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NOTES AND COMMENTS

By J. L. Byer.

"Natural comb built below the starter will be built over the wires." To the above clipping from "Gleanings," Dr. Miller adds the comment, "Yes, but the wire will not be in the septum." Glad you have mentioned it, Doctor; I have noticed this for some time, but from the fact that the big guns are continually telling the greenhorns that the practice is all right, thought perhaps my bees behaved out of the ordinary. Personally, when using starters, have not much use for wire in the frames; to be sure, if combs are for use in the super they will not be much the worse if the wire is not in the septum, while they will have the advantage of the extra strength from the fact of the wire being there.

The Term "Standard" as Applied to Hives and Fixtures.

What do we understand by the term "standard" as applied to hives and fixtures? Friend Holtermann's hives are not a bit too large to suit me; in fact, I can knock him out on that score. But allow me to enter a protest when he defends the 12-frame Langstroth in preference to the 10-frame Dadant hive on the ground of the first-named hive being standard goods. Standard in

what, pray? When you answer "frames," all has been said, while in the case of the 10-frame Dadant hive, all hive furniture that will fit the 10-frame Langstroth (standard goods, mind you) will also fit the 10-frame deeper hive. More than that, you can in a pinch put the shallower Langstroth frame in the deep hive, but you cannot put the deep frame in the Langstroth hive, while for cellar wintering suppose there is not so much difference in results between the two styles of hives, yet for outdoor wintering my limited experience is decidedly in favor of the deeper frame.

The National Association's Report.

In speaking of this report, Editor Root refers to the fact of there being no mistakes as far as he had noticed. While I agree with Mr. Root that the report is a good one, yet for the purpose of pointing out the fact that, in common with nearly all reports of conventions, it is not altogether perfect, would refer him to the following: On page 75 Mr. Ferris is made to say, "Give them a robbed queen cell." This will certainly be a hard nut for the novice to crack. We presume it should read "ripe queen cell. Speaking of mistakes, have often wondered during "mix-ups" at conventions, how reporters are able to give us as correct reports as we are accustomed to getting. When considering the report, it may not be amiss to note that while we are assured that there were less than

half-a-dozen Canucks present at the meeting, yet smallness of numbers did not cause them to "hide their light under a bushel." Say, Mr. Editor, if another half-dozen had been present, the powers that be would have been in duty bound to have dubbed the report "International" instead of "National."

A New System of Management.

The most interesting item to the writer in connection with the report we have been commenting upon is the system of management outlined by Mr. Ferris of Wisconsin. Mr. Ferris uses a 14-frame Langstroth hive. As to how he manages, will quote his own words: "This makes a large hive, provide that through the centre with a solid division board which is removable, place a queen in the fall on each side of that division board. I winter two queens in an ordinary swarm of bees in this hive. Then in the spring I work each division up to seven frames full of brood. Then I add on another story, and as each story has a place for the division board, I put in a division board, and in that way I get both sides worked up to an exceedingly strong colony in brood, up to the time when the honey flow begins. At this point I take away both queens, and let them be a few days queenless, and then either give them a ripe queen cell or a queen already mated. In this way you can prevent swarming, I think, as well as in any other way." Mr. Ferris allows the queens free access to all combs till the clover flow, then the young queen freshly introduced is confined to the lower story by a queen-excluder. While the plan requires a lot of work, it seems to the writer one of the best things I have ever read, and with such an enormous force of bees, headed by a young queen, it requires no great stretch of the imagination to believe Mr. Ferris when he says that in poor seasons, when

neighbors were not getting a pound of surplus, he was able to take 200 pounds per colony from stocks treated as described. In the fall the brood nest is again divided with the division board and an extra queen given for wintering.

The Aspinwall Hive.

While nearly all methods so far given to the public re the controlling of swarming are based on some plan of dividing the bees, requeening or other manipulations along that line, Mr. Aspinwall of Michigan has been working in another direction, and now claims to have an absolutely non-swarming hive. The hive is made to take 15 ordinary frames, but only seven are used for wintering. In the spring, as the strength of the colony warrants, combs are given from time to time, until the main honey flow opens. Then all but seven frames of brood are taken away and between each of these frames of brood is placed a slatted dummy $1\frac{1}{2}$ inches wide, as well as one slatted dummy between wall of hive and each outside comb. This entirely fills the 15-frame hive. Section cases holding 36 sections arranged the same as the lower story (only the slatted dummies between each row of sections being $\frac{1}{2}$ -inch instead of $1\frac{1}{2}$) are now given, and when well started another like section case is added. This, briefly, is the hive and management as described by Mr. Aspinwall. Last season, from 35 colonies so treated, Mr. Aspinwall secured an average of 123 pounds per colony, and not one of them offered to swarm. Mr. Aspinwall has been working along this line for a number of years, and feels confident that there is no chance about it, and that his hive will always prevent swarming. While nothing is said as to management in producing extracted honey, we presume swarming would be easier controlled than is the case when producing comb honey, and no diff-

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culty should be met in arranging the extracting supers to procure good results; possibly no dummies would be necessary in an extracting super at all. Of course, this is only a guess, with no authority to back it up.

Temperature of Cluster of Bees in Winter.

In March 29th "American Bee Journal" Mr. Doolittle gives some interesting information regarding experiments conducted by himself in finding out the temperature of bees during severe weather, in colonies wintered outdoors. A high-priced spirit thermometer, registering both cold and heat, was used, so results obtained can be depended upon. During five days of severe weather, with outside temperature as low as 16° below zero, the lowest temperature recorded in centre of cluster was found to be 63° above zero. When the outside temperature was 28° above, inside the cluster there was only a variation of 3°, viz., 63° above. At zero weather the temperature $\frac{1}{4}$ -inch above the cluster was 40°. Mr. Doolittle says: "From this it will be seen the outside crust of bees really form the hive proper," and as to how the heat is retained in the comparatively open cluster, he adds: "This part is one of the greatest mysteries to me there is about a colony of bees." When Mr. Doolittle says the outside of the cluster "really forms the hive proper," many, no doubt, will think this a strong argument against going to the trouble of giving cellar-wintered bees any protection in the spring. Why not carry the case to the extreme, and not give even ordinary hive protection? All know that a colony, say, for instance, on a limb or fence rail, cannot rear brood in cold weather. While nature has made it possible for bees to maintain a high temperature under adverse conditions, to a wonderful degree, yet heat does escape from the top of an unprotected hive. It is a well-

known fact that a strong colony with single board cover will in the early spring throw off enough heat to melt the frost from the board cover. If the heat doesn't escape, what causes the frost to disappear? Again, I have often lifted the sawdust cushion in the early spring and found the bees underneath moving around freely, while with an equally strong colony with single board cover the bees would be tightly clustered. However, the most conclusive evidence, to the writer, is the fact that our limited experience has abundantly proven that in our locality, if top protection is necessary and profitable at one time more than another, that time is during the months of March, April and early part of May.

