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CANADIAN BEE JOURNAL

PUBLISHED MONTHLY.

NEW SERIES
VOL. IV, No. 10.

BRANTFORD, ONT., APR., 1897.

WHOLE No.
386

Mr. John Fixter, farm foreman, Dominion Experimental Farm, Ottawa, Ont., writes March 26th, 1897. "We Buckthorn Seed, have several packages of Buckthorn seed to send out free. It makes one of the best hedges there is and gives an abundant flow of honey and pollen very early in spring, before clover appears. If you know of any bee-keepers that would like the seed, I will have them sent as far as the seed lasts." No doubt many bee-keepers will avail themselves of this very kind offer. First come, first served, and no doubt the stock will be exhausted before all are supplied.

* * *

In this number will be found an article from the British Bee Journal which will be read with interest. The Agricultural British Bee Journal is, we believe owned by Mr. Thomas Wm. Cowan, well known to many Canadian bee-keepers. Mr. Cowan conducts the Journal, not for financial gain, but for the benefit of British bee-keepers, and this latter class certainly spare no work to develop bee keeping in their country. While we admire the efforts of philanthropists in this direction, we must not forget that through Honey Shows, and other ways they are trying to develop a honey market. To offset reduced prices Mr. Sharp implies, we are better bee-keepers, produce for less money, get our honey for less money, etc., etc. Have we anything to copy from our British brethren? No, in the Canadian Bee Journal is not yielding very handsome re-

turns, and were it not that the company and the editor desire that Canada should have a Bee Journal of its own it might not long exist. For this reason Canadian bee-keepers should give it strong and unqualified support. There is scarcely a bee-keeper who could not get one or more new subscribers, especially at the "Special Rate" offer. They could pay their own subscription promptly when due, often mere carelessness prevents this. True it is only a dollar but these dollars put together is all the Journal has to pay its expenses. Then bee-keepers could often send in articles, be they long or short, as long as they contain something of interest to bee-keepers generally, or either to beginners or advanced bee-keepers. send it along never mind the spelling or grammar. If you want to ask questions send them in. The Canadian Bee Journal and those connected with it never lose a chance to benefit bee-keepers; take reduced freight rates as announced in the last number of the Canadian Bee Journal. A little effort on the part of bee-keepers will be appreciated and stimulate us to greater efforts. Shall we pull together and make bee-keeping in Canada, and the Canadian Bee Journal more than it has ever been before.

* * *

Owing to lack of space we will have to abbreviate the report of the North American Bee-Keepers' Abbreviate Association. We want more articles from Canadian bee-keepers. The Canadian Bee Journal is in a sense a history of Canadian apiculture. Many think they cannot write, but they are

mistaken, send along the article if it contains something of bee-keeping peculiar to your locality or of value to bee-keepers. Many are under the impression that they must shed new light, something no one else has heard of, this is all a mistake. There are many beginners who want simple operations described. In response to a letter, we received an amusing communication, a portion of which we quote without mentioning names: "I am sorry that bee-keepers have to be asked to contribute articles to the Canadian Bee Journal. What is the matter with the bee-keepers anyhow? Why, with the dozens of practical bee-keepers in this Province who are well qualified to write articles sufficient to cram the Journal every month. I ask again what is the matter with the whole Dogond lot anyhow?" Well, it is often excessive modesty. They are *dummies* on that account, but many underestimate the value of their contributions. There are young men and older ones who remain unknown, their ideas are lost to the bee-keeping world, and they lose money on account of this obscurity because they will not overcome the first disinclination to write for a Bee Journal, or get up in a convention.

* * *

We regret to hear that Mr. Wm. McEvoy has been on the sick list for some time. We trust his recovery will be rapid.

* * *

Some of the very people who at one time condemned footnotes to articles by the editor, are now asking for footnotes. We always favored footnotes and subscribers have in a measure a right to know what the editor's views are upon important points in the article. It, however, was not our desire to prevent articles being sent in and for that reason footnotes were largely excluded. There will be more footnotes in future and in making this statement let us remind our readers that an editor is only an individual and his views and comments are

of no greater weight than those of many others. Judge what is being said, be careful about radical changes, if you have been fairly successful, weigh well what changes you make and do not be afraid to send in questions. When doing so, write on one side of the paper only and express yourself as plainly as possible.

* * *

This winter we have been in the beecellar five times, when all was silent as the grave. Such was the case to-day March 5th, at noon. We have visited the cellar about twice a week, generally some hive or other is making a slight noise—a distant murmur. There are 85 colonies wintered in the cellar, the balance are outside.

LATER, March 6th.—Last night I was in the cellar and again this morning. The cellar is as silent as the grave. No one would suspect the existence of a bee in the cellar. Temperature, 42°.

We are determined with the help of the present readers of the Canadian Bee Journal to largely increase our present circulation. Several new features have been added to increase the value of the Journal. A good deal has been said about our "New Weed Process" comb foundation and many would like to see the article and test it. To send to any one a free sample large enough to test is impossible, but we make the following offer good for sixty days. Those sending us a renewal will receive post paid, a sample of half a pound of the "New Weed Process," Medium Brood and Thin Surplus foundation. Those sending us a new subscriber at \$1 per annum will receive the same sample and in addition we will send a similar sample to the new subscriber. Remember there will be no express charges, the package comes free of charge to your post office, if you mention this offer.

Depth of Frames At the Ontario Convention.

—DOCTOR C. C. MILLER.

MR. EDITOR.—The report of the late Ontario convention makes it appear one of the best ever held. A good bee convention is one in which there is much discussion, and that discussion strictly pertaining to matters apicultural.

Mr. Hoshal's paper puts things in such a clear cut and convincing way that it is not greatly to be wondered at that he received high compliment, but after coolly considering the matter at leisure, it would not be very surprising if some of those who were present should raise a question as to one of the foundation stones of Mr. Hoshal's structure. That is that "we lessen the honey-storing instinct of our bees" when we oblige them to store honey above honey instead of directly above the brood. We all know the instinct of the bees to have everything in compact shape, and that they want their honey as close as possible to the brood nest. But when the space nearest the brood nest is already filled, will they not be satisfied to store as near to the brood as they find empty room?

Mr. Hoshal says: "No bee-keeper of experience, when adding surplus cases, ever places them above filled ones; experience has taught him, or soon will, that the bees will neglect them." I do not know just how much experience Mr. Hoshal refers to, but after an experience of more than a third of a century I still practice, under certain circumstances putting empty supers above filled ones, and I suppose that many others follow the same practice. Experience has not yet taught me that "the bees will neglect them." Years ago, when I used wide frames, it was my custom after the one story containing 56 sections was fairly well filled, to add a second story on top, usually putting in something in the way of bait as a hint to the bees. These upper stories were never neglected, although the sections filled were from 12 to 22 inches above the brood.

Since using T supers, toward the close of the season when it is quite uncertain whether the bees may or may not need an additional super, the empty super is always placed above. If the season ends suddenly the empty super is not touched and the super next to it is more nearly finished than if the empty one had been put under. But if the season continues, the bees occupy the empty super above, and for all I can see,

they put as much honey in the two supers as if the position had been reversed.

Now I am only giving experience from this side the line—I do not know all about what bees may do in Canada, and I do not want to stand against the combined wisdom of my Canadian friends, who apparently endorsed what Mr. Hoshal said, but I would like to ask just one question: Is there any positive proof that bees will store an ounce less of honey when they must cross a border of honey measuring one, two, or twelve inches?

—Marengo, Ills., U. S.

Spring Management.

—W. H. KIRBY.

