...The
Canadian Bee Journal
PUBLISHED MONTHLY.

EW SERIES
OL. XI, NO. 10. BRANTFORD, ONT., MAY, 1904. WHOLE NO 471.

ANNUAL MEETING OF ONTARIO BEE-KEEPERS' ASSOCIATION

(Continued from Page 177).

FORCED OR SHAKEN SWARMS.

Paper by Morley Pettit, Belmont, Ont.

The keynote of modern business is ecialization and expansion. The ghest success can only be attained concentration of effort in a single e. To bee-keepers this means the tting out of all side lines and keep- more bees. Not only that, but ey must be kept with the least ex- nse possible of both time and money. do this, one must have large ideas, ablish out apiaries and adopt meth- quite different from those employ- in a single yard.

The first and greatest problem in nection with out apiaries, is that of trolling the desire, more or less eloped in all bees, to swarm. ere one is devoting his whole time ne yard, it is comparitively simple llow this impulse to take its natural rse; but, while swarms are issuing being hived at home, the thought ld be unpleasant, to say the least, swarms were issuing, without hived, at several yards away home.

great many plans for the control evention of swarming have been sed and adopted with varied ss, but the one particularly under leration, known as "Forced", "Brushed" or "Shaken Swarming" It was first brought before the public in a time and manner to attract general attention, by L. Stachelhausen in the Gleanings in Bee Culture, Nov. 1st., 1900. True, this method had been practised and described to a limited extent for over one hundred years, but not until this recent date, when the general establishment of out apiaries had awakened the sense of need, did the idea become popular. During the three years which have followed Mr. Stachelhausen's first article, the matter which has been printed on this one subject would fill volumes. It has been tried and rejected, or adopted with variations by thousands of apiarists. Upon the whole it has proved most generally successful.

It is the purpose of this paper to describe briefly 'Forced Swarming', as practised by myself with a large measure of success during the past season. By it natural swarming is almost entirely avoided and each yard visited only once every seven to ten days.

In the first place every effort is made to retard swarming. Extracting supers are put on all except weak hives during fruit bloom, and a certain amount of evening up of brood – that is taking from the strong and giving to the weak – is done at that time. When white honey begins coming in freely, the brood is again evened up in the stronger hives, alternated with empty combs. Comb honey supers are put on or extracting supers enough

to contain the full amount of white honey expected per hive. Entrances are enlarged to their fullest extent, about 1-¼"x 17", and ventilation is given at the top of the super, so that a current of fresh air will pass freely through the hive. Now if hives can can be partly shaded and the brood chambers are large enough to give full scope to the laying powers of the queen, swarming will be greatly retarded. At the next visit all hives are examined for indications of the swarming impulse, if only empty queen cells are found, and the brood chamber is nearly full of brood, a card of brood is removed and replaced by foundation any cells containing eggs are broken down. The brood removed is used for strengthening weak colonies or forming nuclei.

If any cell contains a queen larva it is proof that the swarming impulse is far enough advanced to take action. Hives previously prepared for swarms have been distributed about the yard before starting operations. They each contain in the order named; two dummies, three starters, one worker comb, three starters and three dummies; twelve in all in a hive of 10 frame L. capacity. One of these is brought and set down on a bottom board and stand behind the hive to be treated. The operator who sits at the left of the hive removes the three dummies from the right to a farther side of the new hive, and shoves over the remaining contents so as to have the empty space next him. He now lifts the comb nearest him from the brood chamber, shakes it almost free of bees, and places it in the new hive next the left wall. The next comb has a double space for shaking off bees in the old hive. It takes its place beside the first comb, and the return motion of the hand scarries a dummy from the new hive to the old.

Comb number three is shaken, carried to the new hive, and dummy number two is brought back. The fourth comb exchanges places with the first starter and so on. When the twelfth comb has been shaken in its own hive and transferred to the new the sixth starter put in its place, and the old hive filled out with the three remaining dummies, we put on the supers, close the hive and the bees have been swarmed.

There is now a hive swarmed on starters on the old stand under condition fairly natural, at the convenience of the bee-keeper, without fuss, excitement or acrobatic feats. Leaving them in the old hive is merely a matter of convenience. Unless there is no honey in the supers it is not necessary to wait for the bees to fill themselves with honey before shaking, as they can do that at leisure afterwards. These swarms behave in all respects like natural swarms just hived. If they swarm out next day, so would natural swarms under like conditions, and the same little devices must be used to make them contented. For example, in comb honey production it may be best to hive on a full set of starter (not omitting the comb) for a few days, then contract with dummies. Shade should be given and always ample ventilation etc.,etc. The empty comb in the middle is useful for various things. If the supers contain sections it catches pollen, which might otherwise go up, if extracting combs, it keeps the bees from all going up into the supers and deserting the queen.

In extracted honey production it may be best to shake on a set of full sheets of wired foundation I propose to test this matter fully next season.

A few minutes after shaking swarms sometimes show signs of queenlessness. The queen has been accidently left with the brood, or in rare cases has been lost. In this case we do not bother hunting the queen, because

he will do no harm with the brood, nd if lost she cannot be found. In ct we hunt queens, except in rare ses, but once a year, viz., at the clip- ng season. Give this queenless warm a young queen, a ripe cell or a card of open brood and eggs. the latter is given, all but the best ell must be destroyed at the next isit.

The parent stock as we may call e hive of brood, sits directly behind e swarm and has enough bees to ke care of the brood and the best een cells which have been saved shaken. It is given an extracting per at once, and removed to a new nd at the next visit. To save time se parent stocks might be given ing queens, or on the other hand brood might be shaken clean of s and used for building up weak onies and nuclei.

For comb honey production I know only one better system than the just described. That is to allow bees to swarm naturally. No cks work in sections with the same or as natural swarms. This system he nearest approach to natural rming, and is all considered, ugh cheaper to make it more pro- able. In producing extracted honey ink that the twelve frame Langs- h brood chamber and super capa- of twenty frames with one large ance and upward ventilation from e 1st on, will reduce swarming to inimum which may be almost en- disregarded. I hope to be able eport more fully on this subject t year.

n examining, later stocks which been shaken on starters without comb, I found in some cases, the n gone. She had been worried ath by the bees, who could not why she did not go up into the with them.

Sibbald: Mr President and Bee-Keepers. I must compliment Mr Pettit on his paper. I consider that it is a splendid paper. It was not written without experience. I hoped that he might differ a good deal from me so that I could get at him and I was trying to find out some weak point, but in that I was a little disappointed. I feel that the paper hardly needs any discussion, only to be endorsed, but since I have a place on the program and platform I might as well go over the points again. In the first place he mentioned "Labor". Labor is the greatest factor in bee keeping. The amount of money it costs to buy an apiary does not amount to very much compared with the money you can make out of it, but labor is the big thing and in that he is right. Anything that will help us to manage our bees with less labor and enable us to keep more bees will help us to make more money and that is what the most of us are after. Some like to keep bees for fun.