Cutting Out Queen Cells.

At the Victoria County convention, Mr. Storer of Lindsay told how last season, during the wet weather, in early part of clover flow, he found nearly every one of his 200 colonies preparing to swarm. He felt desperate and hardly knew what to do, but as an experiment he concluded to cut out all the queen cells. With an assistant he shook every comb in the yard to make sure of getting all queen cells, and as a result not 10% made any effort to swarm again throughout the season. While I am not positive about it, yet I would venture to guess that if Mr. Storer tried the same plan 50 times again, he might never secure like results, yet the fact remains indisputable that cutting out queen cells will quite often discourage swarming. Markham, Ont.

"We may sometimes be tempted to go round a mountain; it may seem easier. But let us remember that only by climbing to the summit do we get the broad view. From the heights of surmounted difficulties we catch glimpses of the true meaning of life and see more clearly our pathway for the future."—Exchange.

Swarming With No Increase

"Good morning. This is Mr. Doolittle, the bee man, is it not?"

"It is certainly Doolittle, and I keep a few bees."

"My name is Young, and I came up from Alabama to have a little talk with you on the swarming matter."

"Are you able to control swarming, Mr. Young?"

"No. If I had been, I should not come up to your cold climate to talk the matter over with you."

"But you know some claim that they can work so that they practically have non-swarming."

"Yes, I am aware of their claims; but after studying on and trying very many of these anti-swarming plans, I find they all fail sometimes, for it is natural for bees to swarm. So I have concluded to let 'em swarm."

"Yes, I see; and that is the way most of us conclude sooner or later."

"That is right; but I have as many colonies as I wish, and so do not desire any increase. I have a method by which I hope to have no increase, and yet allow of natural swarming."

"That so?"

"Yes, and my object in coming to see you was that we might talk it over together, to see whether you thought this method would work well."

"Very good. I am in a listening attitude."

"When a swarm issues, hive it in an empty super; and top of this put another super, with sections filled with comb foundations. As soon as the bees get settled in these, take them and carry to their old stand, but instead of putting them on the old bottom-board, put them on top of the

cover to the old hive from which they came, letting the hive-cover serve as the bottom-board for the new colony."

Don't you have any frames or anything of the kind for comb-building in the empty super, under your super of sections?"

"No; for as soon as the swarm accepts their new surroundings and begins to draw out the foundations in the sections, and before the queen has a chance to lay any in these sections now being drawn, I expect to carry out my method by removing the hive-cover, which separates the two colonies. Then I will take out the empty super and let the super of sections, in which the bees are at work, right down on the old hive from which they came. You understand what I have done so far, do you not?"

"Yes; go on."

"Now, does it not seem plausible that the bees would keep right on at work in the sections they have commenced in, and the queen go down into the hive from which she came, and after destroying the queen cells there, the colony be satisfied, and continue work right along in the sections without any further swarming?"

"There is a possibility that this method might work in Alabama, but it will not here in York State. If I were in your place I would try a few colonies that way, and that will tell you for certain as to its being applicable to your section of country."

"Why will it not work in your State?"

"Because the queen would not go down and destroy those queen-cells, unless there should come a great dearth of honey just after the swarm issued—not but that she would go down; but the bees of the swarm, together with those which had already were emerging from the brood in the hive would bring back the swarming fever again, and the next day or two

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they would swarm; and even should the queen destroy the cells, or cause the bees to do so, if the yield of honey was not so great that all colonies gave up all idea of swarming in their mad scramble for honey, the bees would start queen-cells again; and as soon as they were ready they would swarm a week or so later, coming out as a prime swarm, the same as they did at first. I have gone all over this ground, and much more like it or very similar to it, and have found that there is always danger from swarming by any plan that returns the old queen back to the brood again, together with the bees that went with her in the swarm. But whenever the queen is kept away from the brood till all the brood is sealed over, or all the bees which went with the swarm are kept away from the old hive, and their queen returned, we can be quite positive that no more swarms will issue that season, unless the same is long drawn out by a moderate flow of nectar."

"Well, what shall I do?"

"I have overcome the difficulty you seem to be in by putting on the sections quite early, so as to retard swarming as much as possible; then, when the time for swarming came, I set the hive from its stand, and put an empty one in its place, having dummies in it to take the place of four of the frames, if the hive used is a ten-frame Langstroth, which is as small a hive as I should use if I were working on any of the plans which contemplated no increase in the apertures. Now set the super of sections from the old hive and look over the brood-combs and all that you find that are not more than one-fourth full of brood, and all that do not have any brood in them, put in your new hive. In an ordinary season and with the ordinary queen, you will find from two to four such combs; and these, to-

gether with the needed frames filled with worker foundation in wired frames, will make you six combs new in the hive, which, with the dummies, fill the same. Over this hive put a queen-excluder and top of the excluder set the super of sections. If the sections are of the open-top kind, put a sheet of enameled cloth over the whole top of the super, except a little place large enough to allow two or three bees to pass at a time, and this place should be in the center of the end over the entrance to the hive. Having things thus fixed, shake the larger part of the bees off the comb remaining in the old hive making sure that the queen is in the lower hive when the frames of brood are to be arranged in the old hive, next one side, a bee-space apart, and a dummy or division-board drawn up next to them, when this hive of six or seven combs of brood, with the few adhering bees is to be set on top of the enameled cloth and left for ten days."