Of the whole honey season, spring is the most important part. It is the time of year when all animated nature starts into a new life, when all the insect creation comes forth from a state of torpidity to a state of activity. The inmates of the hive whether they "hibernate" or not, are the first of the insect creation to resume that state. Being amenable to the control of man, and for his benefit, it is his privilege to make the most he can out of them. It is the time of the year that the apiarist should put forth all his skill and energy, to get his hives full of bees in time to gather the harvest when it comes, be it great or small. Therefore I say spring is the most important part of the season. There are various ways in which a colony can be helped. On the first fine day examine it, find out its condition, confine it by a division board to the number of frames the bees will cover. Closing the frames up to one quarter of an inch apart, keep the other frames on the other side of the division board, placing an entrance block in front of them, which will keep robbers out. Allow the inmates to go around the division board and get the honey when they want it. A colony fixed this way should be examined every week, and a frame added to the brood nest, as they need it; and when the whole hive is occupied, the frames can be spaced out the regular distance, and then a surplus case added. This may seem to some a lot of bother, but I tell you it pays, and I know it.

If, on examination, a colony is short of stores, they must be fed, give them honey, or any kind of sugar syrup will do this time of the year; if the weather is so cold they will not take liquid food, a cake of sugar candy may be placed on the top of the frames. There are conditions again, where

none of the above need be resorted to, as when colonies are packed on their summer stands, and they go into winter quarters with hives well filled with honey and pollen, and a fair sized colony of bees. There are fine days in this locality through the winter, on which bees can fly. In the month of February, or even January, I always hail one of these fine days with delight, the shading boards are lowered from in front of the hives, and every chance given the bees to come out along about mid-day, there is generally about as big a buzz along the rows of hives as there is in mid-summer. This is repeated every fine day until spring, when the shade boards are taken away. Every time the bees fly they uncap fresh cells of honey, which has the effect of stimulating the queen to lay. This early brood rearing is what tells on the prosperity of a colony, this in the spring being kept up, and the hives well packed, there is not the slightest chance for what is called spring dwindling. On this account, and for other reasons, I take my chances on open air wintering every time, keeping them on the same stand all the year around. I have no fault to find with cellar wintering, but having heard so much about spring dwindling at times when bees are set out of the cellar, I greatly prefer the open air method.

Oshawa, Ont., March 10th, 1897.

Apicultural Notes :

A Few Plain Words on the Price of Honey.

—BRITISH BEE JOURNAL REPORT.

[2786.] In "Notes by the way," B. J., February 4 (2771, p. 45), Mr. W. Woodley refers to a matter which affects all bee-keepers who have embarked in the business with a view of making a profit: therefrom, viz., the decline in the price of honey. If we compare present prices with those of ten or fifteen years ago, there is indeed a big difference: and when we take into account what is now going on in the bee world, it does—to use Mr. Woodley's words—"make one wonder what the prices will be ten years hence." There are, however, so many matters in everyday life to worry and harass one's mind that it would, I think, be unwise to add to our troubles by worrying about things which may or may not happen ten years hence. At the same time it would be equally unwise to shut our eyes to facts with which we shall sooner or later have to deal. Bee-keeping, during the last ten

years, has made rapid strides, and is still on the increase, which of course, we are glad to know. We who now belong to the craft do all that lays in our power to extend the art of bee-keeping and enlist recruits into our army. We complain of the price of honey being low, but at the same time willingly subscribe to one or more societies whose main object is to extend the bee-keeping industry, or, in other words, bring us competitors. We throw open our apiaries and workshops to pupils free of charge; make known ideas which are the outcome of years of hard study, hard work, and the expenditure of hard earnings. We also give freely to any and all who care to benefit themselves at our expense. Then we send our representatives to the County Councils and through them impress upon the said Councils that if they wish to do us bee-keepers a good turn they cannot show their good feeling towards us better than by voting the largest sum of money they possibly can, to be spent in a way which will bring us the utmost number of competitors, and in our anxiety to accomplish those ends we paint matters in the brightest of colours. If we have ten hives of bees, one of which gives us 100 lb. of surplus honey in one year, while the other nine do nothing, we very carefully keep the latter nine in the background—that is, we say nothing about them, or very little at all events, and what we do say about them is never repeated. The one thing we harp on is the wonderful return of the one hive. We talk about it years after it happens and everybody we tell it to talks about it also, and if our friend, the lecturer, happens to hear of it he drums it into the ears of every audience he is privileged to address. Well, the outcome of all this is a constant increase in the number of bee-keepers, so that year by year the honey dealer finds a widely-extended source from whence to draw his supplies; with the natural and inevitable result of lower prices. There are a few bee-keepers—myself amongst the number—who begin to wonder how far distant the day is when we shall be called "The Society of Fools," and whether we as members thereof will ever be alive to the wisdom of abandoning philanthropy in favour of utility and common sense? Were I to stop here I should probably be called a pessimist, selfish, and a host of other unpleasant names which I trust I don't deserve. But I always like to look at both sides of a question, and having said thus much on the somewhat gloomy side of bee-keeping, let us see if anything can be said on the bright side.

In the first place we will take the reduced price of honey, which, if it will only

main where it is and not go any lower, is not, after all, so bad as at first sight appears. We can through various causes get larger yields of honey now than was the case years ago, which itself partly compensates for the reduced price. Everything we use in connection with bee-keeping is very much cheaper. Some of the articles are from 60 to 70 per cent, lower than they were when I adopted the modern system of bee-keeping nearly twenty years ago. Honey is not the only thing that has declined in value; everything we eat and nearly everything we use in every shape and form has gone down in price; consequently the purchasing value of a given sum of money at the present time is very much greater than it was years ago—a fact which, if borne in mind, would often enable us to crush dissatisfied feelings. Another thing which we must not lose sight of is the fact that there are thousands of people who have never yet tasted honey, while at the same time tons of honey are wasted because there are no bees to collect it. If this honey which is now wasted could be profitably gathered, not only would it benefit those who would look after the bees, but scores of others would be benefited either directly or indirectly thereby. It is therefore a most desirable thing to increase and extend the bee-keeping business, provided we can in the same ratio increase the demand for honey. But to go on increasing the supply with a constant downward grade of prices, means that sooner or later a point will be reached where profit will cease. If, therefore, bee-keeping is to continue to be a profitable and growing industry, we must one and all do our level best to extend the honey market. Those who are in a position to work up a retail trade should not let the opportunity pass. Those who have to rely on wholesale trade should be careful to send out nothing but good stuff put up in an attractive form and carefully packed for transit, so that the dealer is put to no unnecessary trouble, and has every encouragement offered him to push the sale of honey. Although what may be called an extensive bee-keeper, I am always able to dispose of my produce and more besides; and in spite of low prices, foreign competition, increased competition at home, &c., I am not inclined to take a gloomy view of British bee-keeping. Personally the apicultural outlook was never brighter. I have become acquainted with honest dealers, who are willingly to pay me a fair price for a good article. My bees were never at this time of the year in better condition than at the present time.—

A. SMARR, *The Apiary, Brampton, Hunts.*

When and How to Carry Bees That are Wintered in Cellars to Their Summer Stands.

—N. D. WEST.

DEAR SIR,—This afternoon I received your very kind letter inviting me to write an article for THE CANADIAN BEE JOURNAL. Thanks for the compliment of appreciation expressed in your letter, for an article from a New Yorker. I will try and write something.

