in the spring, warning them against the danger of spreading foul brood by allowing robbing to take place in the apiary, or by leaving

diseased material of any kind exposed, also advising persons who have bees in box hives to make preparations for transferring these at the beginning of the next swarming season. Next, the revised bulletin on diseases of bees will be sent during May to the complete list of bee-keepers, also spring report blanks will be sent to the complete list, asking how the bees have wintered, and particularly whether they know of any foul brood in the neighborhood, and whether it is being looked after. At the beginning of the inspection season a letter will be sent to each bee-keeper where disease has been reported, frankly stating that for lack of means we have never been able to cover as much ground as should have been covered, and asking him to co-operate with us by being his own inspector, and having his diseased colonies marked and everything ready for treating when the inspector comes. Then the inspector can use his own judgment about trusting the bee-keepers' knowledge of disease when he gets there. When the inspector has gone over the apiary and made out his report, he will have the bee-keeper sign an agreement promising to treat diseased colonies within a stated time. He will also leave a blank form which the bee-keeper is to fill out and mail to the head office, stating that he has done the work. If this report does not come in from the bee-keeper on time, the matter will be taken up with him by correspondence direct. A plan similar to this has been worked successfully in one or two of the States, and should almost entirely do away with the necessity of an inspector going to the same apiary twice in one season, because there are very few bee-keepers who would report that they had treated their colonies, when they had not done so, and under the provisions of the Act, the Inspector has authority to make a good-sized bonfire where any such cases do occur.



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The apiary demonstrations will be carried on more extensively even than last year. These were found to be the very best way of giving information and arousing interest in reference to curing foul brood.

Now if this plan is entered into heartily by bee-keepers and inspectors alike, and all petty bickerings and past differences dropped out of sight, we can make the appropriation go further than ever before, and if it is materially increased, as we hope it will be, very marked progress can be made during the season of 1912, towards ridding the Province of the worst enemy with which the bee-keeper has to contend.

O.A.C., Guelph.

A CHAT WITH A NOVICE

Indexed

By Joseph Gray.

"Now, Mr. Gray, I do not intend to let this visit pass without 'A Bee chat.' You know since I left the old country and came to Manitoba I have made a start in the bee line and have adopted the Langstroth size of frame, full length top bar, and the ten frame hive using Langstroth depth of frame for the extracting supers, nine to the super. Can you improve on that?"

"No. As regards the frame when we come to a new country, it often pays better to adopt that country's ways. I do not mean that we should lose our individuality, but the conditions of one country are not the conditions of another."

"In reference to the size of hive, we must take into account locality and race of bee. My observation leads me to the following conclusion. An eight-frame hive is large enough for a black stock, a ten-frame hive is about right for an Italian stock whilst a twelve-frame hive is none too large for a Carniolan stock.

"You may vary the use of each of

these hives by skilful manipulation, but the breeding capacity of these various races is equal to the size of hive named. There are one or two items in connection with frames that should not be lost sight of. You know my four points in respect of a colony of bees. They are: (1) a good queen; (2) bees to cover her work; (3) plenty of stores; (4) a stock well established on good old combs.

"A comb neatly built in its frame from foundation over two sets of wires, i.e., two wires on each side of the foundation (not imbedded in it), is my ideal, and for the brood nest, if it is ten years old, all the better.

The idea that old comb produces smaller bees is not borne out by experience. The midrib, thickened by added layers of cocoons conserves heat to a greater extent than a new comb. Retain and use your old combs.

"Why build out your combs in the super? Because there the bees are more inclined to build your comb clear to the bottom bar, which they seldom do in a brood nest. A good way, when putting on your second super is to transfer half the combs of honey into it, from the first super, filling up both supers with frames fitted with foundation—not intermixed, but all together so that the bees make a lateral extension of their store room. Another plan is to take the three central combs out of a full super, and put three frames fitted with foundation in their place. Either way will ensure well-built combs.