"Don't you look for queen cells, and only make colonies in this way that have cells started?"

"No. I can make the change almost as soon as I can look for the cells, and it makes no difference with the plan whether queen-cells are started or not. This going over all colonies once every week looking for queen-cells as many advise, is an endless job. When you and the bees are ready you just go right on and do the work, and you will find that such as have queen-cells started will do no better than those who have not. By going right ahead when you and the bees and the harvest are all ready, you have your swarming all done up at once, and you are ready to go at other work. If, in shaking, you find any queen-cells with larvae in them, or those which are sealed you will want to tear them off, else they may hatch

before your next manipulation and bother you in your work."

"What is the next operation or manipulation?"

"Ten days after making the colonies swarm, you will look over these combs of brood in the upper hive, and take off all queen-cells that you find on them. Some of the colonies will build and take gleanings B J cells and some will not; but it is best to be on the safe side, and look all over. It will not take long; and as the bees will be mostly below, all queen-cells will be easily seen."

"If I am right that fixes the upper hive so the bees cannot get any queen there, does it not?"

"Yes; and at this time you will want to see about the super room. If the sections are getting full put another super on top of them, raising the sheet of enameled cloth to the top of the super last put on. In this way all the young bees which emerge from these upper combs of brood will be run below, thus helping in the sections, while enough will stay at all times to care for the brood properly."

"Then you keep all the bees together in this way the same as I would by my plan?"

"Yes."

"Well, what next?"

"Keep on putting supers between the hives as needed till the end of 21 days from the time of making the swarms, when the dummies are to be taken from the lower hive, and that hive filled out with combs from the upper, when the bees are to be shaken from any remaining combs, and from the hive, and the same stored away for the next season's use, or the combs massed together on some hive worked for extracted honey, or for reserved combs of honey for feeding the next spring."

"Is that all there is of it?"

"Yes, all but one thing; and, that is

if there is any drone brood in any of the combs which go above the queen-excluder, some means must be provided to get rid of them, otherwise they will clog the queen-excluder and dis-
there. I generally do this by boring a half-inch hole at the bottom of the upper hive near the center. In this way the most of the drones and workers which may chance to go out at this hole will find their way in at the entrance below. By using this plan you need make no increase, and yet obtain good results in section honey."
—Conversations with Doolittle in "Gleanings in Bee-Culture."

THE MEN WHO LOSE.

Here's to the men who lose!
What though their work be e'er so nobly planned
And watched with zealous care,
No glorious halo crowns their efforts grand;
Contempt is failure's share.

Here's to the men who lose!
If triumph's easy smile our struggles greet,
Courage is easy then;
The king is he who after fierce defeat,
Can up and fight again.

Here's to the men who lose!
The ready plaudits of a fawning world
Ring sweet in victor's ears;
The vanquished banners never are unfurled,—
For them there sound no cheers.

Here's to the men who lose!
The touchstone of true worth is not success;
There is a higher test;
Though fate may darkly frown onward to press
And bravely do one's best.

Here's to the men who lose!
It is the vanquished's praises that I sing
And this is the toast I choose:
"A hard-fought failure is a noble thing,
Here's to the men who lose!"

—George H. Broadhurst

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WAX PRESSES

Editor Canadian Bee Journal:

Dear Sir,—I notice in March number of C. B. J. that Mr. J. L. Byer quotes Mr. E. F. Atwater as "having passed opinion on the 'German' and other steam presses as being hopeless nuisances when the comb is melted in the machine," and Mr. B. goes on to say that he wishes to place himself on record as agreeing entirely with the sentiments expressed by Mr. Atwater. I too can only say that these gentlemen have rendered a verdict which is very near correct, but we are in hopes of making wax-rendering by steam a success yet. I notice, too, Mr. Editor, that "you are ready to welcome anything that is really an improvement," so I will try to describe my ideas on rendering bees-wax.

Some fifteen years ago the writer constructed a steam wax extractor which as a wholesale renderer, surpassed anything known of, but having no press in connection, knew well that a great deal of wax was thrown away with the slum-gum. There has, however, been a press added to the renderer this past winter. It is not by any means perfect, but is edging that way, and for capacity it is very questionable if there is a machine on the market to-day which will do the amount of work it will in a given time, and give as good results.

When first contrived there was only a syrup barrel used in which to do the rendering, but have now a tin box 21 inches square by 30 inches deep. There are four racks so proportioned that when in place they fill the said box and are composed of a tin bottom 20 inches square with railing all round, 4 inches high; on each tin bottom there is a second bottom of wooden

strips which allows the steam to pass through, and also the melted wax to run off. There is a coarse canvas 36 inches square spread into each rack and the chopped-up comb thrown into it, fold in the edges of the canvas and place the first rack on three wooden strips, say 1 inch square, and about 18 or 20 inches long in bottom of renderer, fill each rack as described and place them on top of one another until the four are in place if all are needed, cover up the renderer with a canvas and then put on a tin cover, which may need a little weight added to prevent the steam from escaping too much. There is steam connection near the bottom of said renderer with a little boiler, and by opening a tap steam is admitted in quantity to suit the operator. The renderer when in use is tilted a little forward so that the wax in each rack will run to the front and fall free to the bottom, where it finds an exit thence to a vessel sitting in a tin into which a breath of steam is also admitted which keeps the wax melted until the receptacle is full enough, when the wax flow has to be shut off and also the steam until the vessel containing the wax is lifted away and replaced with an empty one. After this has gone on for probably an hour, the steam is shut off and the slum-gum in each of the racks stirred up a little to be sure that the steam is getting through it well, after which it is steamed say 30 minutes, when each canvas is neatly folded over the slum-gum and put into another tin box which is 16 in. cube; in the bottom of said box there is a series of wooden strips (a la Gemmill) and on those strips the first canvas containing the steamed slum-gum is placed, then a sheet of heavy tin 15 inches square, and another set of strips and the next canvas and so on till all are in that is going to be pressed. There is a fairly well-fitted follower put in the mouth

of the box containing this combination, the box is shoved into the press, steam admitted for a time before any pressure is applied and steamed all the time of pressing. There are four springs used to keep up pressure after the power has ceased to be applied; those springs collectively will carry fully a ton weight, but should be stronger. The reader will understand that we can be rendering in one box and pressing in the other at the same time, but for a small business the one box would do say 20 or 21 inches square and about 16 inches deep. In that case, after steaming, the racks could be left out and put the slum-gum to press as above described.