Then he mentioned the swarming. That is our greatest difficulty, to keep a lot of bees without having someone to watch the apiaries. He also mentioned a number of good things to retard and prevent swarming much as possible and among these things he mentioned equalizing. Equalizing the brood is necessary for more than that, viz.; to have your stock all in the same condition so that one manipulation is sufficient for almost every hive. In one day you can do the whole work of the yard. If they are uneven you have to come back in a day or so and do something else; supering early and the proper ventilation has to be given by propping up the bottom. Mr Post has a screen underneath, but in my experience propping up both the back and front lets a current of air through and I think the bees are rather better satisfied with the board bottom than with the screen

Mr Pettit mentioned one thing that I do not agree with him in. He said he wanted a large hive to give the queen every chance to lay. It is my opinion, although I am not sure that I am borne out by any particular authority, a queen can be overdone, and when a queen is overdone and fails to fill the cells with eggs the swarming fever has commenced in the hive, and pollen is put into the cells. It is quite possible to overdo a queen and I think it is better to have a smaller hive, contract her, as it were, and let her fill every cell up with brood and fill right up to the corners, not have any honey down below, and when you put on your top story the division between the brood and the honey is just the excluder. Once you get them into the super and then by lifting that super soon enough and putting another under you have robbed them again of the honey. That is likely to retard the brood swarming. That cannot be done in my opinion with a twelve framed hive. If it is fruit bloom honey it will be carried up and spoil your other honey. If you have a lot of honey it would be better to have your supers on and extract them out before your white honey comes in. You have the honey in the honey house and you can feed it back in the fall if you want to.

Mr Pettit has too much truck altogether in the brood nest for me. Five dummies for every hive! If he had one hundred hives he would have five hundred dummies and it would take a wagon to carry them. If he had three apiaries see what an amount of lumber he would have and it is so expensive. I don't see any need for the dummies at all; if you hive your swarm on starters they will go right up to the top story and cluster along the starters and draw down the centre one a little. If they have lots of work above they won't build those combs down at all in that season. If you want buckwheat honey in the latter part of the season that would not apply. It would be better to have a good brood chamber and lots of brood to raise bees for what you want them later on. The outside one where he puts his dummies will hardly ever be started at all if you work the top stories or sections right. I don't see any advantage in the dummies. Then as to one full comb, I don't believe in that. If I used a comb for the purpose of keeping the pollen down there I would cut two thirds of it out and just leave about an inch or two inches at the top and let them put the pollen in there and keep them clustered up instead of clustered down. Of course I think a second shake is necessary to prevent after swarming and to get the force of the bees into the hive you are taking your honey off, about a week after.

Mr Pettit: I practised leaving the parent stock behind the swarm for a week and then moving it to a new stand.

Mr Sibbald: Where do those bees come back to that you fool when you take the old hive again?

Mr Pettit: They fool around a while and then come around to the front.

Mr Sibbald: I don't like that "fooling around". In my opinion they generally get cross and if you are walking through the yard they will let you know. You can remove a hive and a certain number of bees will come back to the old stand. You do not get enough of them; too many of them go with the hive and make the new location. In an out yard you have a second swarm and the first one comes off the ones you have screened you are likely to lose the first and best swarm you have got. You don't want to take any chance in an out yard where you have

body to watch. I believe it pays to take the second shake and then you can carry your brood right away.

Mr Pettit: This preventing of after swarming by moving in five or six days is by no means new. We have tried it with success in natural swarming and prevented a large percentage of after swarming. In a first and natural swarming there are a great many more bees left than with your shaken swarm. An empty extracting super must be put on the parent hive as soon as it is shaken and it needs a good large entrance.

Mr Sibbald: Do you mean the brood you have already shaken all the bees off?

Mr Pettit: Yes.

Mr Sibbald: I would not agree with that. I don't want to have to look after that hive.

Mr Pettit: You don't want increase?

Mr Sibbald: If I increase it is by nuclei.

Mr Pettit: If you intend to have nuclei break up your parent stock at once.

The President: Why put the extracting combs on the brood?

Mr Pettit: It prevents this after swarming.

The President: Will they not have enough cells empty from hatching bees.

Mr Pettit: A brood chamber full of brood is a pretty hot place in a hot day and unless you give them lots of air, give them extra stores and plenty of ventilation, the chances are they won't tear down their queen cell and will go on with the after swarming.

Mr Sibbald: I would not like to take chances if I was not going to be there. After the second shake I take the brood that is left and if it has been on the left side of the hive I put it to the right side and I leave it there and if I have a good young queen I let her go in or let one hatch if there is a good cell in it. They will mate and the chances are you will have a new young queen and you will have your old comb and as soon as the supers are taken off the swarm and the season is over take that brood chamber and put it on top this swarm and unite the two.

Mr McEvoy: What about the queen?

Mr Sibbald: If you wish to destroy the queen you can do it; if you do not they can settle that question the young one will generally be left.

Mr Pettit: We are back to the question of management again. My hives are in rows and there is barely room between the hives in the rows for me to stand so I could not set the parent stock aside to the right or left, all I can do is set it behind. I will admit perhaps if your apiary arrangements were such as to allow the parent stock to be set beside the hive it would be better but my arrangement is not so, so I have to do the next best thing.

Mr Dickenson: I think it would be better if Mr Pettit would widen his rows of hives out.

Mr Hall: With Mr Sibbald I agree with the ability of that paper but Mr Pettit is going to put his bees so that there is room on each side. We always put them on the side and the second shaking is invaluable, no matter what you want them for. If you put them behind instead of at the side there are a lot of young bees confused ; they get lost and sting and various other things. You give them an empty comb. Please leave some uncapped brood in it and your bees are contented. My experience is sometimes they are very discontented ; they won't stay there and I am not there to look after them and if they have lost their queen they can rectify the matter ; without that they keep trying to push up.

Mr Newton: I can endorse Mr Hall's words as regards the brood. I

have practised putting in a card of unsealed brood instead of an empty comb and I found the bees were far more contented and went to work in better shape than on a full set of starters or if there was an emptv comb put in the centre, and in every case I think the comb was as much worker as drone comb.

Mr Holtermann: I would like to ask Mr Hall whether he has any trouble in putting in that card of brood and eggs? any tendency to swarm earlier?

Mr Hall: Last year out of forty stocks we had only two of the "shook swarms" that ever attempted to swarm.

Mr McEvoy: Sometimes it is the old queen and they get lost, but by putting that in they have the material to start another. They stay better. It is necessary to have that.