I do not know of a better subject to write on at this present time than the above subject. By the time this article can reach you I will consider our cellar wintering of bees done (here in central New York at 92° parallel) and all bees should be set on summer stands about March 15th or some seasons as late as April 1st, and not wait for natural pollen as many writers tell us to do. No! No! Don't do it! It costs too much. It wastes too many of these old bees before we can get any good out of them, and as a result spring dwindling comes and the swarms become weak in bees, at a time when the swarms should hold their own, and even be advancing with young bees faster than the old bees are dying off. Why is this so, and what is the remedy? My friends we are more likely to carry our bees out too late than too early. At least this has been my experience. I reason this way: Suppose on March the 15th or 20th I set my bees out late in the afternoon, so that the bees will not fly the same day that they are carried out of the cellar. The bees will fly the first warm day, but they will not all rush out of the hive at once and the bees will not begin to fly from the different hives in the yard all at the same, and get mixed up so badly as they would if they had flown the same day that they were set out. But again we will suppose our bees have now had a good cleansing fly, say March 20, and now I am in hopes they will not fly very much before April 10th and they are not very likely to fly much, for we are apt to have cold weather about this time to keep the bees in their hives, and that is just where we want them for the next three weeks. We want these old bees for our old setting hens to hatch the eggs. That is all they are good for. The next day after the bees have their cleansing fly the queen begins to lay eggs quite fast, and if we can keep these old bees quiet, we will have an early brood started, and it will be well cared for even in cold weather. When

the weather is warm enough so that these old bees fly often, they will die off very fast, but this early brood will be hatching out and the young bees will be taking the place of the old ones, and swarms set out this early will be two weeks earlier than those set out two weeks later. After March 1st bees die off faster in the cellar than at any time before, and so will many bees die off when they have their first spring fly, but after they have a real good fly the bees will be quiet when the weather is cool and nothing to gather outside, and then the bees will not die off as fast as those left in the cellar. Until such time when the bees would fly out often when carried out, very weak swarms should be carried back in the cellar if the weather should be cold, and then you know where they are and can use them to good advantage later. I will not say any more about the weakly swarms now. We should not have very many however. By this time you will see that I am in favor of setting bees out early and get an early brood. But, Oh! how important it is to have just the right kind of a day for this first flying of our bees in the early spring. It is to me, as I have 500 swarms to set out and they are in different places too. In carrying out bees I want things handy and safe, so that inexperienced men can help to carry them out, and I even had 20 swarms on bob sleighs at one load and hauled them 100 rods to their summer stands and had not a single bee get out of its hive until I opened the entrance to the hive myself. When I begin late in the day to set out bees, I go in the cellar and in five moments have every hive closed so a bee could not get out, then open the door and hurry them out and two hours all from one cellar will be on their stands. And now when it is too late for the bees to fly, I take a screwdriver in one hand and a smoker in the other hand, and with the screwdriver raise the entrance button, and at the same time puff smoke in the entrance so that the bees will not rush out, and then I wait anxiously for a good day for my bees to fly.

It is quite important to me to have fast bottoms on all my hives. It gives me a better chance to have control of my bees. The hives are warmer as all cracks are made tight with bee glue except the entrance. Some times we have to shovel a foot of snow or more, off the stand before we carry our bees out. I did it last spring. I did it but I don't like it, as we are liable to lose bees on the snow. But when the bees are out, keep them warm as possible with quilts over the frames, and chaff on top 4 inches deep will be good to keep the top warm and absorb the moisture in cool weather.

Put a stick on top of the frames 1½ inch square. This will raise the quilt so the bees can have a passage way from comb to comb over the top of the frames in the warmest part of the hive and where the bees are sure to be. Now when you have all your bees out take good care of them. It sometimes pays to open the hives some cold morning and take out some of the combs while the bees are clustered close and move up the dummy to the bees, in hives that need it. And sometimes I put in a blanket or hay in the vacant space to help keep the bees warm.

I have been very much interested to day in reading in this March number of the Canadian Bee Journal the report and proceeding at your Toronto Convention in December last.

I guess I have now written enough of my wandering thoughts, on my practices in bee-keeping. Wishing you Canadian beekeepers success.

Middleburgh, N. Y. U. S.

Prepare For The Harvest: What Is Best to Produce.

—F. A. GEMMILL

As another season is now upon us, and the prospects of another good crop of honey appear favorable, as well as the bees having so far wintered in fair shape, it may not be amiss, to draw the attention of apiarists throughout the Dominion, to at once commence preparations (if they have not already done so) for the coming harvest. There is nothing like being prepared in time, as much worry, labor, and valuable time, may be saved by having everything in "ship shape" as the saying goes, to say nothing of a probable loss of honey for no other reason than that of carelessness. It is therefore a wise thing to have all supplies ordered, and all necessary preparations made beforehand, so that a "stitch in time may save nine."

As to what kind of honey is best for each individual apiarist to produce, is a question for themselves to decide. It is, however, not a judicious method to make any radical or wholesale change from one kind of honey production to another, and the bee-keeper who, as a rule, produces both extracted and comb honey in such quantities as his market demands, appears to succeed best in the long run. Nevertheless there are those who, on account of circumstances, location, and management, can best work for the extract

ed article, and if ready sale can be found for such, by all means continue doing so, as such honey can be produced with less close attention during the busy season. On the other hand, there are those who, for similar reasons, find it most profitable, and best suited to their ends, to work almost exclusively for comb honey, and my advice in this case (if it really amounts to anything) would be to still continue such a method.

Now it is not my intention at present to advise or give reasons for any practical line of action, but rather caution those bee-keepers who may anticipate making a change in the article produced, especially changing from the extracted to comb honey form. I also wish it distinctly understood that it makes not one iota of difference to me, whether every bee-keeper produces all comb, or all extracted honey. What I really desire to see is, a choice article of both produced, and not a poorer article harvested, and consequently placed upon the market to the detriment of all engaged in the pursuit.

My principal reason for the above caution is, because I have known instances where the apiarist imagined that comb honey production appeared the more profitable, and at once without any experience whatever, with neither the time, nor ability, to give such the proper attention at the right moment, made such a radical change, and as a result, became disgusted with his efforts in this direction, as nothing remained to gaze upon, except a crop of half-filled, travel stained, propolized sections for his pains.

Hoping this short article may be of some benefit to intending comb honey producers the coming season, as also to those laggards who are sometimes, if not always, behind time in making preparations in ample season. I will conclude trusting that what has been written, will be accepted in the spirit in which it has been intended, viz.—good faith.

Stratford, March 15th, 1897.

All Honey and Bees' Wax Purchased.

For the next fifteen days we take all the honey and bees' wax offered, we paying in Bee-keepers' supplies at catalogue prices. Send sample by post, state the quantity you have to dispose of and how put up. Quote price delivered at Brantford, package free. Put your name on the sample Address

GOULD, SHAPLEY, MUIR & Co., (L'td
Brantford, Ont.

Taking Bees Out of Winter Quarters: Robbing.

—E. T. PETTIT.

A word upon the above subjects may be helpful to the beginner, and possibly also to some others. I am an advocate of taking them out on what may be called the early side. If the bees are at all uneasy and the weather suitable, any time in April is late enough. Reasons: uneasy bees are breeding; breeding bees are eating freely and largely, this soon gorges their bowels and they must fly or die. Bees that do feeding in winter quarters die off rapidly when set out. And further, if young bees cannot fly when nature calls them to do so, they soon get sick and die also. I venture the assertion, without fear of successful contradiction, that those who advocate leaving them in winter quarters that they may breed up strong, have failed, even in a small measure, to comprehend this matter, and are laboring under a telling and loosing mistake. But there is this to be said of them, such bee-keepers become experts at the building up business in spring, for they have a good deal of practice in that line. Right here let me interject the caution that a good warm cushion must be placed right on top of the frames and then a pretty heavy cover put on top of it to hold it down snug. But, after all, if they are very quiet, clean and slim, they are better, possibly, a while longer in the cellar.