In this largest box of mine I will be able to scald two bee hives at once by steam, when I see fit to do so, and for the press I think it will be useful for taking the honey from cappings, but would use cheesecloth instead of canvas.

I think probably steam could be generated for running this machine by having the lid of a common wash boiler soldered on, and have it piped to where wanted, it of course, would require an opening for feeding with boiling water. I succeeded in buying a second-hand 2-horsepower boiler for little money, and find it convenient.

I maintain that steam is in every way a much safer and better system of rendering wax than by boiling. In using the German press I always first boiled the comb in a boiler and the same with the Hatch-Gemmill press and frequently had cakes of wax with quite a large quantity of small granules of wax in the bottom of the cake, caused by overboiling, I supposed, as I don't find it following steam rendering. Then in boiling old comb, there is great care required both to keep it from burning unto the bottom of boiler and also to keep it from boiling over.

This machine underwent its initial

test on February 6th, last, the coldest day we had all winter, the mercury having been about 20 degrees below zero all the previous night and about 22 degrees that morning, a most unlikely day for such work, but Mr. G. A. Deadman of Brussels was calling on us and we were anxious to give him a demonstration, and to him belongs the honor of turning on the steam, or "touching the button," as it were.

DAVID CHALMERS.

Poole, April 11, 1906.

CONTRACTION WHEN HIVING SWARMS.

"Canadian Beedom," in the "American Bee Journal," seems rather inclined to cross swords with our friend Frank Adams on the subject of contracting swarms for comb honey. We copy from the "American" as follows:

"Frank P. Adams, of Brantford, is one of our rising young Canadian beekeepers, who, last season, managed a large apiary exclusively for comb honey and queens. In the December "Canadian Bee Journal" he has the audacity to rise up and criticize some of the old-established ideas about comb-honey production. If he had not produced about 10,000 pounds of comb honey in his one yard last summer we might be tempted to advise him to "go away back and sit down." As it is, we shall proceed "to pick his bones."

Mr. Adams criticizes the method of contraction of brood-chambers when hiving swarms for the production of comb honey. Strong swarms, he says, "instead of staying put in the little brood-nest, fool their time away in repeated attempts to change their quarters, and try the operator's strength and patience in an endeavor to get them back to work again." I have had little difficulty on this score where they were given the whole brood-chamber for three or four days, or even a week, then contracted. Aspinwall recom-

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mended, at the National, contracting in a different way by separating the combs with slatted dummies instead of crowding the combs to the centre and dummies at the outside.

That they fill this brood-chamber quickly and swarm again, as Mr. Adams says often happens, is a serious objection to the contracted brood-chamber. But the next objection I can not see how to avoid; whatever will really increase the profits of the apiary I am prepared to do or hire done, if possible. I mean where he says:

"There is another objection to the contracted brood-nest that becomes serious as the number of our colonies multiply, and that is the work of going through the recently-hived swarms for the purpose of taking out part of the frames and replacing them with dummies, and again after the honey-flow taking out the dummies and putting back frames in their place. The work in a fair-sized yard is enormously increased if we must be constantly tinkering with the brood-nest. In the spring, before the honey-flow is on, it is profitable to go through the yard and make use of every little kink we know of in order to build up colonies to their maximum strength, but when the flow commences there is plenty of work with the swarms and supers to keep our time fully occupied."

By "swarms" in the last sentence, I think Mr. Adams cannot mean natural swarms, but rather shaken or some other sort of artificial swarms. I look back on my years of experience with natural swarming as on a dismal nightmare. Mr. Adams says further:

"In many localities the flow shuts off as soon as the clover and basswood is through blooming, and it is only in favorable years that the fall flow is sufficient to keep the bees from drawing on their stores for late brood-rearing. With such conditions, it is evident that winter stores must be se-

cured from the white honey-flow, and unless part of the yard has been put to filling frames to supply the rest in the fall, our only recourse is the sugar barrel. Under these conditions we might just as well have a few frames filled out in the brood-chambers while the flow is on, so as to supply them from supers."

This reads well, and often works all right, but when the flow stops unexpectedly we have these brood-chamber combs filled and sections only partly filled. It would seem to me the more cautious plan to allow room for only one brood in the brood-chamber, and when sections come off add combs of honey from elsewhere. Mr. Adams continues:

"Big swarms mean fast work in the supers, and we are unable to build up our colonies so that the hives are crowded with bees from top to bottom, then it is always possible to unite two weak colonies; so that their combined forces will hustle the honey into the supers much faster than they would have done had they been hived separately, and if our swarms are strong—very strong—it will be found that eight Langstroth frames filled from top to bottom with foundation are none too many in the hive-body, and that a colony so fixed, and with a good queen, will go ahead with the work in the supers at a surprising rate, and, having plenty of room below, will go into winter quarters stronger in bees and require less feeding than one that has been contracted down."

After all, Mr. Adams and I are not so far apart, for my idea of a contracted brood-chamber is a 12-frame contracted to about seven frames. All this goes to show the complications introduced, and corresponding skill required, for successful comb-honey production."

Two things to think of: Death and eternity.—Henry Van Dyke, D.D.

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EDITORIAL NOTES.

We have pleasure in presenting our readers with a photo of Mr. Denis Nolan of Newton Robinson, in connection with his paper before the recent Ontario Bee-keepers' Convention. Friend Nolan comes of good and successful bee-keeping stock in Simcoe county, where he has been secretary of the local Association for a number of years, and also O. B. K. A. director for the district.

✦

Outside winterers have had rather the best of it last winter.

We are more than pleased with the results of the deep bottom board, giving a $\frac{3}{4} \times 12\frac{1}{2}$ space under the frames and a corresponding entrance. The wintering case and packing of forest leaves of course contracted the outer entrance to 4 x 3-4. Every hive fitted up in this way came out clean and dry, and there was quite an apparent difference between these and a few with 3-8 x 12 1-8 space and similarly contracted.