Mr Sibbald: In the next case we have a clipped queen and she is lost and what will the bees do? Perhaps they will join in with the neighboring colony. In the other case you put a frame of brood in and they have there something to raise a queen from, and suppose you have got an old queen in there and a shaken swarm, the first thing you know they will hatch a queen and they will swarm out and perhaps take another swarm out.

Mr Hall: Allow me to tell you, I have lost several queens and I have been very busy and couldn't attend to things and I simply put in the very young brood into that and they started a queen cell and fifteen days after that the queen hatches but the bees are pretty old and they have lost the swarming fever and stay at home.

Mr Shaver: Will they always raise just one queen cell?

Mr Hall: No sir, from two to one hundred.

Mr Shaver: Then you get your swarms?

Mr McEvoy: I can do much better by putting in that frame of brood.

Mr Pettit: When I first started this shaking of swarms I tried the frame of brood a little. I must admit I didn't test it very thoroughly, but the experience I had at first set me so against it I didn't go any farther. I found they started queen cells from this young brood at once and swarmed out the next day.

Mr Hall: In that case your queen cell would be pretty far advanced before you did it.

Mr Newton: I have tried that this year and with the same success as last year. I never had a swarm issue from those hives that I have left the brood in.

Mr Dickenson: I think perhaps locality might have something to do with that. I think the danger in a good locality where the shaken swarm is about to swarm is that by putting in the frame of brood it might lead them to swarm.

Mr Holmes: My experience does not favor the card of brood in the centre of the chamber; it gives them the inclination to swarm.

Mr Byer: Isn't there a good deal in how far the cells are developed before the change took place? With the right cells my experience was when I shook them out the bees swarmed out the next day.

Mr Sibbald: That is a point we have missed and it is a good one too. As soon as the queen cells are started and from that on to five days is about the best time to shake.

Mr Hall: If you only go out once in seven or eight days some of them have got the cells started for six days.

Mr Sibbald: Shake them as soon as you see the egg. If you shake then you don't need a card of brood to keep them quiet.

Mr Morrison: The difficulty is overcome when a man shakes if he finds a number of bee cells pretty well advanced and has reason to believe the

swarming impulse has become pretty strong, he had better not put in the card of brood, but if the egg is only just laid, put in a card of brood sure.

Mr Holtermann: The way to shake the comb is to give it the second shake quickly after the first. If you know how to shake you can shake and not use the brush, whether there are Italians on or not.

Mr Pettit: I had considerable experience in shaking as soon as I found the cells. A little later I found this was not necessary ; and when I found nothing further developed than eggs I simply destroyed all preparations for cells

Queen-Rearing in England

By F. W. L. Sladen, F. E. S.

BREEDING FOR IMPROVEMENT.

Improving our bees.—The fact that we are unable to decide exactly which drones shall meet our queens does not seriously interfere with the improvement of our bees. On the other hand, it prevents in and-in breeding with its evils. Suppose, for instance, an apiary of fifty colonies is kept with a view to breed the best strain of bees for profit. Suppose that in the first year fifty queens of a certain superior strain are reared, also a number of drones of another superior strain for the purpose of fertilizing the queen. Perhaps thirty of these queens will produce workers of the desired cross, the remainder of the queens being fertilized by drones of other strains. In selecting his breeding queens the following year, the bee-keeper will, as before, be careful to pick out those whose colonies show the most good points. If there was no flaw in his previous year's judgment, it will probably be confirmed by his obtaining his best queens from among the thirty correctly paired ones; but should his judgment have been at fault, one of his best queens may be found among the twenty mis-mated ones, and thus he will draw good blood into his strain that it would have been impossible to have obtained had all his queens been fertilized with drones of the selected strain. If the bee-keeper breeds queens and drones from his best colonies year after year, not only will his own strain keep growing better, but all the bees in his neighborhood will in time be improved by his work.

The larger the apiary and the longer the work is carried on in the same locality the greater are the facilities for developing and maintaining any particular strain. In rearing the best queens, careful and constant testing and selection are quite as important as good methods of rearing. Success, of course, depends on the care and skill of the breeder.

The summer climate of these islands is exceptionally cool, cloudy, windy and damp for a bee country; the days are long and the honey flow uncertain and often of short duration. Such a climate affords an excellent test for selection. In the more exposed districts, although fewer fertile queens can be produced, they can be of the highest quality when the harmful effects of natural in-breeding have been overcome.

Best Races of bees.— Although many successful bee keepers use only the native black bee, its profitableness is certainly increased by crossing it with other races the queens of which are more prolific. Some of these races are very good-tempered and prettily colored.

The best-known of these foreign races is the Italian (or Ligurian) bee a native of the mountainous regions of Northern Italy and Switzerland.

The British black bee has already been so much crossed with the Italian bee, that there are few places where the former can be found in a perfectly pure state. Italian queens are particularly prolific from May to July, and colonies of Italian bees are more populous than blacks. Under manipulation pure Italian bees are less inclined to sting than blacks, and they remain quietly on their combs, while blacks rush about excitedly, and often take wing.

Pure Italians are easier and pleasanter to handle, and the queens are found more readily. Italians will bear division into a larger number of nuclei than blacks, and this alone makes them invaluable as a queen-rearing apiary. Blacks, however, build more numerous and larger queen cells than Italians; consequently blacks should be employed in this work. Italian queens reared by black bees are generally larger than those reared by Italians themselves. Italians work on certain flowers, notably the red clover, that are not much frequented by blacks, and the wax-moth larvæ do not flourish in their combs.

Italian bees have the basal portion of the abdomen more or less of a semi-transparent orange-color, and several of the segments bear well-marked bands of short white hair. In America several good strains of Italians are reared by queen-breeders, and in most of these the queens have the abdomen more extensively colored yellow than queens imported from Italy or Switzerland, which, however, vary very much in this respect. In some American strains the whole of the queen's abdomen except the extreme tip is clear orange-yellow and the scutellum is often yellow. when these Golden Italian queens—as they are called—are fertilized by drones of equally yellow strain, very handsome workers are produced having the basal three segments of the abdomen clear orange-yellow and the fourth and fifth segments more or less yellow.

By rearing pure Italian queens from a good imported mother, and allowing them to become fertilized with local black drones, very strong colonies of good working bees are obtained. Still better results are to be obtained by pairing queens from selected crossed colonies. In a large apiary a first-class strain can thus in time be built up, which will well repay the queen-breeder for his trouble.

In my own apiary (a very exposed one) the crossed bees have proved superior to the blacks in many ways. They have dwindled less in the spring, shown better honey-gathering results, and tested in a badly-diseased apiary in Ireland they were found to be better able to resist foul-brood. In many apiaries in America Italians only are kept and bred, and they are preferred to the crossed bees. The American Italians, however, though very brightly colored, have probably a little black blood in them, the bright color partly resulting from the breeder's constant selection of bright-color bees. Crossed bees that are more black than Italian are sometimes found to be more inclined to sting than blacks or Italians. This is, however a fault that can easily be bred out, as I have proved in my apiary. Crossed bees that are more Italian than black are naturally almost as good-tempered as pure Italians.