The best way that I know of to keep them quiet and manageable while taking them out is as follows: when you feel pretty sure of the right kind of weather the next day, open the cellar door the evening before, the fresh air will disturb them a good deal, but they will be quiet in the morning, and the morning light stealing in upon them so gently will not disturb them. And now if you feel pretty sure of your day rush them out. Of course your stands should be all in readiness that no time be lost in fixing things. I used to put ice in the cellar and in the windows to keep the bees cool and quiet at time of taking them out, but the bright light and fresh air would greatly excite them and cause them to give a lot of trouble.

When the bees are out, a sharp look out to detect robbing is very necessary. If attended to when first started there will not be much trouble in breaking it up. But if neglected, like many other diseases it is

very catching, and becomes a lingering, chronic, and almost incurable malady.

Some say, just let them fight it out—a hive that won't take care of itself should go, but that is a mistake, for, under certain conditions, the very best stocks fail to know the robbers. I think it is because the scent of the two hives chance to be alike. In cases like that, I place the one being robbed in the cellar for two or three days, and at the same time put an empty hive on that stand. The robbers will get sick of buzzing around that empty hive and give it up.

The hive should be brought out of the cellar and placed upon its old stand in the evening just after the bees have quit flying and the robber bees should be shut in for a day when the others are first set out. I have a device for the entrance of such hives, but space forbids a description here, but a perforated metal queen excluder leaned up against the hive over the entrance sometimes works well.

Belmont, Ont.

[I have gradually become an advocate of setting bees out early. For several years I set the first bees out in March and with a sealed quilt, several thicknesses of paper on top of that and then cushion and quilt. I have not seen any reason to regret early setting out. If properly wintered bees will not rear brood (at least I do not think they will) in the cellar, early setting out gives early brood rearing. To compare outside wintering with inside wintering and late setting out is unfair. I incline to think unless in a few Southerly localities in Ontario, the best result can be obtained by proper inside wintering and early setting out. I prefer setting the bees out in several lots, there is less excitement in the apiary, and the bees remaining in the cellar need not be disturbed. I set out 82 swarms already, five on the 11th of March, the balance March 12th. Not a single colony had broken cluster and to-day, March 19th, those remaining in the cellar are in the same condition. This work is being done for experimental purposes, but for several years I have begun to set bees out about the middle of March. It would be well to have the opinions of others upon this question. Please give us a description of your robber device.—Ed.]

A Few Ideas—Some Useful Hints.

Editor Canadian Bee Journal:

DEAR SIR—As the days glide by so rapidly, and as we begin to realize the tremendous fact we are moving at the rate of 1000 miles an hour, we are forced to the conclusion we shall very soon arrive at the scene of active operations of the "new season among the honey bees," and the passengers (whose "tickets" would seem to indicate that they are specially interested in that particular field) begin to arouse themselves and rub their eyes and peer out and ahead in the dim twilight as if they were anxious to catch the first glimpse, and to know, before their fellow-travellers, the lay of the ground, etc., but after a few vain attempts in this direction they make the discovery that the "Great Architect" in His original plan had so arranged the lines that passengers can see no distance at all in advance of the moving wheels.

Having made this discovery they content themselves by comparing notes and discussing the probabilities, etc., and we find ourselves entering into earnest conversation with some of the younger passengers, the older ones (some of them at least) smiling contemptuously at the announcement "new season among the honey bees," and with a self-satisfied air seeming to say "Oh, Fie! It is not new to us, we know all about it, have been through it lots of times" The fact remaining, nevertheless, that they really have never seen the "new season" towards which we are approaching, and as a matter of course cannot know all about it. Continuing, the conversation seems to drift quite naturally to the topic: "Removal of bees from winter quarters," and the consensus of opinion as to the best mode of procedure is as follows:

1st. Wait until the soft maple and willow bloom begins to display itself so that we are fairly certain that there is something to work on.

2nd. To be doubly sure of this, place a colony or two on their summer stands and if they are successful in finding pollen, we are positive that we have sighted the "new season."

3rd. We now make sure that all summer stands are in place and each ready to receive the colony it held last fall, the location being shown by number corresponding to the number on each hive in the repository.

4th. To-morrow morning comes, and if it is perfectly calm and a clear sky we enter the repository and carefully close the entrance to all colonies before disturbing any, or with as little disturbance as possible, and

remove them all, as quietly as may be, to their summer stands.

5h. After the first joyful whirl and jubilation is over and the bees are partially settled, we hasten to make an examination of each colony, and as it is very important that the hive be kept open only a very few moments, we simply lift two or three combs in the centre of the broodnest, and having made sure that there is plenty of food, and that the hive is free from dead bees, and that the queen is discharging her duties in a "queenly" manner, we close the hive, tucking it up warm as possible, and close the entrance as much as the strength of the colony will admit of, and not disturb again oftener than once a week, and then only to ascertain if they have sufficient food.

And now, Mr. Editor, if this lengthy and rambling article is of any use at all, it will find its place in the April No. of C B. J. Otherwise its proper place would be in the waste-basket as it would be very stale by next No. We shall, in the meantime hope to hear from some other "passengers" in the way of "hints" relative to the work in the next degree.

M. B. HOLMES.

Athens, March 17th, 1897.

[Cannot someone tell us of some way by means of which we can do the necessary examining of colonies and not break loose the sealed quilt. By breaking loose the sealed quilt, honey board or cover, at this time of the year much heat is lost, for the bees cannot readily propolize and seal the quilt.—Ed.]

The Digestion of Staple Edibles.

Boiled rice will digest in one hour; if boiled in milk, however, it requires two hours; if eaten with unboiled milk two hours and fifteen minutes. Raw egg will digest in about one hour and a half; soft-boiled three hours; hard-boiled three hours and a half. The white and yolk should be served together as one assists in the digestion of the other. Salt beef requires four hours and fifteen minutes. Beefsteak, broiled, three hours. Stewed oysters, three hours and a half. Oysters require a longer time to digest than broiled meat. Roast beef requires five hours for perfect digestion. Pork the same. Suet pudding is supposed to take five hours and a half.—Mrs. S. T. ROSE in February *Ladies' Home Journal*.



J. E. FRITH,

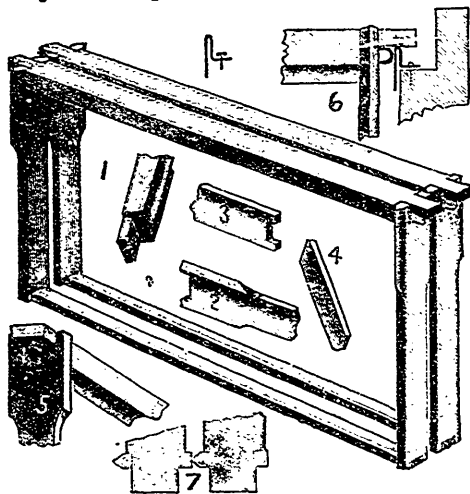
Secretary Oxford Bee-Keepers' Association,
Princeton, Ont.

NOTES FOR BEGINNERS.

The beginner in bee-keeping is always anxious when springtime comes around. It is the season when he orders bees and bee supplies, and he is at a loss to know when to buy and what to buy.