✦

The Department of Agriculture is evidently going to take up the matter of foul brood, and make an effort to improve the inspection of apiaries in the province. The Minister of Agriculture, Hon. Nelson Monteith, recently called the President of the Ontario Bee-keepers' Association, Mr. H. G. Sibbald, Secretary Mr. William Couse, with Mr. J. B. Hall, Woodstock, and Mr. F. A. Gemmill, of London, and dis-

cussed the situation. As a result a bill has been introduced in the Ontario Legislature, and received its first reading on April 27th, text of which we give on another page.

It will be noted that the principal difference between this and the old act will be in the Lieutenant-Governor-in-Council having the appointing of the inspectors, one or more, as circumstances may require, upon the recommendation of the Minister of Agriculture, and the sole control of each inspector in carrying out the provisions of the act being vested in the Minister of Agriculture, instead of the Ontario Bee-keepers' Association. Whether this is going to be an improvement on the old system remains to be seen; it will, at any rate, relieve the tension in the Association, so evident in connection with this work. The President of the O. B. K. A. has instructed that in future all applications for the services of the inspector be made to the Minister of Agriculture at Toronto.

✦

Very satisfactory reports have come to us since our last issue, not only from Ontario bee-keepers, but from bee-keepers in the eastern and western Provinces. Nearly all speak of the large amount of stores consumed during the winter and the necessity for early attention to strong colonies. For our own part, we think we never saw the bees come out so strong, nor so much brood in all stages at this date. We would emphasize the warning to give attention to stores, especially between fruit bloom and clover.

My bees have wintered well. I only lost one hive out of forty.

W. E. COOLEY.

Manitoba.

Bees wintered fine, only losing four colonies out of 95, and are in fine shape now.

W. G. WOODMAN.

Kingston, Ont.

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Dear C. B. J.—On this first day of May we beg to report to you that we are still doing business, and that the stock came through that peculiar winter in fairly good condition. Loss of colonies in repository, 3 per cent traceable in part to queenlessness. Weather keeps very cool, so that the little pets are not getting much benefit from soft maples now in bloom. Colonies should be carefully watched to see that they do not run short of stores, as the hatching brood require considerable, and the inexperienced bee-keeper sometimes gets a surprise and a shock by making the discovery that some of his pet stock have suffered from hunger during a protracted cool spell. Clover is reported by some as in fair condition, but it's too early to attempt a forecast.

M. B. HOLMES.

Athens, Leeds Co.

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AN ACT FOR SUPPRESSION OF FOUL BROOD AMONG BEES.

His Majesty, by and with advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This act may be known as "The Foul Brood Act.
2. The Lt.-Governor-in-Council upon the recommendation of the Minister of Agriculture may from time to time appoint one or more inspectors of apiaries to enforce this act, and the inspector shall, if so required, produce the certificate of his appointment on entering upon any premises in the discharge of his duties. And the Minister shall instruct and control each inspector in the carrying out of the provisions of this act. The remuneration to be paid to any inspector under this act shall be determined by order of the Lieutenant-Governor-in-Council.
3. The inspector shall, whenever so directed by the Minister of Agriculture,

visit without unnecessary delay any locality in the Province of Ontario and there examine any apiary or apiaries to which the said Minister may direct him and ascertain whether or not the disease known as "foul brood" exists in such apiary or apiaries, and wherever the said inspector is satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the inspector to order all colonies so affected, together with the hives occupied by them, and the contents of such hives, and all tainted appurtenances that cannot be disinfected, to be immediately destroyed by fire under the personal direction and superintendence of the said inspector; but where the inspector, who shall be the sole judge thereof, is satisfied that the disease exists, but only in milder types and in its incipient stages, and is being or may be treated successfully, and the inspector has reason to believe that it may be entirely cured, then the inspector may, in his discretion, omit to destroy or order the destruction of the colonies and hives in which the disease exists. 53 V., c 66, s. 3.

4. The inspector shall have full power, in his discretion, to order any owner or possessor of bees dwelling in box-hives in apiaries where the disease exists (being mere boxes without frames), to transfer such bees to movable frame hives within a specified time, and in default of such transfer, the inspector may destroy or order the destruction of such box hives and the bees dwelling therein. 53 V., c. 66, s. 4.

5. Any owner or possessor of diseased colonies of bees, or of any infected appliances for bee-keeping, who knowingly sells or barter or gives away such diseased colonies or infected appliances, shall on conviction thereof, before any justice of the peace, be liable to fine of not less than \$50 or more than \$100, or to imprisonment for

any term not exceeding two months. 53 V., c. 66, s. 5.

6. Any person whose bees have been destroyed or treated for foul brood, who sells or offers for sale any bees, hives or appurtenances, of any kind, after such destruction or treatment, and before being authorized by the inspector so to do, or who exposes in his bee-yard, or elsewhere, any infected comb honey, or other infected thing, or conceals the fact that said disease exists among his bees, shall, on conviction before a justice of the peace, be liable to a fine of not less than \$20, and not more than \$50, or to imprisonment for a term not exceeding two months, and not less than one month. 53 V., c. 66, s. 6.

7. Any owner or possessor of bees who refuses to allow the inspector to freely examine said bees, or the premises in which they are kept, or who refuses to destroy the infected bees and appurtenances, or to permit them to be destroyed when so directed by the inspector, may, on the complaint of the inspector, be summoned before a justice of the peace, and, on conviction, shall be liable to a fine of not less than \$25, and not more than \$50 for the first offence, and not less than \$50 and not more than \$100 for the second, and any subsequent offence, and the said justice of the peace shall make an order directing the said owner and possessor forthwith to carry out the directions of the inspector. 53 V., c. 66, s. 7.

8. Where an owner or possessor of bees disobeys the directions of the said inspector or offers resistance to, or obstructs the said inspector, a justice of the peace may, upon the complaint of the said inspector, cause a sufficient number of special constables to be sworn in, and such special constables shall, under the directions of the inspector, proceed to the premises of

such owner or possessor and assist the inspector to seize all the diseased colonies and infected appurtenances and burn them forthwith, and if necessary the said inspector or constables may arrest the said owner or possessor and bring him before a justice of the peace to be dealt with according to the provisions of the preceding section of this act. 53 V., c. 66, s. 8.