Carniolan bees, from Carniola (a small and mountainous province in Austria) have the bands of short white hair well developed like Italians, but the ground color generally entirely black. Carniolan bees are extremely good-tempered, and colonies can be examined without either smoke or veil; they are quite hardy, and good honey gatherers and the queens

are fully as prolific as Italian queens. Carniolan bees are a good deal inclined to swarm, but with good management this tendency can be held in check.

Cyprian bees are uncertain in temper and require careful handling. Tested in my apiary, Cyprian bees reared so much brood after the honey-flow, that very little honey remained for wintering, and they dwindled more in the spring than any of the other races that have been mentioned. These undesirable features showed themselves after crossing with Italians and blacks. Cyprian bees more readily develop fertile workers than the other races mentioned, a particularly troublesome tendency in a queen-rearing apiary. In consequence of the above faults I have decided not to breed Cyprian bees in my apiary. By breeding queens from colonies that do not swarm we may reduce the swarming tendency In the writer's experience, Italian queens that have been bred for many generations in this way show marked disinclination to swarm compared with ordinary black bees.

LITERARY NOTE

It has been said that "Success Magazine" offers a liberal education in the affairs of the world. This is particularly true of the May issue, which contains much interesting and and instructive material of universal interest, The leading article, by Vance Thompson, is the first of a series on "Noted Diplomatic Mysteries," which this author is wrting for "Success." In this instance Mr. Thompson has written in his inimitable style of the young king, Ludwig II. of Bavaria, and of how Bismarck's statecraft separated Wagner's betrothed friends. "The Limitless Power of a New World-industry." by Frank Fayant sets forth the claims of the automobile as a factor for hygienic conditions, etc. An excellent description of the fierce warfare that has been existing in the West for years, between the stockmen and the settlers, for the exclusive possession of Uncle Sam's free pastures, where millions of head of live stock are feeding, is given by J. D. Whelpley, in an article entitled "The Long Fight for Free Grass." "The Advance in the Cost of Living" is the subject of an article from the able pen of David Graham Phillips. Among the fiction is "Annabel's Blue Dressing Sack," by Charles Battell Loomis, a humorous story about a struggling author upon whom Fortune suddenly smiles, "The Jawbone Nugget," by the well-known writer Phillip Verrill Mighels, and an installment of the serial story, "Guthrie of the 'Times,'" by Joseph A. Altsheler. There are new poems by Joaquin Miller, Holman F. Day, and Nixon Waterman, a sketch of John L. Bates, the governor of Massachussetts, by Ridgely Torrence "Little stories about the Late Jean Leon Gerome," by Test Dalton, an article on "Vitality and Success," by Dr. W. R. C. Latson, and Part III. of "How the Twig is Bent,"—the conclusion of Marion Foster Washburne's able papers on child culture. There are other interesting articles by Garret P. Serviss, Arthur E. Bostwick, Clifford A. Holt, Hosmer Whitfield, Kate Sanborn, on the cultivation of vines, a criticism of the books of the month by Arthur Stringer, and a fashion department, conducted by Martha Dean, in which are portrayed the newest styles. There is the usual editorial, by Dr. O. S. Marden, the subject of which this month is 'Has Your Vocation Your Unqualified Approval?"

The Canadian Bee Journal and Success one year for $1.75.

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THE
CANADIAN BEE JOURNAL
Devoted to the Interests of Bee-Keepers,
Published Monthly by
GOOLD, SHAPLEY & MUIR CO.
(LIMITED)
BRANTFORD - CANADA.
Editor, W. J. Craig.
MAY, 1904.

EDITORIAL NOTES.

We had the pleasure of attending the Elgin County Bee-Keeper's Association meeting at St. Thomas, April 30th, and of being the guest of our good friends Mr. and Mrs. R. H. Smith over Sunday, needless to say we enjoyed our visit. Mr. Smith had a fairly successful Winter, his bees inside came through with very little loss, those outside at his out apiary suffered most, they were in clamps or wintering cases, each holding four hives and packed around and above with dry forest leaves. His out apiary is situated about seven miles from his home yard, and is managed for extracted honey. The home apiary for comb, mostly. He will start the season with about 250 colonies.

Mr. Smith's apiary work-shop, presided over by his son, Henry, is is the most complete that we have ever come across. The aim and end of every device is to save time and labor; and there seems to be no limit to what can be accomplished by a small turning lathe and a foot power saw. Just now the operation of an automatic reversible extractor by a gas or gasoline engine is engaging this young man's genius, and we have no doubt but it will be a success.

Among the many inventions that we saw was that of an adjustible hive portico with a galvanized wire cloth gate or screen to close the portico when moving the bees, or at other times. This gate or screen is hinged to the bottom of the portico, so that it forms a slanting alighting board when open.

Another useful invention, that we admired, was Mr. Smith's concrete hive stands, these are of the usual cement and sand mixture, molded to form triangular blocks 14 inches long, they are light, cheap, and certainly durable.

From St. Thomas we proceeded to London, and paid rather a hurried but pleasant visit to our friends, Mr. and Mrs. F. J. Miller. The Vaux Hall residence, and apiary, is most picturesque in its situation, about four miles from the city. Mrs. Miller very kindly met us and drove us out. Mr. Miller is a very busy apiarist, not at all afraid of work; he runs two apiaries besides his home yard—about 300 colonies in all; these he manages without help last season, and expects to do the same again this year. He uses the Heddon hive exclusively, and prefers it. He visits his out apiaries once every four days, and controls swarming without "shaking off." He assured me that with the Heddon hive he did not require to handle individual combs in order to see

whether the colony was preparing to swarm, he simply lifts off the upper section or lower section of the brood chamber, and if cells are started he will see them at a glance. Mr. Miller winters outside in cases very similar to those used by Mr. Smith, his bees have come through in excellent condition and with less than 1% loss. He says he is more than ever in favor of outdoor wintering, it is the natural and best way, but it requires strict attention to details in preparation. He feels sure that the extra honey consumed is more than repaid by the steady even growth of the colonies from early spring to clover. Sorry we did not have time to visit Mr. Miller's out yards, and to learn more of his excellent line of management.

Among the supplementary estimates voted by the Provincial Legislature we notice $1,000 for the Fruit, Honey and Flower Show which is intended to be held in connection with the conventions of the Fruit Growers and Bee-Keepers, referred to in our last issue.

An unusually large quantity of stores have been consumed by the bees during the last winter owing to the long periods of extreme cold weather; many that were put away with what their owners considered sufficient to carry them through came out in a starving condition. This calls for immediate examination and feeding where required. Don't trust the weight of the hive; old comb is very deceiving in this way and one may think they have honey when it is merely wax and old cocoons.