There are perhaps but few beginners who have not purchased bees. For those who have not, and those who intend to buy more, let me say, perhaps the safest time, depending of course a little upon the season, is about the third week in May. By that time good average colonies will be strong full colonies. They will stand shipment at that time to the best advantage. To advise as to the best hive is about as difficult as to advise as to the best breed of cattle, and yet is not as difficult. It is desirable to have a few sizes of hives as possible. You can put a Galloway and a Jersey cow in one stall but you cannot put a Jones and Heddon frame in one hive and it is desirable that not only the frames in an apiary but the appliances in an apiary should suit the wants and tastes of other bee-keepers. Again, the greater the variety of bee supplies dealers have to provide, the higher the cost of manufactur-

ing and running a business. Hives and bees are bought and sold and any lot of bees and hives are likely to be thrown upon the market some day. These things only weighed and taken at their worth. What hive do I recommend? Remember I am only an individual, but one who began without a single Langstroth hive in the apiary. But I recommend the Langstroth hive. Of the Langstroth hives perhaps the best is that having the close end Hoffmann frame. For the beginner it has the advantage that when comb foundation is used, and no bee-keeper should think of keeping bees without comb foundation, the frames do not require to be spaced. The end pieces do this. See No. 7 in Fig 1 below, also cut generally. A beginner often bungles in spacing frames. If the combs are put together too closely bees are crushed and this angers the hive, or the brood is destroyed. Where the spacing is too great, when a good honey flow comes the bees build in comb. All these difficulties are overcome by the self-spacing frame.

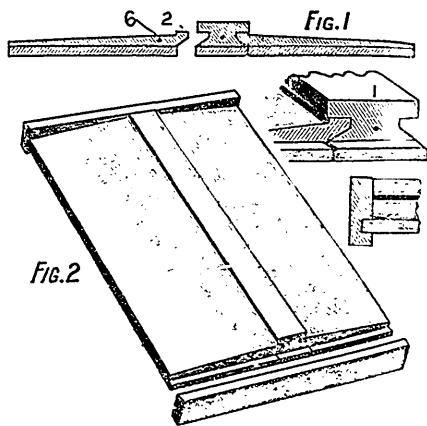


DOVETAILED HIVE AND HOFFMANN FRAME.

Again in Fig 1, No. 6, it will be seen that this year one of the leading supply dealers has added a new and valuable feature. The frame rests on a metal rabbet and the top bar of the frame also has a bee space between it and the end of the hive. The correct space between the end of the frame and the hive is retained by the use of a staple driven in the end bar and the advanced bee-keeper and the beginner will see that the only point of contact is a sharp metal edge between the frame and the hive. The frames slide along easily.

Another point. Bee-keepers often want to move bees either for sale and shipment

or to take them to fall and summer pasture. With the close end frame and the follower wedged against the frames, the frames are ready for shipment at a moments notice. But enough has been said upon this. Another desirable feature, one which beginners and even others may well desire, may be found in Fig.



IMPROVED COVER FOR DOVETAILED HIVE.

A cover should be watertight, not liable to check and constructed as cheaply as possible. Perfectly flat covers, and particularly those made of one piece of board only, are very liable to check. I have many in the apiary and I find they require continual watching on account of their tendency to spring a leak. This cover has a central ridge piece. The sides pieces connect well with this ridge piece, and to keep all in place an end cleat with a groove keeps the pieces in place. The cover sheds water freely. To use the cover to the best advantage a honey board should be used underneath. This is to take the place of a quilt and is made of $\frac{1}{2}$ inch lumber board with tin at the end. To produce the best comb honey (and this applies to the advanced bee-keeper as well as to the beginner) a bee space should be left over the sections. If a quilt is used this space is destroyed. The objection to the quilt for comb honey is, that if the bees cannot pass over the sections they leave more pop holes or passage ways in the sections, marring the perfection of the sections. Again when the the quilt rests on the sections the bees incline to put bee-glue or propolis on the sections and the quilt. This is unsightly and mars the perfection of the article.

Again, with the honey board under the cover, on very warm days the cover can be raised and the air allowed to circulate between the honey board and the cover. This acts as a shade board and is a great

comfort to the bees and decreases the tendency to swarm. It may be argued and with some show of justice, that this can be done with the quilts. This is true but to ventilate in this way will not give the best comb. If the day is warm and you go into the apiary, remove the wooden cover from a strong colony and cut a hole, say an inch in diameter; in ninety-nine cases out of a hundred you will find just what you would not expect to find. You would expect the air to rush out of the hole, but it will be just the opposite. In refining honey in the hive the air is taken in at the entrance at one side. It is heated as it passes through the brood chamber and takes moisture from the honey as it passes over the nuptial and unsealed stores and it again passes down and is carried by a current the bees create out of the other side of the entrance. The current when it enters at the top, enters the stores before the temperature is raised, and under those conditions is able to take up less moisture, therefore, and perhaps for other reasons, this is not a desirable method of ventilating. This cover with the honey board mentioned, will be found a desirable addition to bee-keepers' appliances, and they appear for the first time in Canadian catalogues. In the next number I shall give some desirable methods

of ventilating a hive, when it should be done. It plays a very important part in successful bee-keeping.

Do You Want a Paying Business

That is safe and will be permanent? If you have a pair of horses and from \$50 to \$500 capital, the F. C. Austin Mfg. Co., of Chicago, will be pleased to correspond with you as to the use of certain special road-grading and earth-moving machinery; also well-drilling machinery. To save correspondence, write plainly stating your situation fully and naming parties to whom you can refer.

Early Setting Out.

On Saturday, March 20th, I set out forty-two more colonies, leaving nine colonies in the cellar. One colony was lost. It was very weak in the fall, weighing only 25 lbs. hive, comb and bees, after it returned from the buckwheat harvest. Some one will want to know if I will not be sorry if it turns cold? Not a bit of it. I expect it will turn cold.

R. F. HOLTERMANN.

Seventeenth Annual Meeting

of the

Ontario Bee-Keepers' Association

Held in the Council Chamber of the City Hall at the City of Toronto,
December 8th, 9th and 10th, 1896.

(Continued.)

At the present time I use a long wooden barrel and put the end of a steam hose into it and then connect the steam hose with the steam extractor. The point I was trying to get at was how to get it out of the combs clean. I have picked up refuse that I have thought pretty dry and clear of wax, and which to the naked eye you would not think there was any wax in; at least, a very small percentage, and on putting it under the microscope it had the appearance of but a very small percentage of dirt; it seems to be about two thirds wax, any

Mr. McEvoy - When you turn the steam

into the tank to melt what you have got there do you put the old combs in the tank?

Mr. Hoshal—I just use a barrel and put the old combs right in.

At the close of the discussion on this subject which was participated in by many of the members present the President put the following test to the meeting: he asked all those who had used both sun and steam extractors to raise their hands. Some seventeen responded. He then asked all those who had used the steam extractor and sun extractor and who preferred the steam extractor to raise their hands. One responded. Finally, he asked all those who had used

both extractors and who preferred the sun extractor to raise their hands. The showing of hands was numerous and the preponderance of opinion was held to be in favor of the sun extractor.

Mr. Lang—I might say in my process I put the refuse on the fire and it would not burn, so that there was not much wax in it.

On motion the Convention adjourned to meet again on Thursday morning at nine o'clock.

Thursday morning, December 11th, 1896, nine o'clock.

President Darling in the chair called the meeting to order.

Past President Holtermann introduced Prof. Harrison of the Ontario Agricultural College, whom, he stated, had made certain experiments with reference to the killing of the germs of disease in connection with honey.

The President elect welcomed Prof. Harrison, and assured him that the Association were pleased to have him present and would be glad to hear from him.

Prof. Harrison on rising to speak was greeted with applause.

PROFESSOR HARRISON.