"Why use full sheets of foundation, which add so greatly to the cost of stock?"

"It is false economy to use starters. You will pay over and over again the difference between the cost of full sheets and starters. First your time and honey are needed to produce from starters comb containing all worker cells. This will more than offset the extra cost of foundation. When you

consider the long life you cannot afford lessly built. Good part of modern ap base foundation plac of the apiarist, a co sufficient for all pra a farmer breeds ho pigs or poultry, he n as they come, but i practically masters tion.

"We are chatting not come to the qu answer to most. In in Manitoba, spring c to the farmer, and wh to neglect the bees, ye more time than is nee stock in condition for "Well, if you have third point, namely, a autumn to carry your through winter but spring, I can outline give you the maximum minimum of labour.

There are a few broa apply to colonies of l country. Not only doe spond to the heat of t nature is awakening. selves, stand on the thr full of hope and promi of expectancy that ma feel gay and glorious. f days bring thoughts o we look around to see stocks have come safe. winter. Thus we watch laden bees, an index t has commenced.

"I believe you have, the willows, some wild that supply your bees w len. Some stock will be some weak. It is a curi at this time of the year, help to make strong th In the first flight of th mark their entrances anev

careful manipulation, capacity of these equal to the size of re are one or two a with frames that sight of. You know respect of a colony (1) a good queen; er work; (3) plenty ock well established

built in its frame er two sets of wires, ech side of the found- ded in it), is my brood nest, if it is the better.

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omy to use starters. and over again the the cost of full s. First your time ded to produce from staining all worker more than offset the ndation. When you

consider the long life of a good comb- you cannot afford to have them care- lessly built. Good combs are a vital part of modern apiculture. Worker base foundation places in the hands of of the apiarist, a control of the sexes sufficient for all practical purposes. If a farmer breeds horses, cattle, sheep, pigs or poultry, he must take the sexes as they come, but in bee life we are practically masters of the sex ques- tion.

"We are chatting away, yet I have not come to the question I want an answer to most. In my new life out in Manitoba, spring comes with a rush to the farmer, and while I do not want to neglect the bees, yet I cannot afford more time than is necessary to get the stock in condition for our harvest?

"Well, if you have attended to my third point, namely, a sufficiency in the autumn to carry your stock not only through winter but well through spring, I can outline a plan that will give you the maximum results for the minimum of labour.

There are a few broad principles that apply to colonies of bees in every country. Not only does insect life respond to the heat of the sun, but all nature is awakening. Even we, our- selves, stand on the threshold of spring, full of hope and promise, with an air of expectancy that makes the world feel gay and glorious. Soon the warm days bring thoughts of bee-life and we look around to see whether all stocks have come safely through the winter. Thus we watch for the pollen laden bees, an index that breeding has commenced.

"I believe you have, in addition to the willows, some wild bulbous plants that supply your bees with early pol- len. Some stock will be flying strong, some weak. It is a curious fact that at this time of the year, weak stocks help to make strong stocks stronger. In the first flight of the bees, they mark their entrances anew, and as the

strong stocks are earliest on flights, the weaker ones by their side lose some of their field bees, in the larger whirl of the stronger stock. This is no new theory. It was known to the skep- pist of days gone by. I well remem- ber an old-fashioned ivy-clad bee- house, so overhung with foliage that the bees were compelled to fly out of the far hive past the front one's en- trance, with the result that the old bee-man would change the skeps about to equalise the bees. Such is nature. No matter how skilfully the apiarists may try to make all stocks equal, nature outwits him and spring finds her having her own sweet will. Hence we will find some stocks fail on point number two, "Bees to cover the queen's work." This factor in bee life is not sufficiently understood. It is useless to blame the queen, for an inspection of such colonies reveals oftentimes the fact that the queen is depositing five and six eggs in a cell— all for want of more bees to cover her work. So you see a queen is not the only consideration in the prosperity of a colony. You may have as fine a queen in a two-frame stock as in a stock covering eight frames. The bees are the missing link. Neither is it wise to feed these stocks with a view to stim- ulating the queen to more work, for already her powers are largely wasted.