Empty hives and combs will, in all probability be extremely plentiful this season with many small bee-keepers: too often these are left, lying around until the combs are broken, moth-eaten and wasted: better far to melt them into wax if they cannot be cared for otherwise, or fumigate them with Bi-Sulphide of Carbon and store them away in a dry moth proof and mouse proof place until they can be used.

How to Patch Combs That Have Been Injured by Mice

A prominent bee-peeper gave us a "kink" along this line the other day which may be useful to someone. Cut off the top from an empty corn or tomato can leaving the edge as straight as possible, use this for cutting out the mouse eaten part of the comb and forming it so it can be easily patched, then cut out your patches of sound comb in the same way and attach them with a few drops of wax, just enough to hold them in place, the bees will do the rest.

Death of Mr. John Wood, Wesley, Ontario

Our readers who are acquainted with Mr. George Wood Director of O. B. K. A. District No. 7, will regret to learn of the death of his father Mr. John Wood ,who passed away at his son's residence, Wesley, Ontario a few weeks ago.

George was on his way home from England, where he had gone on a trip early in January, and so knew nothing of the sad occurrence until his arrival

in Portland, where a message was awaiting him. We can well imagine the shock the intelligence would be to him. Writing us recently he says "I little thought when I was leaving home that I was bidding Father a-last good-bye" but such are uncertainties of this life. George and family have our sincere sympathy in their sorrow.

Hints For Beginners

R. F. HOLTERMANN.

Not since my first season with D. A. Jones, some twenty-four years ago, can I remember a season so full of disaster to the average bee-keeper in Canada as this one. Although we know much more about bee-keeping now than we did then, there are many who have not profited by this. I have one report where a bee-keeper having 63 colonies has not one living left, another who had 164 has only five living, one with 43 has now only six living. Other specialists who have given bees necessary attention have wintered as well as usual. But until bee-keeping is recognized as a business and having something to learn, and to do, to succeed in it these heavy losses are bound to prevail at periods more or less remote. Many who have had heavy losses are anxious to know what to do to save their combs and hives, and perhaps how to build up at the least expense. Combs have been left with mould, dead bees, remains of dysentery and dead brood and bees. I say dead brood, for a colony dying from dysentery has nearly always, if not always, dead brood where effort has been made to repair the exausted vitality of the colony by replacing it with young bees. The first aim should be to prevent other bees from robbing out these empty stocks. I have never been a serious loser with foul brood and have had but little of it but I am afraid of the spread of the disease through robbing and we should take every precaution to prevent robbing for this and many other reasons which cannot now be enumerated. Dead stocks should be taken out of reach of the bees, and unless bees are exceedingly scarce, I would destroy colonies, having only a few bees, as a rule such colonies have wintered badly and become depopulated, they are on the verge of death and are likely to dwindle away or be robbed out. By so treating them it saves care, combs and all the consequences resulting from robbing. Next arises the question of contracting brood chambers. As "York County Bee-Keeper" says "To my surprise found that such (weak not contracted) colonies built up just as fast as those contracted", then he says, "There is something pecular (which I am not prepared to explain) as to how bees retain the heat of cluster regardless of size of hive". There is no doubt that there is much in the above statement, there are seasons when there may be no perciptable difference, but that heat does leave the cluster is apparent in many ways. I have covers of different design and packed differently; time and again I have found frost or snow lying all over the cover of well packed covers, when in others the frost on the centre of the cover had disappeared owing to the effect of the heat from the cluster passing through the packing. The bees do retain a remarkable amount of warmth in the cluster, but to retain it they must cluster closely together, and as temperture outside falls the cluster must contract. I use a tight fitting

division board and want no other, but I would sooner have a loose division than none at all, I even nail a heavy piece of felt on the outside of the board for added warmth, another reason however why I like to contract the hive is to prevent robbing, After cold nights followed by warm days, the strong stocks become active more quickly and they may rob the combs outside of the small clusters before the small clusters have become sufficiently active to defend the combs. There may be less danger of this under the vigilent eye of "York Co. Bee-Keeper" but there is always a danger of this. My next care would be to clean and preserve the remaining comb, brush dead bees away, those in the cells cannot be brushed, but hang the combs in a dry place with heat, this will put the combs in good shape and dry the bees which then should be shaken out by holding the comb sideways and tapping. Many a swarm absconds because they are hived on comb in bad condition, uncap brood and shake it out when you can or, better, destroy the comb. Keep the best comb for hiving swarms, the poorer give to colonies as they require more room. Cut out and melt up all old comb with cells turning glossy crooked comb, combs with even twenty-five per cent. of drone comb, no bee-keeper is rich enough to be able to afford to keep such in stock, they will "eat their heads off" in a short time.

Honey that cannot be fed to the remaining living stocks within the next month should be extracted or it will granulate and be of less value than nothing, a positive injury. Warm the combs, uncap deeply and extract.

Remove bottom boards from the hive, pile body upon body, or, supers with combs having the space necessary in the hive between each comb, put a close fitting cover or bottom board with entrance closed and upon it a queen excluder and upon this pile the hives with comb, say eight or ten high, paste paper over the joints between hives, put an empty super on top of the pile and in it put a saucer full of bi-sulphide of Carbon, cover the super and allow this to evaporate and settle through the pile to destroy the moth eggs and larvæ. Repeat this every thirty days until the combs are used or warm weather has passed. Be careful not to allow the carbon to evaporate in a place where there is a flame, it is explosive.

How to increase at least expense must be left to the next number.

P. S. Look out for strong colonies, we may not have much fruit bloom.

NOTES AND COMMENTS

By a York County Bee-Keeper.

OPINIONS OF A VETERAN AS TO STYLE OF HIVE TO USE.

In a short but interesting article in April American Bee-Keeper, that well known and extensive apiarist, Mr. W. L. Coggshall of N. Y. expressed himself as follows on the hive question :—"I have five apiaries with dieffrent sized frames—bought from different parties. Different frames require different manipulation, and that is about all the difference I see in different hives. The first requisite to success is the honey source, second the man, and appliances third." From my limited experience I would certainly endorse all of the foregoing, and I have lately been inclined to think that we are apt to ride our particular hobby a little to

hard whenever the hive question comes up for discussion. Observation teaches us that while one man makes a success with a certain style of hive, another man will pronounce the same hive a failure. I honestly believe that with proper manipulation adapted to each style of hive almost uniform success would be obtained and if I were to start bee-keeping and had to get all new supplies, it would be a toss up as to what style of hive to use.

Speaking of some hives made in 1868 that are still in use, Mr. Coggshall says, "I beg to say that I honestly think that a square joint is better than either a mitre or dove-tail for durability and they are certainly cheaper." Surprising that so many extensive apiarists have the same opinion. Have often wondered why nearly all supply dealers push the dove-tail to the extent that it is done, Possibly because the ordinary planing mill is not equipped for this sort of work.