Mr. Chairman and Gentlemen,—These investigations which I have been carrying out since June of the present year, were undertaken at the suggestion of Mr. Holtermann. Mr. Holtermann gave me a pamphlet which most of you probably have read or heard of, by William R. Howard of Texas; in this pamphlet he sets forth certain propositions, and it is to these propositions I will refer. Mr. Holtermann has supplied me with all the material, with the exception of some which I have written for myself in other countries. The propositions which were marked especially were towards the end of this pamphlet; I will briefly read what these were, and also state the work which has been done, in order to bear out my different conclusions, or confirm them or otherwise. The proposition (No. 3) upon which most stress was laid reads as follows: "That the vitality of the spores of bacillus alvei is destroyed when exposed to atmospheric air for from 24 to 36 hours." Howard, in making these experiments, took the dry scale which some of you are probably familiar with, from the foul brood hive and ground it up with sterilized road dust; this was thoroughly mixed up and dried and exposed to the air for different lengths of time. I may here remark that in Howard's conclusions he does not say whether he exposed it to sunlight or

whether to the ordinary light of a room, or what kind of light. This is of considerable importance in all bacteriological work because it is a well known fact that the sunlight is a very good germicide, and when germs are exposed to the sunlight will either kill or injure them to such an extent that their growth is retarded. He does not mention that in his report. Also you will notice, he tried the dry scale mass from the hive. In the experiments which I have conducted I did not exactly follow according to his line; to begin with I did not use the scale mass from the hive; the first of all isolated by bacteriologic methods the bacillus which causes this disease; having found that, I grew it in quantity in a pure culture. I used, to begin on, the pure culture that has this germ at that alone. If you take the scale as a rule you will find several kinds of germs which I have succeeded in isolating myself, in addition to the foul brood germ.

This pure culture was taken containing nothing but the bacillus and was spread on thin pieces of glass, what is known as cover glass, which has been previously sterilized—when I use that word I mean that all life as far as germs is concerned is eliminated from the article in question. A small piece of the glass were moistened with a drop of sterilized water placed upon them and the foul brood bacillus, after being filtered through glass wool, sterilized in order to grind up the different matters, was spread by means of a sterilizing needle on top of this glass, it was then dried in the sun. These cover glasses, of which I had a large number, were first of all placed in a chamber simulating the appearance of a hive, that is, partial darkness, and so arranged that there should be a draught of air, the temperature varying at different times from 65 to 90. These were exposed for different lengths of time. After a certain lapse of time, in fact, every 24 hours I took out these glasses out and tried to see whether they would grow again on media which bacteriologists use for that purpose. I may here say that this chamber was moistened with a very weak solution of formalin about one half per cent solution. In connection with that I have found that the growth of the germ occurs, exposed to the darkened atmosphere, up to one month; it will go on longer than that, but I have not tried it for any longer. As you see, Prof. Howard says he finds no growth after thirty-six hours. From my experiments I have found growth up to one month; I have not the slightest doubt but that the growth would go on continuing if the experiment were proceeded with. I was a little doubtful about the result the

I tried it; it seemed so different from Prof. Howard's, that I tried it again for the same germ, from the same source, and I found the same thing. I varied it a little and exposed these cover glasses with a cover over them, but so arranged that air could pass in and out and, in fact, I put them so that a draught of a window passed over them, filtering previously the air from the window through a cotton cloth; there was the ordinary light of a room; the room was lighted; part of the time the shutters were opened and the sunlight was in the room; it was a room with five or six large windows in it. I had the same results with that; growth up to one month. Further than that I did not take it.

I made these experiments over and over again with germs from seven different sources from the Province of Ontario; from samples of foul brood received from the State of Florida, on the other side of the sea also from the State of Michigan, from Berlin, Germany, and another from Prague, Austria; from all these I have obtained the same results.

I notice in the English works on the subject that they use naphthaline in the hive. I have an experiment in which these same cover glasses are put in a warm incubator about the temperature of ninety, with air constantly going through it, and naphthaline going through. I have done that up to 216 hours and I have got growth up to that length of time. I shall go on with the cover glasses. I have a one hundred feet incubator and I shall go on till all growth ceases. If it goes on for 100 days I do not intend to take it any further.

Another method which I have tried was taking thin strips of filtering paper, that is a substance very like ordinary blotting paper, only very much thinner; I have taken small strips of that and dipped it into a beef broth culture containing the spores and I have exposed these strips to the ordinary atmosphere of a room without cover or anything, without taking any precautions whatever from germs from the air going on these pieces of blotting paper. From these I have obtained cultures according to the usual methods of identification up to six months. The last culture that I had was six months old. I kept on clipping pieces of blotting paper off from time to time; in the beginning I did it every day, thinking the germ would die, but afterwards I did it at week's intervals. I have been at the investigation six months. The day before yesterday, when I tried the last piece of blotting paper I found that the germ was growing in great abundance; it did not seem to heat all hurt by exposure to the air. Of course, you might bring

forward the objection that the germs might be in the interior of the blotting paper, but the blotting paper being of such a porous nature I think the air had plenty of access on all sides of the paper. The strips were threaded on wires and exposed so that the air could go right through in all directions.

One more experiment was as follows: I took one of these drops containing the spores of this germ and put it in a test tube, which is about six inches high and five-eighths of an inch in diameter, and allowed it to evaporate at the body temperature, 98 degrees Fahrenheit; I took that and exposed it to the sunlight (these experiments were conducted in the month of June) for varying periods of time, and the rest of the time, they were, of course, in darkness. The total length of time they were exposed was 124 hours, 36 of those hours being exposed to direct sunlight; the thermometer which was hanging right near them indicated a temperature of from eighty to ninety-eight degrees Fahrenheit. They were in a window right close to the glass and the heat was considerable. At the expiration of twelve hours I took sterilized beef broth and poured it into the tubes to see if growth would occur; I made cultures from that again to be sure, to make my identification of the bacillus correct and in all cases I have found growth up to 124 hours.

To show my method of cultivation I took a few photographs. Here is one showing the characteristic growth of the germ on a substance called agar which is a Japanese plant, which is put into this beef broth to solidify it. We cannot tell the germs by looking at them through the microscope, we have to grow them on a number of different media in order that some of the conclusions may justify us in designating it as a different species. We use a plate just the actual size, which has been sterilized and the germ poured in here [indicates] and the cover glass with the bacillus side down was simply taken and smeared across the top and put in the incubator. I may say that when the temperature goes above 68 this germ absolutely refuses to grow.

Mr. Harrison at this point passed the photographs around so that the members might have an opportunity to see them.

The second proposition (No. 6) that I marked was as follows: "That the vitality of the spores of the bacillus alvei is not always destroyed when exposed to a temperature approaching 212 degrees (bear in mind, the boiling point) for forty-five minutes." He does not say it was actually 212, but approaching; it might be one

or two or three degrees, and all these points in this science are of great value.

I have looked up the literature of the subject both English, Canadian and German, and I find there are considerable differences on this point. For instance Sorenburg, who is a very competent bacteriologist and who is Surgeon-General of the United States Army, finds that the spores of the bacillus alvei are killed at the boiling temperature, 212 degrees when exposed for the length of four minutes.