(To be concluded)

MR. JOHN FIXTER LEAVES MAC- DONALD COLLEGE

I am leaving the College and cannot take up bee-keeping privately, but hope to en- courage many others and to show others how to handle them while going over the country in my new position. I have received much benefit from the Journal and have encouraged many to take it as an up-to-date guide, and will continue to do so in future. I am going to work for the Commission of Conservation, Ottawa.

Respectfully Yours,

JOHN FIXTER.

Macdonald College,
Feb. 23, 1912.

MONEY IN POULTRY, BEES AND APPLES

Indexed

By J. Fay.

"It is possible to make \$20,000 on twenty-five acres with poultry, bees and apples," declares Mr. John Clark of Cainsville, Ont., to the poultry students at Guelph. "Last year I sold \$2,180 worth of fruit and poultry off the five acres. Of this amount \$1,400 was received for apples, which I packed, and \$70 for culls and windfalls, which I sold to the evaporator. My gross receipts for this year have amounted to \$4,879, and additional sales in orders now on hand will bring the total over \$5,000."

In telling of his experiences Mr. Clark said that he first became interested in the poultry business while he was working a large farm, but that the other farm work prevented his caring for the poultry as he would have liked.

"I saw that the possibilities in poultry raising were unlimited," he said, "and that there was great opportunity to develop the white-fleshed breeds for filling the demands of the English markets. So I started with Buff Orpingtons, importing at that time six birds, at a cost of \$125.00. Since then I have imported more of them at various times, but have usually been "stung" in the transaction. While the Buff Orpingtons have made money for me I think other breeds are just as profitable."

"I started by making a specialty of selling stock for breeding purposes. The first year I kept four or five different varieties, but found that would not do, so I discarded all but the Buff Orpingtons, and have stuck to them ever since. I think the most money is to be made in specializing in one variety of high class stock."

"I kept the large farm seven years, but made up my mind that I wanted a small farm where I could combine fruit with my poultry and bees." That

is how I came to buy my present place of twenty-five acres."

"My eggs are not all in one basket. If anything should happen to the poultry, I can fall back on the other two, bees and apples, to tide over a bad season. It is a combination that works well together. Bee-keeping requires close attention only when the honey-flow is on. More skill is required than hard work, but one should not go heavily into bee-keeping without experience."

"I use the old hen in the old-fashioned way for hatching, for I find they hatch better and more vigorous chicks than I can get with incubators. Perhaps I haven't the right kind of incubators, yet mine are fitted with gas for fuel, and operate with very little trouble. For exhibition stock hens hatch the best. What they hatch I can raise. When eggs are worth ten dollars per setting they are too high to risk in incubators. Sometimes I operate both hens and incubators at the same time, finishing off the hatches in the machine from the fifteenth day."

"I have had some trouble to supply the necessary green food to the chickens during the summer. The orchards were cultivated in the most thorough manner up to June first, then sowed to rape, buckwheat and oats. When it was up a few inches the chickens cleaned it off entirely, and I resowed it several times. Next year I propose to fence off part of the orchard to give the clover crop a good start before I let the poultry onto it; and then sow another strip in rotation. This year I hauled a lot of green food to the birds, such as cabbage."

In answer to a question Mr. Clark said that he spends less than \$200 each year in advertising. His catalogue costs about \$60. He thinks the best advertising a man can get is to win at a big show, and supplement it with the use of an attractive catalogue filled with facts.—[O.A.C. Review.]

TAKING OFF HONEY USING BEE

Indexed

By W. A.

I have been asked C.B.J. to describe my method of taking off honey without escapes. He complains especially late in the honey-flow, do not w

Bee-escapes have tappers and others, and appliances you may find them very saving.