OVERSTOCKING

Mr. Alexander of N. Y. has an article in March "Review" in which some rather extreme views are expressed re the matter of overstocking. He says that for some time, in common with most other bee-keepers, he thought there was great danger in that direction, but he has now become thoroughly convinced that overstocking is only imaginary. In proof of the correctness of his theory he states that last season he kept 700 colonies at the home yard and secured just as much honey per colony as was taken from a small apiary five miles away.

Have no idea what Mr. A's limit for one yard would be, as he states that next season they intend to keep "many more" in the home apiary. In April "Review" Mr. Harry Lathrop of Wisconsin, after telling Ed. Hutchinson, that he thinks it a mistake that Mr. Alexander's article was published, owing to the fact that many bee-keepers will be in danger of being crowded out by others who will accept this argument as a pretext for starting near established apiaries: adds, "the theory that Mr. A. has promulgated has been proven false in a thousand cases on fields that are above the average in honey production." It will be interesting to note what some more of the veterans will have to say on this subject.

Dr. Miller in a "straw", wonders if Coggshall and some others have been foolish enough to keep little bunches of fifty or a hundred colonies five or ten miles off, that might be kept at home just as well. While I am inclined to think that during a heavy honey flow, overstocking would be a difficult matter, yet I am convinced to my own satisfaction that during the spring and fall months, at least in our locality, overstocking is a very easy matter.

In another article Mr. A. advocates feeding syrup to every colony after it is put out of the cellar, every day for thirty or forty days. This practice may explain to a large extent his success with such a large number of colonies in one yard. Certainly some form of stimulating would have to be resorted to here, to keep colonies from starving to death. Just here would say that I positively dislike spring feeding unless absolutely necessary to prevent starvation. Mr. A. says it is not necessary to feed more than two cents worth of sugar each day per colony. Let's see: Seven hundred colonies at two cents per day for forty days would total $560. Some of us lightweights would have to be pretty sure of a crop before we would care to invest so heavily in sugar.

WINTER LOSSES

From reports received from York and adjoining counties, as might be expected losses are quite heavy. Starvation has been the principal cause of loss and at this date numbers of colonies are very short of stores and no doubt many will yet perish if neglected. Wonderful what extremes of cold and long confinment bees can endure. Have today some colonies in good condition that were outdoors and never had a cleansing flight from November 10th, till April 5th. Stores were first class, if there had been honey dew in the hives there would have been a different story to tell.

PAPER COVERED VERSUS PACKED HIVES

Last season I was much taken up with Mr. A. C. Miller's "papered" hives and had so much faith in their efficacy that I prepared a couple dozen colonies in manner prescribed by Mr. Miller. Results have been very dissappointing and my ardor in that line is pretty well cooled for the present. Half of them are dead and with the balance the winter has had such a benign influence that they can be quite safely handled without veil or gloves. Colonies in packed hives all right along side the papered ones came through in good condition. Had the experiment been conducted last winter results would likely have been different, as I have for some years wintered three or four single walled hives successfully with only a super filled with chaft on, as their only protection. It takes severe conditions and tests to prove these pet theories of ours.

HOW THE BEES ADAPT THEMSELVES TO ALL CLIMATES

Our little friends are peculiar in more than one respect. When it comes to endurance of changes of climate, it is doubtful if there is any other creature that can compare with apis mellifica. Last spring received a number of Italian queens from Texas. Often during our extremely severe winter my mind was on those queens — all wintering outdoors. Was agreeably surprised to find them all alive this spring. More than that they are all in good condition, something, by the way, that can not be said of nuembers right around them whose ancestors have been "acclimatized" for many years.

COMMUNICATIONS

Editor Canadian Bee Journal.

Dear Sir,—

Replying to yours of recent date for report from this district, would say I set out my bees to-day and found 17 dead out of 112, the greatest loss I have had in many years in wintering.

My heaviest loss usually is from the time the bees are set out in the Spring until clover honey is on.

This is a clear case of: 'As thou sowest so shalt thou reap". The colonies had not sufficient stores to carry them through their long confinement of 164 days.

I have gathered reports from many bee-keepers in this district and the mortality among the bees is heavy. Several report all dead and others from 50 to 90 per cent. Many of your readers may ask why did I not set out my bees earlier, the answer is that to-day was the first day in April fit to set out bees: too cold, wet and windy with two or three heavy falls of snow, but prospects are good for clover as the ground has been well covered with the beautiful since the first week in November last until the present time.

W. J. Brown,
April 22nd, 1904. Pendleton, Ont

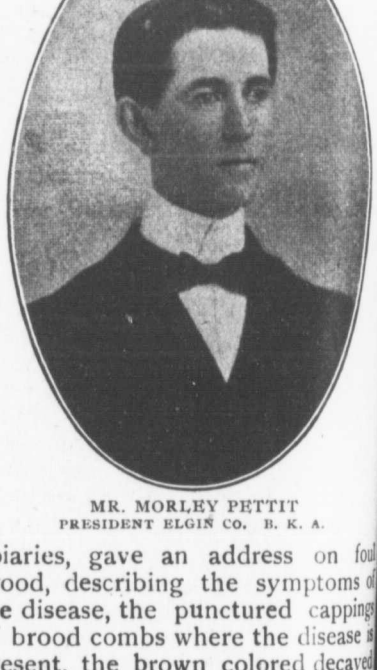
ELGIN COUNTY BEE-KEEPERS' ASSOCIATION

The Spring meeting of this Association was held in the Council Chamber, St. Thomas, on Saturday, April 30th; morning and afternoon sessions. There was a fair representation of members and others present, The President, Mr. Morley Pettit, in opening the meeting referred to the heavy winter losses sustained by many bee-keepers in the district. Messrs. Glenn, McFarlane, Robb, Gibbs, McLellan, Hill, Smith, Martin and others, spoke of wintering showing fair results, both outside and inside, the concensus of opinion being that while the winter was unusually severe the losses were chiefly with the less careful class of bee-keepers, and due principally to insufficient stores and protection. Colonies had dwindled considerably since being set out, owing to bright sunshiney weather, accompanied by cold winds, the sunshine inducing the bees to leave their hives they were chilled in flight, and unable to return. The question as to whether bees should be set out when there is frost and snow on the ground, was dealt with by Mr. Gemmell of Stratford, who considered that one should be guided rather by the temperature of the atmosphere. Speaking of colonies being covered with snow during the winter, Mr. Gemmell said he had no objection to a fair amount of loose snow, so long as the bees were not too long confined. Ice or frozen snow at the entrance should be guarded against.