Prof. Howard finds it requires a temperature approaching 212 for forty-five minutes. My experiments have confirmed neither of them; I have not been able to kill them in four minutes; but I have been able to kill them in 45 minutes. I cannot get a temperature above between 98 and 99—about 98.7 centigrade, or in Fahrenheit about 208, at Guelph—208 to 210; I cannot get the exact boiling temperature, but I can get it by using steam under pressure. I have used both of these methods and I find by using the same method as Sorenburg has employed and trying the ordinary boiling temperature at Guelph that they are killed in about 40 minutes. By using steam the lowest I have gotten is ten minutes. So probably Sorenburg's method is all right. There is a difference in the method. If I use Sorenburg's method with the steam I could not very well manage it. I have to use large test tubes for the similar experiment, and using that I cannot use these very fine tubes, but simply glass drawn out very fine into capillary tubes and just heated sufficiently to drive out the air and then it sucks up a portion of the beef broth culture. Then, there are about two or three drops in a very small tube, which is very thin, and the heat quickly penetrates it, by using that method in the ordinary boiling temperature of Guelph, I find it takes a little under forty minutes to kill them.

By using the test tube I told you about with about two inches of beef broth in it and exposing it to an actual temperature of 212 I have succeeded in killing them in about twelve minutes. Dry heat is, however, far different. I have exposed germs on cover slips, that I have mentioned to you, for an hour and a half at a temperature of about 280 degrees Fahrenheit; I use a centigrade thermometer; that is 50 degrees in centigrade above boiling point; they will stand a temperature of an hour and a half in that degree. That concludes my work on that proposition.

Proposition No. 5 of Prof. Howard's is as follows: "That honey stored by the bees in these foul cells and sometimes capped, thereby retaining the germs of foul brood as long as the comb lasts; that the honey

in these cells is not detrimental to the vitality of either the spores or bacilli which are productive of the disease, and that in such cells the spores and bacilli are found suspended in the honey still retaining their vitality."

I have isolated from a number of different cells containing honey the foul brood germ; I have also isolated time and again from bee bread from the pollen mass. Two or three combs I had at the commencement of my experiments were very rotten indeed. Also with reference to the honey that was in them, I took very careful precautions to sterilize, if they were sealed, the cover, and the sealing, taking it off with great precautions and using the honey from the bottom of the cell, and I succeeded time and again in getting cultures of the bacillus alvei matter and also just as frequently from the bee bread. Further I had two samples of honey analyzed. Mr. Holtermann sent me a sample of buckwheat honey and also a sample of clover honey with a slight mixture of buckwheat honey; it was just enough to slightly discolor it.

Mr. Holtermann—It was about five per cent.

Prof. Harrison—This honey I analyzed to find if there was formic acid in it and if there was, how much there was. One of the German authorities states that there is about 25 per cent of formic acid in honey. I find that he is perfectly correct in his assumption that there is formic acid present in honey, but different samples vary. In the sample of buckwheat honey 15 grammes of pure formic acid was found in 100 grammes of the honey. In clover honey there was far less. 0.579 grammes of formic acid in 100 grammes of this honey. The honey does not serve as a food for the bacillus alvei therefore I made up solutions of agar, and in it I placed the exact amount that was found in the buckwheat honey and also in the clover honey; that is, I made up two-lots; I took 100 grammes of agar which is equivalent to 100 grammes of honey, and in it I placed the 15 grammes formic acid; it changed the color of the agar to a sort of milkiness; it is generally semi-transparent; this I will call strong formic agar; I also made up 100 grammes of agar containing 0.579 grammes, which is equivalent to the same amount as was found in the clover sample. So, you see, I had a strong formic agar and a weak formic agar, and then cultures of the bacillus were taken—I have cultures in my laboratory of this germ separately cultivated from about ten different sources, from Ontario, from Florida, from Michigan, from Germany and from Austria—I made sufficient

(To be continued.)

Questions

My bees did not build up well in the fall; others wintered poorly. The hives are full of honey, but weak in bees. What can I do to get my bees strong for the early honey flow?

Double them up. JAS. ARMSTRONG,
Cheapside Ont.

Unite two colonies, if not strong enough put three together, and save the combs you will have left for the swarms.

JOHN PIRIE, Drumquin, Ont.

Keep them warm by keeping on the winter packing and contracting the entrance. If very weak unite. You may have them in condition for the late honey flow.

A. D. ALLEN, Tamworth, Ont.

Tuck your bees up warm as possible, if very weak in numbers contract the brood chamber to correspond with size of cluster. When settled warm weather comes stimulate them by feeding.

Wooler. WARRINGTON SCOTT.

See that they have a good laying queen, remove all combs not covered by bees and contract hive with division boards. If wintered in the cellar protect after placing on summer stands by packing and cushions. If wintered outside leave packed till settled warm weather.

St. Thomas. R. H. SMITH.

First contract the brood nest—with a wooden division board—to the size of the cluster (colony), giving them at least, one good sealed comb on each side, replace combs as they increase in strength, and when the clover comes into bloom, unite all weak colonies, selecting the best queens.

R. A. MORRISON,

Inverary Ont.

Take the colonies that have the best queens and build them up strong by drawing from other colonies. It is better to have one strong colony out of the lot than to attempt to work along with several weak ones. After making all possible colonies strong, utilize the balance by bringing up to strength as early as possible; but without a knowledge of general principles, this will be found a difficult undertaking. It would take several pages to fully des-

cribe what should be done, but it is safe to make as many strong colonies as possible out of what you have. J. E. POND.

North Attleboro, Mass.

In brief, give plenty of food and keep the brood nest warm. If on summer stands, protect with chaff hives or with some device that will allow of thorough protection on all sides, top and bottom, the brood nest may be contracted, but an abundance of stores should be given. Consult standard works on bee culture for details.

DR. A. B. MASON,

Auburndale, Ohio.

I doubt if you can get them real strong. However at once contract your hive to the number of combs your colony will cover, leaving abundance of stores; thoroughly protect them with packing, leaving no upward ventilation so as to conserve all the heat of the colony and be unaffected by outside temperature. Leave severely alone until they are crowding the hive, then expand it from time to time as required.

Beamsville. A. E. HOSHAL.

If the hives are full of honey I suspect you will find them all right by the time of white clover blossoms, provided of course they live through the winter. I have often noticed the colonies which went into winter quarters heavy in honey and light in bees proved the best ones the next year. I do not think a great lot of bees in the fall necessary either to successful wintering or best results the following summer. If stores of natural food are plenty I should not advise stimulating by feeding.

EUGENE SECOR.

Forest City, Iowa, U. S.

If the spring turns out favorable to your bees, that is if the spring is forward and the weather is warm, having plenty of honey in the hives, your bees will surprise you in the way they will build up to good colonies. If you have no strong colonies in your yard that can spare combs of brood

for the weak ones, you must take the chances. At the beginning of early spring see that the tops of the brood nests of your hives are made tight, so as to confine the warm air rising from the cluster of bees.

G. W. DARMASCE.

Christianburg, K'y., U. S.

Keep them warm. Contract the brood chamber. Be sure they have a surplus of food. If the weather is warm enough before the natural pollen appears you might set out on boards or pans fine ground oats for pollen. Set it near the hives, they will soon find it, and it also gives them something to think about besides robbing their neighbor. I would not take brood from one and give to another until the strongest colonies were preparing to swarm. This keeping them all at the same strength from the start is not my plan. In union there is strength.

WILL ELLIS,

St. Davids.

Don't fiddle with your bees until season and weather warrants. Contract entrances. Contract brood chamber with division board to suit cluster, leaving just what combs they can nicely cover, keep these toward side of hive where the strong rays of sun strikes. Pack warmly on top and other side of division board with chaff or sawdust in bags or cushions. This will increase the warmth, saving the waste of animal heat that otherwise would take place in the larger space. Brood rearing will advance more rapidly; as you find the increase demands add more comb, breaking the cappings of the honey on them so the bees can feed freely; this also will serve as a stimulant.

Brantford.