In taking off honey, extracted, I practise plan, using shallow su honey. My hives groups of four. When taking off honey I go to the top finished super four, using only enough to get them off without th cross. If the flow is on are inclined to rob, I s on the grass on level other three on top as and then place a cover I do the same with of four, and continue occupied about fifteen utes at a time. With I go to the first that jounce the bees on an (or something made of very thin edges), or jounced on the ground torily—load them on the take them into the hon few remaining bees w screen window and wh is all off I allow them through the escape w room is fitted.

Where I have no honey out-yard, after jouncing replace them turned up; put a flat cover over three or four-inch hole

TAKING OFF HONEY WITHOUT USING BEE-ESCAPES.

Indexed

By W. A. Chrysler.

I have been asked by a reader of the C.B.J. to describe my method of taking off honey without the use of bee-escapes. He complains that bee-escapes, especially late in the season after the honey-flow, do not work satisfactorily.

Bee-escapes have their advocates. Beginners and others, whose circumstances and appliances permit of their use, may find them very useful and labor-saving.

In taking off honey, either comb or extracted, I practise the tiering-up plan, using shallow supers for extracted honey. My hives are arranged in groups of four. When I wish to take off honey I go to the hives and take off the top finished super of each of the four, using only enough smoke to take them off without the bees getting cross. If the flow is over and the bees are inclined to rob, I set the first super on the grass on level ground, and the other three on top as fast as removed, and then place a cover on the four. I do the same with the next group of four, and continue until I have occupied about fifteen or twenty minutes at a time. With the hive cart I go to the first that was taken off, jounce the bees on an upturned cover (or something made on purpose with very thin edges), or one end may be jounced on the ground fairly satisfactorily—load them on the hive cart and take them into the honey house. The few remaining bees will fly to the screen window and when the honey is all off I allow them to pass out through the escape with which the room is fitted.

Where I have no honey house at an out-yard, after jouncing the supers I replace them turned up as before, and put a flat cover over them with a three or four-inch hole in the centre.

I make a four-bee-way escape over it with wire cloth and some short strips of wood about 5-16 x $\frac{3}{8}$ inches in section and about three inches long. Over that again is placed a piece of glass large enough to cover the hole in the cover and escape outlets.

The reason I place the four supers of four different colonies together and full of bees is that robbers are less inclined to bother supers full of bees, owing, no doubt, to the bees inside causing a dissatisfied sound, or to the sound of overwhelming numbers inside ready to repel their invasion. I don't know which, but it appears that way. It also is a fact that when they are thus confined for fifteen or twenty minutes in this way you can jounce them out about four times as easily, and they can be dumped in front of any hive in the yard, be accepted or accept any other hive or location. They will also accept any queen that may be dropped among them. Don't forget that the four supers were from four different colonies, and thus contained four different scents. A good smart man can easily take off 1000 or 1200 lbs. per hour in this way.

Queen Rearing

In my former article on queen rearing there seem to be at least two correspondents of the C.B.J., Miss Robson and Mr. Balmer, who did not read it carefully or did not understand it as I intended. I wish to state again that the plan that I mentioned was to raise good queens in a honey-dearth without feeding, and thereby making it possible to raise good queens at an outyard, which cannot be done at that time of year in any other way.

Foul Brood to be Annihilated in Michigan!

In the matter of foul brood inspection Michigan has the rest of the continent beaten to a finish. According to the Bee-Keepers' Review for Janu-

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C. Review.]

ary, Mr. G. E. Saunders, Michigan's new inspector, from the 16th of May to August 26th inspected one hundred and fifty thousand colonies of bees, owned by fifteen thousand bee-keepers, and is also described as being a hustler. I should say he was greased lightning!

After figuring it out I am sure it would take me a whole month to do what he claims as an average day's work, and I have had some experience. Poor Michigan! You may have a great inspector, but you will be a long while getting rid of foul brood.