9. Before proceeding against any person before a justice of the peace, the said inspector shall read over to such person the provisions of this act or shall cause a copy thereof to be delivered to such person. 53 V., c. 66, s. 9.

10. Every bee-keeper or other person who is aware of the existence of foul brood, either in his own apiary or elsewhere, shall immediately notify the Minister of the existence of such disease, and in default of so doing shall on summary conviction before a justice of the peace be liable to a fine of \$5 and costs. 53 V., c. 66, s. 10.

11. Each inspector shall report to the Minister as to the inspection of any apiary in such form and manner as the Minister may direct, and all reports shall be filed in the Department of Agriculture, and shall be made public as the Minister may direct or upon order of the Legislative Assembly.

12. Chapter 283 of the Revised Statutes of Ontario, 1897, intitled an Act for the Suppression of Foul Brood Among Bees, is repealed.

The National Bee-keepers' Association will hold its annual convention for 1906, November, 8, 9 and 10, in San Antonio, Texas; these dates occurring at a time when the Texas fair is in progress, and low rates will be in force locally, for several hundreds of miles out of San Antonio, and at the same time there will be home-seekers' rates available from other parts of the country.

W. Z. HUTCHINSON,
Sec. N.B.K.A.

ANNUAL MEETING ONTARIO BEE-KEEPERS' ASSOCIATION

The President—We will now ask Mr. Denis Nolan to give his paper on "Out Apiaries," and as Mr. Post is not here we will ask Mr. Saunders of Agerton to open the discussion.

Mr. Nolan—In dealing with the question of out apiaries it seems to me to be a pretty broad question and one we might spend a great deal of time discussing, and I don't propose to cover all the ground in this paper. I will just give you an outline of some things that I thought to be of interest and which will bring out the discussion.

OUT-APIARIES.

[Paper by Dennis Nolan.]

In dealing with this question, it might be considered by a great many bee-keepers as one in which they had little interest, as such a small percentage of those who keep bees ever manage out-yards. However, I think if we look a little closer into the matter we will find that it is of more or less importance in bee-keeping.

Only in rare instances do we find persons who are fortunate enough to have a locality, a strain of bees, or some superior system of management, which enables them to keep a sufficient number of colonies in one yard to allow them to be classed as specialists in bee-keeping, or large producers of honey. Bee-keepers who are almost wholly depending on their honey crop as their source of income are desirous that their crop should be of such proportions as to furnish them ample funds for a comfortable living, find that under ordinary conditions such a quantity of honey cannot be produced in one apiary alone. By distributing our colonies in yards away from our home yard we are enabled to allow our

bees a much larger area to gather nectar from, without having to travel great distances. By doing this we can keep a large number of colonies, devote all our time and study to this one work, be a specialist in this particular line, always looking for better things in management, production and marketing of honey, etc., we are accomplishing for the bee-keeping world something which cannot be overlooked, besides turning into a sole occupation a profitable and pleasant work, which in a great many instances is regarded as a mere side line.

From what I can learn, from observation and otherwise, the fewer number of colonies kept in a given area the better results are secured. Taking this as a basis, we will have to determine to our own satisfaction what is going to be the limit of the number of colonies kept in one yard, according to our own management and locality. Speaking on my own experience, I would suggest one hundred good colonies in the spring, which might be increased to one hundred and fifty during the season. To increase these numbers would mean that you reduce the yield per colony, increase the desire to swarm, and have a larger amount of bees and brood to sustain on the nectar of the field covered. To reduce the number means you reduce the income on your investments, viz., cost of establishing yard, cost of maintaining yard, attendance, etc.

In establishing out-apiaries, the first consideration should be locality. The area to be covered by the bees should furnish ample forage without traversing territory covered by bees from other yards, which would place it about three miles from any other large yard. See that the territory has some honey and pollen-yielding trees and shrubs for spring stimulation, as well as full quota of bass-wood, clover, and perhaps a little buckwheat. A locality can

best be judged after a practical test of two seasons, as sometimes a half mile materially affects the yield secured. Next locate the site for the yard, which is an all-important matter. If possible, choose a sheltered spot if bees are to be wintered there outdoors, and have it shady if you desire trees. I prefer no live trees, but set out a half-dozen tufty cedars by standing them in tiles set in the ground; you will see on your arrival in an instant if any swarms have clustered. One of our most satisfactory sites was in the centre of pasture field, about 15 rods from the highway.

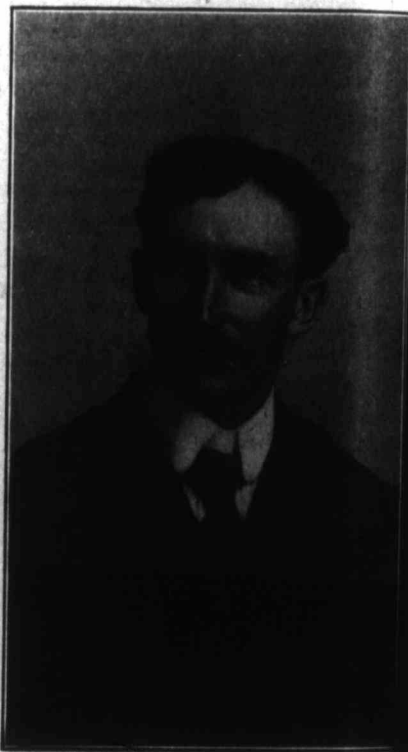
A good tight house, bee-proof and dry, is a necessity, of course, but as out-apidaries are not permanent institutions, we can do very well with any means of shelter for our supers, empty hives, extracting outfit, etc., that sheds rain and storm. A small tent can be made of cheap cotton to extract in, if the building does not exclude robbers, when the season arrives, for undoubtedly you will have considerable extracting to do after the main honey flow is over if you are an out-yard man. Another advantage the cotton tent has is that it gets very warm with the rays of the sun, and honey that is very thick can be easily extracted in cool weather.