W. J. CRAIG.

Examine the colonies as soon in spring as practicable. Use division boards to crowd the bees on to as few combs as they can conveniently cover. Give more room only as it is required. Now see that the hives are snugly and warmly packed and don't disturb them unless really necessary. As you say they have lots of honey, don't stimulate them otherwise, except by uncapping a comb between first blooms and white clover, so that the larvæ will not die for want of proper nourishment at the right time. If they lack stores at this juncture feed them syrup or honey.

Stratford.

F. A. GEMMILL.

SEE HERE.

P. S.—To the printer's devil of the Canadian Bee Journal: My name is Gemmill, and I was a printer's devil myself. Now I want you to stick the type, and

attend to the punctuation, composition and spelling properly. Some of the articles sent for publication, were simply useless, on account of the wrong words and terms supplied by YOU. I am awful mad, but I'll forgive you if it don't occur again.

F. A. G.

[After reading this our P. D. fled. The sins of the editor were too many for him to bear. The last heard of him, was in Rossland among the miners.—Publisher.]

Under the above condition the only hope is warmth. I should confine the colonies to as few combs as the bees will cover. If possible set the hives in a warm sheltered place. I would in this case face the hives to the East and domicile the bees in the south side of the hive. Contract the entrance to the actual requirements of the colony. Cover the frames with enamel cloth or some other waterproof material, and above this place 4 or 5 inches good warm packing. They will build up faster if the hives are painted a dark color, if not it would pay to tack dark colored enamel cloth over south side and west end of hive in early spring or until bees are uncomfortable from heat. Add frames as fast as needed.

C. W. POSR.

Bees in this condition, if wintered in the cellar, should be packed when placed on summer stands. Bees that have been wintered on summer stands generally are packed or protected in some way and therefore are hardy. The brood chambers should be opened and each colony examined in early spring, as soon as the weather becomes warm enough to do so without chilling the brood. If a good laying queen and plenty of honey is found the colony will need no attention more than keeping it warm till about a month before the honey flow when it may be examined again. If the frames are not pretty well filled with brood and the strength of the colony permits, spread the frames from the centre and put an outside one containing little or no brood between two of the middle ones, which should be pretty well filled with brood and larvae. Space the frames properly and pack again warm and snug. Do not disturb again till 7 or 8 days before the honey flow then see that the frames all contain brood. If not, move the outside ones in again as before. Now with a hive containing little or no honey, and an abundance of bees and brood you are ready for the honey flow. Should it be later in coming, however, than expected, do not neglect to feed for a day or two as a little feed at this time is worth its weight in gold.

Harwood, Ont. GEO. B. McCULLOCH.

REPORT OF THE PROCEEDINGS....

of the Twenty-Seventh Annual Convention
of the

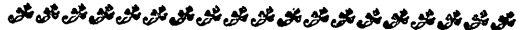
North American Bee-Keepers' Association

Held at

Lincoln, Nebraska, October, 7th, and 8th, 1896.

By Dr. A. B. Mason, Secretary.

(Continued)



He said that this firm has done a good deal towards building up prices; but I fear they have done a great deal toward adulterating the product. Thus, to show you what may be done by the use of glucose, any syrup may be made to seem like the pure article.

Mr. McIntosh, a business man of Omaha, Neb.—I am a consumer of honey, not a producer. I never ate any adulterated honey. We always use comb honey. I don't think that is adulterated. I would not buy extracted honey no more than oleo. We don't expect to get it pure. How do we know that commission dealers are the only ones who adulterate it? The producer gets only 8 or 10 cents a pound for his honey, while we pay 20 cents for it. It is a luxury. We don't want to pay 100 per cent more than the producer gets for it. Don't produce extracted honey.

Mr. Westcott—The other day I was talking to a man about selling comb honey to him. He said: "Comb honey is adulterated. They will even uncap it and pour glucose into it. They feed bees on glucose, and they carry it in. We have just as much in comb as in any other form."

Dr. Mason—It is a very nice thing to have consumers attend our conventions, so that we can educate them, for when a man makes the statement that he never expects to get pure extracted honey he needs to be educated. If everybody was like Mr. McIntosh, some of us would have to go out of the business; nobody would buy extracted honey, and some of us don't know how to produce comb honey. Mr. McIntosh, buy your honey right from the producer. Find a man that you know is straight and true, and buy it of him every time. [Applause] We are always preaching up the home market. It is the best market in the world. I am getting 112 stands from each of 30 colonies every summer.

A Member—What do you get for your honey?

Dr. Mason—I sell only extracted honey. I get 15 cents per single pound, and 11½ cents per pound by the gallon; never anything less. They are glad to get it. They know it is pure. I have educated them. Don't you be going around the country preaching that extracted honey isn't pure any more!

Mr. Aikin—If clover and alfalfa honey are put together—is that adulteration? We had some at the hotel; I am sure it was clover with a tinge of alfalfa. It makes it better; gives a flavor just fine. Consumers very often want something that has a fine, nice flavor. Fake that which has a fine flavor and mix it with something stronger and sell it that way. I said that a certain firm would mix a whole lot of alfalfa and a little white clover and sell it for pure white clover. If they misrepresent in that, would they not also use glucose?

Mr. Abbott—What would anybody mix the two for?

Mr. Aikin—They have customers who demand white clover honey.

Mr. York—I was very sorry to hear from Omaha, that they don't get pure honey. With all the adulteration in Chicago, we expect to get pure honey. Mr. Walker, of Michigan, furnished 50,000 pounds of extracted honey to some 5,000 grocers in and around Chicago, last winter, and that was pure honey. In the last few weeks I have also been bottling honey, and it is pure honey. The people want to buy pure honey, but many of the grocers say the people want the adulterated, in order to get something cheap. They want it for 10 cents per pound. I believe there are two kinds of glucose—the refined and commercial. There is not the least taste to refined glu-

cose. The adulterators mix about $\frac{1}{3}$ part basswood honey and the rest glucose, and few of the consumers can tell whether it is honey or not. Three weeks ago I had a man take a load of bottled honey in $\frac{1}{2}$, $\frac{3}{4}$ and 1 pound sizes. He sold the pound bottles to grocers at \$2.40 a dozen. The actual cost of the load was \$80. He sold it for \$120. So you see there is a great field in the grocery line. I was at Springfield--the capital of Illinois--last week, attending the State Fair, and I found there was no one selling honey in that city. See what a market could be worked up in a city like that!

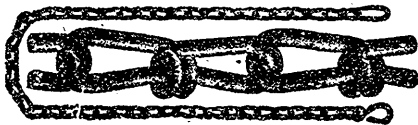
Dr. Mason--How long did it take to sell that load of honey?

Mr. York--About a week. In Chicago we have at least one firm which sells honey just as they get it from the producers. Something could be done for the cause of honey, if it were not for the commission sharks, whom I have been fighting in the American Bee Journal the past few months. I think we will get the frauds under control before long. The Union should back us up in our fight against them. I hope this matter will be fairly discussed, and that when the committee reports, we may all unite on something. Of course, we must have a law first, but the thing is to elect men instead of politicians. If you have not the man to enforce the law, it is worth nothing. Let us work for the anti-adulteration laws and then have the men to enforce them.

(To be continued)

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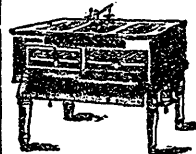
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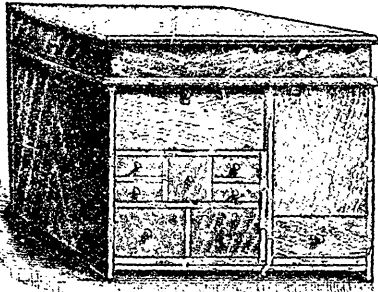
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