Chatham, Ont.

LINCOLN AND WELLAND BEE-KEEPERS' ASSOCIATION

Indexed Winter Meeting.

The winter meeting of the Lincoln and Welland Bee-keepers' Association was held at the Court House at Welland on Friday, February 9th. The following officers were elected: President, J. F. Dunn, Ridgeway; vice-president, Lewis Minor, Smithville; secretary-treasurer, Wilfred V. Bowen, Niagara Falls, all for the second term. Six directors were chosen from the two counties, three from each county: Welland Co., J. E. Cohoe, Horace Haines, and J. E. Farr; Lincoln Co., Walter Lowe, Ariel Wills and Wm. Hipple.

The question of bees being poisoned by arsenic fumes which come from the smelter situated at Thorold was fully discussed. No definite action was agreed upon to remedy the evil. There have been from 200 to 400 colonies of bees destroyed in the last two or three years in the neighborhood of this smelter.

An interesting paper written by Ila Michener of Lowbanks on the production of extracted honey, was read.

Mr. Morley Pettit, Provincial Apiarist, opened the afternoon session by

giving an address on "The Outdoor Wintering of Bees."

Mr. G. S. Hershiser of Kenmore, N.Y., told the bee-keepers how he takes care of 400 colonies of bees without hiring help. Mr. Hershiser has three yards of bees, the nearest to his home being three-quarters of a mile distant, and the farthest being 35 miles. The third one is between these two, and is situated 15 miles away, so that it was readily seen that he had his hands full when the honey harvest was in full swing.

Mr A. E. Hoshal of Beamsville gave a very interesting address and demonstration on "The Production of Comb Honey."

The question of foul brood was discussed at length by Mr. Morley Pettit and Mr. O. L. Hershiser.

At the evening session Miss M. Davis Field of Smithville gave a most interesting address on "Bee-Keeping from a Woman's Standpoint."

Mr. Morley Pettit also gave an illustrated lecture on "The Honey Bee," which was much appreciated by those present.

The following motion was unanimously agreed upon by the Association, viz.: That literature of the short courses which are held from time to time at the O.A.C., Guelph, be printed and distributed to those interested, thus forming a correspondence course for bee-keepers. The motion was forwarded to the President of the O.A.C. Guelph.

WILFRID V. BOWEN,

Niagara Falls, Ont. Sec.-Treas.

WINTER IN NEBRASKA

We have had thus far an extremely cold winter in Nebraska causing an unusually great mortality among the bees. There was not much wind here except a little from the south in the first days of February. Nearly 18 inches of snow in our portion of the State, almost all melted and soaked in, and to-day it is quietly snowing again. The prospects for an exceptionally good crop are very bright.

Respectfully yours,

REV. ALOIS J. KLEIN.

Brainard, Neb.

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LEADING ARTICLES JOURNAL

American Bee Journal for bees?—C. P. Dada Honey Bee—A. C. Mille-ness in the Apilary—G. bination Device for Sw Comb Honey Product Chamber—W. C. Poole.

Bee-Keepers Review the Bee, the present S tion—Dr. A. F. Bonney about the Caucasian Bi Swarming and Swarm man; Strengthening Fo ing with Wax.—O. O. I

British Bee Journal—Plants and their Po Carboic Acid and Its U —G. H. Barnes; Absorbent Coverings—J. Dal Bees.—D. M. Macdonald

Glennings—Advertising G. M. Doolittle; Hive Miller, R. F. Holterman Foundation Splints—D Bees and Chickens—Lou in Bee Inspection—Wes

Irish Bee Journal—Ca Ernest Eaton; With the J. Tinsley; Associations T. Maguire; Bee-Keepin J. Warnock.

THE LATE J.