We like a good house at our own yards where we can store our honey when it is extracted until we have time to remove it to the railway station; this saves handling, especially when you are busy, but if such is not available the honey can be taken home in 60-lb. tins as it is extracted, and can be strained from the extractor, or after taking it home.

For wintering, if you do not wish to put your bees in cellars or repositories, they can be successfully wintered outdoors, packed in suitable cases, with four or six inches of good packing around the hives. Set the cases about

eight inches above the ground, and protect the yard with a tight fence on the west and north sides six feet high, to break the force of the wind and keep out the snow.

We now come to the most important question of all—managing the bees. In the fall and spring we find the bee-keeper (aided by what he can prepare during the winter months) is quite



MR. DENIS NOLAN

capable of attending to several aparies, but when it comes to the busy summer season, when the bees swarm and gather honey, you will have to decide which plan of the many ways and means suits your individual tastes, your locality, and perhaps hives. Any plan that can be successfully applied to any yard can be applied to an out-yard, only thoroughness is more es-

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essential in your work at the out-yard than at the home-yard, because the out-yard will be for a great part of the time without any attention, and many little things might get the benefit of your watchfulness at home that the out-yard will not receive. The work must also be done systematically and seasonably, not putting off till to-morrow what you can do to-day."

Mr. Saunders—Mr. President, Ladies and Gentlemen: I didn't expect when I came to this meeting to be called upon, so I didn't come prepared to take any special part. I came here to learn instead of to talk. I don't think I can improve on the paper that has been read in any way. There might be a few points on which I would differ. One thing is that Mr. Nolan prefers a very shady place and keeps the hives from the wind. Now, in my experience, I don't count very much on that at all, in fact, I think the wind sometimes is a little advantage, keeping the bees in the hives when they shouldn't go out. He spoke about using a tent. I don't use a tent. I use a good, tight building, bee proof, and I find that suits me better than anything I have tried so far. Then again, in storing the honey he uses 60-pound cans. I find that barrels suit me a great deal better. I can manage to get over the yard in one or two days with the barrels, and I can take it all home at once.

Mr. McEvoy—Do you use glucose barrels?

Mr. Saunders—Yes.

Mr. Byers—Do you wax the barrels?

Mr. Saunders—No, I don't need to wax them. I just fill them up and ship them in the barrels, as they are.

Mr. Darling—You run it right into the barrels?

Mr. Saunders—I generally strain it into a tank and then fill the barrels.

Mr. Byers—Do you always find the glucose barrels satisfactory?

Mr. Saunders—Well, in one case they

wrote me that there was a hundred-pound leakage, but after the honey had been left forty-eight hours at the station there wasn't a tablespoonful left. There was one thing I neglected to say and that is about the hoops. They should be driven on tight and nailed.

Mr. McEvoy—They should be stood on end. It will try the hoops if you roll them in.

Mr. Saunders—Sometimes they are jammed around and the hoops may give a little.

Mr. McEvoy—It is very important that they rest on the ends. If you don't the pressure comes on the centre.

Mr. Deadman—On the shade question I notice these gentlemen differ somewhat. I was under the impression that it was not a good thing to have an apiary in a sheltered place. As far as wind goes I think if the wind is in the right direction—if your hives are facing east and the wind comes from the west I think the bees do not get any discouragement. I had my apiary in an exposed position, and every year I had trouble getting the colonies up to the full strength, and when other people had supers on mine were delayed. I have them in a sheltered place now and I find it much better. If the bees are facing east and the wind is from the west there is no hindrance there. I think Mr. Nolan is right.

Mr. Nolan—I have them facing northeast.

Mr. McEvoy—Mr. Nolan has one apiary that I would certainly want sheltered. That is the home apiary.

Mr. Nolan—What I meant by shelter wasn't by having them set just around a cluster of trees, but I want something in the nature of a wood, or bush, perhaps a quarter of a mile away. Now, this yard is facing on the top of a hill and the wind has a sweep on it and they don't do quite so well as they do down in the sheltered place.

Mr. Holtermann—With regard to

shelter, not referring to outside wintering, but after making a pretty thorough test, and this applies more to out apiaries in the summer, I am satisfied that shade is a very important consideration in the prevention of swarming. I like to put them in an orchard where the morning or evening sun strikes them, but where they are sheltered in the heat of the day. I am thoroughly convinced it is an important consideration in the matter of not swarming.

Now someone said something about glucose barrels, and someone asked me how to prevent leakage. I filled this year more than sixty of these glucose barrels and they have been shipped, and there has been no leakage. One time I lost on one shipment \$60. I didn't know how to handle them. I may have my difficulties yet, but to begin with you want to buy good barrels. Don't buy barrels that have been standing outside where they have been rained on and have been dried out for the wood swells, and when it dries again the hoops are loose. If you get the barrels right and dry they don't need any paraffine at all. I run the honey directly into them and then cork them up. I find that the honey you treat this way will remain liquid much longer than if you put it in tanks first and which is exposed to the air.

Now I am satisfied we can run bees without swarming. I had 20 natural swarms this year, but you want abundance of entrance and plenty of super room. One super is not enough; we had three or four supers with twelve frames in them and you want plenty of ventilation in the supers. When you haven't plenty of ventilation the bees are dependent on the air that comes through the brood chamber and that gets foul and makes them uneasy and sets up the swarming impulse, but when the air is fresh you can keep them contented. Now by having plenty

of room in the supers you can keep down swarming to a very great extent and that is one of the important things in our apiaries.

Question—Do you find these barrels absorb a lot of honey?

The President—I will tell you what confectioners do. Some of them use steam and you can imagine how the inside would be left and if you get that barrel it will leak and you will have to drive down the hoops if you leave it in a shed or any dry place. It stands to reason that it will absorb some of the honey because honey is susceptible to moisture. When the barrel dries it seems to dry the honey right into it, or rather the honey draws the moisture out of the wood.

Mr. McEvoy—If you steam them they are not fit to put honey into, and they are not fit to paraffine. There are some barrels where quite a quantity of the glucose has not been drained out, and if you get them in that shape they are all right, but if they have been steamed they are not. I remember about 30 years ago I bought some oak barrels and filled them with water to swell them, and in my ignorance I spoiled them. The honey drew it all out.