The prospects for the season were discussed at some length, and were considered as being rather uncertain. A good deal of clover had been winter killed, the season in any case will be much later than usual, and the bees will require considerable nurture to bring them up to the standard for honey gathering when the season opens.

At the afternoon session Mr. R. H. Smith read an excellent paper on the marketing of honey, the leading points of which were that bee-keepers should produce the best possible, and put it up in the most attractive forms.

Mr. Gemmell, assistant inspector of



MR. MORLEY PETTIT
PRESIDENT ELGIN CO. B. K. A.

apiaries, gave an address on foul brood, describing the symptoms of the disease, the punctured cappings of brood combs where the disease is present, the brown colored decayed mass in the cells, the stringy consistency and the peculiar "glue pot" smell." The treatment advocated and practiced by Mr. McEvoy and himself is that if shaking off the bees from the diseased combs on starters of comb foundation, repeating this operation in four days on fresh start-

ers, the idea being to rid the bees of every vestage of diseased honey that they might possibly carry with them from the diseased combs. Mr. Gemmell warned the bee-keepers to be careful in purchasing bees and also in introducing Queens from other apiaries. In the latter case he advised the removal of the Queen from the mailing cage into an introducing cage without her attendant bees, as a safe guard against contagion being carried by these bees, or in the food supplied them in the mailing package.

Three very important resolutions were passed at this meeting, one of censure upon the Upton Company of Hamilton "for seeking to use the good name of 'honey' for placing an inferior article upon the market, as shown by the bulletin of the Department of Inland Revenue at Ottawa, and their analyses, that we put ourselves on record of being opposed to adulteration in any form That a copy of this resolution be sent to Upton's and published in connection with the report of these proceedings."

Another: it was "resolved that this Association condemn the spraying of fruit trees when in full bloom as an injurious practice and a waste of time, labor and money, as well as a detriment to the honey bee, which is an insect of value in assisting proper fertilization of blossom, and likewise contrary to statue law."

Third was: "that we, as bee-keepers, put ourselves on record as condemning the policy of the Government in bonusing the sugar beet industry, to the detriment of the honey industry, which produces a food much superior to sugar, to say nothing of the value of bees to the farmer and fruit grower as fertilizers of blossom, that a copy of this be sent to the Minister of Agriculture at Toronto."

The Meeting adjourned to meet at the call of the President and Secretary.

Bees and Neighbors

Just recently we have been appealed to for advice by a small bee-keeper in town in connection with a suit that was brought against him by a neighbor, on account of his bees soiling her line of washed clothes and linens. The case came up at the Police Court and was dismissed but still there remains the old bad feelings. Troubles of this sort might be evaded in most instances by a little care and forethought on the part of the bee-keeping neighbor. There are always two sides to be looked at, bees can and do make themselves troublesome sometimes.

Editor Root in the last number of Gleanings in Bee Culture gives the following article on the subject which is very fairly put and will appear in the new edition of the A. B. C. of Bee Culture.—

"It would seem almost out of place to discuss this question in a work intended for perusal and study of those who believe, and rightly, too, that bees are not a nuisance; but, as I shall show, there are reasons why we should calmly discuss this question in order that we may avoid trouble that may arise in the future. Certain difficulties have arisen between the keepers of bees and their neighbors. Perhaps the bees, after a long confinement, have taken a flight and soiled the washing hung on the line in a neighbor's yard; perhaps some of his children have been stung; perhaps there have been times when he has been annoyed while in the peaceable possession of his own property by bees coming on to his own premises, and smelling around, as they will sometimes do during the canning season when fruit is put up, when the

aroma of sugar and of the juicy fruits is flowing out through the doors and windows of the kitchen. Perhaps the offended neighbor keeps chickens and members of his feathered tribe have trespassed on the grounds of the bee-keeper. The result of all this is that a bad feeling arises. Complaint is made to the village father's, an ordinance is passed declaring bees within the limits of the corporation to be a nuisance, and requiring the keepers of them to at once suffer the penalty of fine or imprisonment, or both.

In some instances, live stock has been stung; a cow or a calf or a horse may get near the entrances of the hives, which, we will say, are within a foot of a dividing line between two adjoining properties. Perhaps the stock is stung nearly to death Damage is claimed, and a lawsuit follows, with the result that a feeling of resentment is stirred up against the bee-keeper. But this is not all. Possibly the bee-keeper has an apiary in his front yard, bordering on the general highway. A nucleus may be robbed out, with the result that the bees are on the war-path, and begin to sting passersby. Perhaps a span of horses is attacked; a runaway follows; damages are claimed and another lawsuit is begun.

In the foregoing I have supposed possible instances. It is proper to state that they are only types of what has occurred and may occurr again, and it behoves bee-keepers to be careful.

In the case first mentioned (the washing of the aggrieved neighbor soiled by the stains from the bees affected with dysentery), it is well for the bee-keeper to send over several nice sections of honey or offer to pay for the damage done to the washing. Nothing makes woman madder than to have her nice clean white linen, after she has scrubbed, rinsed, and hung it out to dry, daubed with nasty, ill-smelling brown stains. But if our bee-keeping friend will take pains to offer an apology before the woman makes complaint, and show a disposition to make the matter good, trouble may be averted. And right here let me say, if the bees are in the cellar do not set them out on wash-days; or if they are outdoors, and the sun comes out bright and they begin to fly strongly from the hives, send word to your neighbors and ask them not to put their washing out, if it is wash-day, for a few hours. Send along a few boxes of honey, and keep the folks across the way "sweetened up." Ninety-nine neighbors out of a hundred will put up with a great deal of inconvenience, and say, "Oh! that is allright. It won't take long to rinse out the clothes again."

Take for an example, the more serious cases where horses or cattle have been stung. If you have been foolish enough to place your hives near the highway or your neighbor's line fence where he has loose stock, you may have to pay pretty dearly for it before you get through. The remedy is prevention. Always put the bees in a back yard, and not too close to your neighbor's line fence. Be careful, also, to prevent robbing. See that there are no weak nuclei with entrances too large. As soon as the honey flow stops, contract the entrances of all the weaker colonies. If extracting is done after the honey flows, great caution needs to be exercised. The extracting-room should be screened off, and bee-escapes should be provided. Wherever possible, take off all surplus by the use of bee-escapes rather than by shaking.

But we will suppose you do get into trouble. What are you going

to do about it? We will assume that a city or village ordinance has been passed, and that your bees have been declared a nuisance. Do not move the bees if you have used reasonable precaution, but write at once to the Manager of the National Bee-Keepers' Association, whose address will be found in the back part of this book. If you are a member of the Association you will be entitled to protection, and possibly all or part of the court expenses will be paid by the organization. But the Association does not undertake to defend its members against criminal carelessness of such a kind as I have already described; but when the bee-keeper has exercised every precaution, then it endeavors to protect his rights. This means, then that you should become a member before you get into trouble. The annual fee for membership and protection is $1.00.