Mr. Thos. Cowan con- British Bee Journal a v sketch of the late J. B stock, Ont., whom he guest he was, at the t mer's visit to Canada Cowan found him a host, full of practice which he was ever re-

Referring to his trip, M On the occasion of ou ada in 1887 the Ontari Association held a spec Toronto for the purpose reception. The Preside Pettit, was not able to a Vice-President, Mr. J. B. the chair, and did it in- tous and happy way. At besides being made an l ber of the Association, wa by the presentation from

REVIEWS AND COMMENTS

An Index to the Best in Periodical Apicultural Literature

LEADING ARTICLES IN THE BEE JOURNALS

American Bee Journal—Is sugar good for bees?—C. P. Dadant; Improving the Honey Bee—A. C. Miller; Order and Tidiness in the Apiary—G. M. Doolittle; Combination Device for Swarm Prevention and Comb Honey Production in the Brood Chamber—W. C. Poole.

Bee-Keepers Review—Improvement of the Bee, the present Status of the Question—Dr. A. F. Bonney; Something more about the Caucasian Bee—J. W. Blakeley; Swarming and Swarm Control—W. C. Lyman; Strengthening Foundation by Painting with Wax.—O. O. Poppletton.

British Bee Journal—Nectar Producing Plants and their Pollen.—Geo. Hayes; Carbolic Acid and Its Uses in Bee-keeping.—G. H. Barnes; Absorbent v. Non-absorbent Coverings—J. Dalzell; Among the Bees.—D. M. Macdonald.

Gleanings—Advertising as Producers.—G. M. Doolittle; Hive Protection—A. C. Miller, R. F. Holtermann and J. L. Byer; Foundation Splints—Dr. C. C. Miller; Bees and Chickens—Louis Scholl; System in Bee Inspection—Wesley Foster.

Irish Bee Journal—Care of Comb Honey, Ernest Eaton; With the Bees in February, J. Tinsley; Associations and Marketing.. T. Maguire; Bee-Keeping in Denmark.—J. Warnock.

THE LATE J. B. HALL

Mr. Thos. Cowan contributes to the British Bee Journal a very sympathetic sketch of the late J. B. Hall of Woodstock, Ont., whom he met, and whose guest he was, at the time of the former's visit to Canada in 1887. Mr. Cowan found him a most agreeable host, full of practical information, which he was ever ready to impart. Referring to his trip, Mr. Cowan says:

On the occasion of our visit to Canada in 1887 the Ontario Bee-keepers' Association held a special meeting in Toronto for the purpose of giving us a reception. The President, Mr. S. T. Pettit, was not able to attend, and the Vice-President, Mr. J. B. Hall, occupied the chair, and did it in his own felicitous and happy way. At this meeting, besides being made an honorary member of the Association, we were honored by the presentation from the bee-keep-

ers of Ontario of an address engrossed upon parchment and a gold-headed walking stick, which we have ever since treasured as a token of the cordial reception which was accorded to us and the hospitality and consideration with which we were treated, thus bearing strong testimony to the good-will that subsisted between bee-keepers on both sides of the Atlantic. Mr. Hall was one of those who contributed towards this end, and bee-keepers cannot but feel that by his death the craft has lost a sincere friend.

THE USE OF SUGAR IN FEEDING BEES.

Arising out of an assertion made in the British Bee Journal by "A Roman Bee-keeper," who condemned the use of sugar as a food for bees on the grounds that it was a cause of disease and mortality among them, a discussion has been taking place in that paper and also in the A.B.J. Mr. C. P. Dadant, writing under the heading "Is Sugar Good for Bees?" incidentally states that previous to the use of sugar candy in making shipment of queens, success in transportation was not to be relied upon. The main requirement to keep the escort from dying on the journey is a food containing as little nitrogenous substance as possible. Pure white sugar has been found to be the most assimilable food.

Mr. Dadant unhesitatingly asserts that sugar is harmless to the bees, and that the feeding of good sugar syrup where the bees are short of stores is immensely preferable to the feeding of honey of unknown origin.