Well, we will say the attorneys have been retained, and the Association is back of you, Any number of decisions have been handed down to prove that bees are not a nuisance per se; that, when they are properly kept, and due precautions are used, they can not be driven out of the corporation. There are several precedents from various courts even from the Supreme Court of Arkansas, to show that bees have a right to be kept within a corporation like any other live stock, so that any ordinance not in conformity with these decisions can be cleared up constitutionally. Several ordinances declaring bees to be a nuisance have been repealed.

This has been a hard winter on bees. My bees have not had a good fly in five months today.

I have ten dead colonies out of ninety packed away out of doors in course boxes.—**James Martin, Simcoe.**

Tid Bits From Our Contemporaries

HOW STRONG COLONIES ARE MADE TO HELP THE WEAK

After the bees are taken from the cellar, and have a good flight we commence at one side of the yard and examine every colony carefully. Those that are weak in bees, yet have a good queen, we mark; and as soon as they have some larvae in their combs, which is usually in about five days after setting out, each is taken to a good strong colony and set on top with a queen excluding honey board between. If there is no larvae at the time in the weak colony I give it a comb from the strong colony, so as to keep the bees from leaving their queen and all going below, I close up all entrances except that of the strong colony. The bees will divide themselves about equally between the two queens; and in about four or five weeks can separate them, and in nine times out of ten, I have two good strong colonies. For twenty years I have treated all my weak colonies in this way in early spring. Sometimes I have had 100 weak ones on top of strong colonies, and I don't lose five per cent. I think it is a much better way than to try to build them up alone, as there is no trouble from robbers, and they don't require any attention until it is time to separate them. Don't keep them too long as the young bees when over two weeks old are liable to sting one of the queens.

E. W. Alexander in the Bee-Keeper's Review.

RUBEROID QUILTS

Ruberoid is the best for quilts I ever tried, watertight under leaky

covers if you have any, and don't rot. Bees don't nibble it, and is only about half the price of oilcloth. One ply is plenty thick enough Don't use rubberoid paper as the bees will nibble it.—F. W. Penberthy in The Australian Bee Bulletin.

After some debate the clause prohibiting anyone from becoming a member who locates nearer than three miles to a bee-keeper already a member, provided they propose to engage solely in the apicultural business, was retained.—Idaho State Convention.

CARNIOLAN CROSSES

I consider the introduction of Carniolan blood a benefit to Italians and would prefer such a cross to pure Italian blood, but my own experience and my knowledge of these various races leaves in my mind not the slightest doubt but that far better results can be obtained through using pure Cyprians on the female side and Pure Carniolans on the male side, for I am sure this cross gives both theoretically and practically, the greatest combination of energy, hardiness, wing power, tongue reach and prolificness that can be obtained from any of these races, and with these qualities a fair degree of gentleness is obtained through the Carniolan males.—Prof. Frank Benton in the Rocky Mountain Bee Journal.

A SWARM INDICATOR

While looking over the colonies, I noticed that nearly all of the old queen-cell stubs, where bees were making preparation to swarm, were occupied by an egg or a larva. In short, practically all were so toward the centre of the brood nest. When artificial cells are placed near the center any queen at once lays in them. I am inclined to believe that a stick, laid on top of the frames—I mean between the top bars over the center—at the beginning of swarming time, will make a very good indicator, if not an accurate thermometer, as to when the swarming fever sets in. An opening could be made in the end of the hive where it could be thrust in between the frames. In this way the combs could be spread a little to give slightly more room. The stick need be only about 4 inches long. It can be made secure and the hole closed with a suitable wooden button. About four queen-cell cups can be stuck securely to the under side of this stick near the inner end. This will, I believe, make a sufficient indicator so that one can pass through the yard in about 25 minutes and ascertain just what colonies will swarm soon, then go right after and shake those that the indicator shows up right, or where the queen has laid in any of the cells.

I have always noticed that queen cells are to be found more numerous where most space is found between the combs in the brood-nest. Making a little space between the central combs thus, certainly makes an ideal place for the bees to cherish and keep the cups, and the queen will lay in them just as soon as the bees want to swarm. A visit to each yard every six days would be sufficient for the operator.—Frank Coverdale in The American Bee Journal.

My bees which were packed on their summer stands, have came through the winter and spring so far without any loss. In east Whitby township, out of about 450 colonies that were packed out-doors and in chaff hives, last fall, fully 175 are known to be dead, I dare say there will dwindle to about half the 450. W. H. Kirby, Oshawa, April 28th.

HONEY FAMINE IS IN SIGHT

A honey famine is in sight so far as the Ottawa Valley is concerned.

The bees are practically all dead.

They have been starved to death.

Last summer, as has already been told was a very poor summer for bees. It was for time too dry, then for a long time it was too wet. The bees did not get a chance to work. The result was that in the fall they not only did not have enough honey made to yield their owners a supply, but in many cases they did not have enough stored to last themselves through the winter.

In order to try and pull the bees through most bee-keepers had not only to leave the honey that was in the hives, but to feed the bees with sugar.

Despite these efforts most of the bees have died.

Mr. Percy H. Selwyn, of Ottawa, who has a large apiary at Kirk's Ferry, said, that out of eighty hives he had, fifty are dead.

It is also learned that Messrs. Geo. Johnson and Robert Ince, who had 150 hives near New Chelsea village, will only have some dozen hives left.

Mr. Selwyn says he believes that farmers all through the Ottawa valley will be similarly affected.

So unless the bees in other parts of Canada have been more fortunate there will be a severe honey stringency around here.—Ottawa Evening Journal.

In the experience of everyone who is in close touch with the industry, nothing is more plainly taught than that procrastination is the thief of honey. This old enemy of the craft does more to ruin the harvest than rain or cold, than robber bees or robber boys.—Irish Bee Journal.

Queries AND Answers

[Department conducted by Mr. R. H. Smith, St. Thomas, Ontario. Queries may sent direct to Mr. Smith or to the office of the Canadian Bee Journal.]

QUESTION

Do you consider it best to make wax out of comb whereon bees have died in wintering, or to transfer some of the strong colonies after a while into larger boxes and give them a couple of these combs for breeding in?

ANSWER

If the combs are clean worker comb with but little pollen in them I would use them again.

Should there be any dead bees in the combs I would give one or two at a time to strong colonies and they will soon clean them out. If the combs were old and crooked or drone size of cell, render them into wax.

QUESTION

Do you find that the bees work upon and draw out well extracting combs with comb foundation that they have had the previous year on which they had only drawn out a little near the top bar without storing any honey?—"Lochaber".

ANSWER

Comb foundation that is left with the bees any length of time after the honey season is not readily accepted. The following season they will draw it out if crowded but will accept new foundation more readily.—R. H. S.