Good sugar syrup, or properly made sugar candy, is equal to the best honey for bees that are to be confined a long time, whether it is for transportation or for winter. But for spring feed, for

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EV. ALOIS J. KLEIN.

breeding, the requirements are entirely different. We then need watery food. This will be clear to our mind if we watch the adult bees in quest of water at the risk of their life in cold, spring days, when the breeding has begun. It is also clear that nitrogenous food is needed—witness their search for pollen at this time and in lieu of pollen, flour meal, etc., which they eagerly gather. A friend suggested, years ago, that we should make the syrup very thin when to be used for breeding, and serve it warm to the bees. This proved an excellent idea. If plenty of pollen is to be had, at the same time, I do not see why the bees would suffer. Such food is certainly better than doubtful honey or nothing. However, no one would consider syrup as superior, or even equal, to wholesome honey at that time. As long as there is no confinement, honey loaded with nitrogenous matter is harmless, and is probably much the best for brood-rearing, owing to its well-known pre-digested condition.

QUEEN REARING MADE SIMPLE

We would invite our readers' attention to the important article by Oscar Dines in our current issue, describing what appears to be a very simple, and at the same time exceedingly efficient method of raising queen cells. The merits of this method are obvious and it is not at all surprising that several very prominent bee-keepers with whom we have discussed the matter lately should have expressed themselves enthusiastically in favor of giving it a trial during the coming season. We know of at least one man who has already constructed several of the devices that are described in our article.

IMPROVEMENT OF THE BEE.

Last month in these columns we quoted largely from letters that Dr. Bonney had received from several scientific men on the subject of "Improvement." This month's Bee-keepers' Review contains further replies to Dr. Bonney's enquiries from Professors C. B. Davenport and W. E. Castle. Professor Dav-

enport states that the difficulty in improving the bee is entirely a technical one, whilst the second eminent savant says that no organism is a perfect and complete type in the sense that it cannot be changed by selection and breeding. Dr. Bonney, as the result of this correspondence, states that he has changed his mind somewhat about the possibility of "improvement." He yet remarks that parthenogenesis and mating are such "disturbing factors in the study of the bee that complete knowledge of this interesting animal is almost an impossibility." We venture to disagree with this statement. We must certainly make allowance for parthenogenesis when making our calculations, but we do not admit that this so-called "disturbing factor" should militate against success in our efforts to obtain a better bee.

STRENGTHENING FOUNDATION BY PAINTING WITH WAX.

Mr. O. O. Poppleton, describes in the Bee-keepers' Review how, by painting foundation with molten wax, he obtains sheets that are stated not to stretch. The method, which, however, is stated to be patented, is given as follows:

In practice I use a shallow wax-dish over a small oil stove, keeping the wax melted, but no hotter than is necessary to do that, and with a two-inch flat paint brush paint this hot wax over such part of the foundation as one wishes. The brush should be freed from any dripping wax by lightly brushing it over edge of the dish, then quickly over the foundation with a few light strokes first, then finish with several heavy strokes well bearing down on the brush. This leaves quite a rim of wax on the side walls, the more the better. It is somewhat of a knack to do the painting just right, but practice will soon teach one just the right touch. I usually paint at least half way down each sheet of foundation on both sides, but more will do no harm. Foundation made by the use of the Weed process of sheeting the wax seems to stand up much better

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would naturally impart a certain
amount of rigidity to foundation thus
treated.

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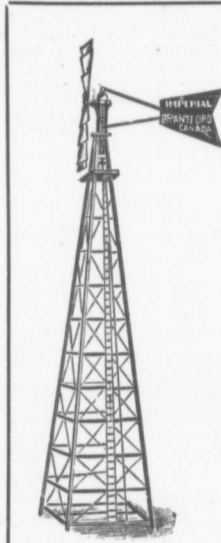
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