The President—There is another point in that. When they steam the barrels they take off the coating of paraffine that was put on by the manufacturers. If the glucose is taken out cold it makes a difference, because the original paraffine is right there, and they are as good as new.

While we are on the subject of barrels, I may say that I had a little experience this summer with barrels that had been exposed to the weather. I found that after they dried it was possible with some of them to drive the hoops down so as to bring the ends of the staves together, and I learned afterwards if I took a thin chisel and a piece of hard twine and drive the

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twine into the crack and stop any crack up and then fill and plug them, and then drive the hoops down, you can fix the barrels.

Mr. Byers—A dealer told me that he always comes out 25 to 40 pounds short in a barrel of honey, and I believe we should have some way of stopping this.

Mr. Chisholm—I had some experience last year in this. I took it out of a barrel that had been in two years to see how much the people would likely take off, and I was particular in weighing it, and it only ran short six pounds to what it weighed the year before. Of course, I had it waxed over on the inside. I understand Mr. Byers hadn't in the case he speaks of.

The President—There might have been some difference in the scales.

Mr. Holtermann—I would like to ask Mr. Saunders how he prevents swarming in out-aparies.

Mr. Saunders—I can't prevent it altogether. I start at home getting the supers and everything ready. My hives are fitted with a large-sized top that will hold a sawdust cushion. In going over them in the spring the first operation is to see that they have food and remove any dead bees that have collected. I crowd them up with the division board, leaving them if they need it a frame behind the division board with food, so they will not starve for a couple of weeks. In looking over them I always make a practice of clipping the queens. To save time I always mark them, and when I go around I know whether the queen is clipped or not. Then the next visit I go around, giving them more room if they need it, and if there are some hives that are fuller of bees than others, I commence to equalize them, get them as equal as possible. Now, in regard to the queens, I always have a few hives that I watch particularly, and if they prepare to swarm I keep a

frame with queen cells, as many as I can, and put one frame with a queen cell in the hives I intend to keep for increase. The other hives, as they commence to get strong and preparing to swarm, I watch carefully to see when they commence to build queen cells, and if I see a sign of them starting at all, I take three frames from them, replacing them with two of foundation and one drawn comb in the centre, and I make use of these frames that I take from them, putting them into those hives I have started for increase.

The President—Do you destroy the other cells,

Mr. Saunders—Usually. Now by taking three frames and three hives I make an increase of one, and I usually keep that hive from swarming. I don't say altogether—I may have 25 or 30 per cent; if there are any queen cells I take the three frames.

Mr. Holtermann—Where do you put the foundation?

Mr. Saunders—I have been putting in one drawn comb. I notice that the queens go right along and lay, and they fill the foundation also in the centre of the hive. The main thing is to get the queens laying. Once she stops laying and wants to swarm you might as well change them.

Mr. Pettit—Do you put the comb in the centre of the hive?

Mr. Saunders—Usually. When I take them in the fall I find those foundations in the centre are often three parts full of honey, and it is a good thing. Usually that way I don't have over 25 or 30 per cent of swarming.

The Golden-all-over bees from the "Swathmore" Apary took first prize at the show held in Liege, France, season 1905. This is the fourth Grand Prize Mr. Pratt's bees have taken in the four great shows of Europe.

VICTORIA COUNTY, B. K. A.

Victoria County Bee-Keepers' Association held their annual meeting at Little Britain, on Friday, April 13th. Mr. R. F. Whiteside presided. There was a good attendance of members and others and a very interesting meeting throughout.

Mr. Whiteside gave a practical talk on the detection of contagious diseases among bees, quoting many authorities on these. In the case of pickled brood he advised changing the queen, or giving the brood to vigorous colonies. He thought this disease originated almost every time from chilled brood. For foul brood he advised the carrying out of the McEvoy treatment to the letter, or the fire where it is exceedingly bad.

Mr. J. L. Byer gave a very valuable paper on "Spring Management." He considers giving plenty of stores in the fall one of the most essential things in connection with the work.

Mr. Jas. Storey gave a paper on "Swarming, its Troubles and Prevention." In fruit bloom he clips the queen's wings, takes notes of the condition of the colonies, cuts out queen cells from any that may be making preparation for swarming, which generally makes them safe until clover harvest; then he examines the brood nest every eight days, noting condition of hive and when conditions demand he swarms artificially. This course he especially recommended for out yards.

"What Shall We do With Our Honey?" was the subject of a paper by Mr. G. R. Hand. Mr. Hand thinks if every bee-keeper would do his duty in his home market, we would not be able to supply the demand.

A question drawer was conducted covering a variety of subjects.

The idea of organizing each electoral district of the province as a district division of the O. B. K. A., and local association with the director as convenor or chairman, was favorably considered as a means of increasing the influence and usefulness of the provincial association and reaching bee-keepers generally.

Each topic taken up was well and intelligently discussed, and the meeting throughout was a very profitable one.

A. H. Noble, Secy.

HOW MUCH, ANYWAY?

In the February C. B. J., in speaking of the development of the home market I ventured to wonder what would happen if the people in York county should use honey at the rate of two pounds per head per annum. In the March issue, page 54, Mr. Byer, alias York County Bee-keeper, wonders in return, how much they do use, anyway, and instances one house which uses 75,000 lbs. per year. Apparently wonders will never cease. Here are a couple more, since it's my turn. First, I wonder if we are supposed to conclude that the average annual consumption per house in York County is 75,000 lbs. Second, I wonder how much of that 75,000 lbs. that house uses is eaten in York County. I may be mistaken, but I have a strong suspicion that the house in question uses that honey in making cookies, etc., for a family of some six million people, quite a number of whom live outside of York County.

Here's a third little wonder that I didn't notice until just now: I wonder how much over six cents per pound net the producers of that 75,000 pounds of honey received?

In speaking of the consumption of honey in my home market, I had reference only to what was bought and eaten as honey, and took no account of what went out in the form of biscuits, etc., of which probably as large a percentage are used here as anywhere.

I have just been devouring a few pages of the statistical year book of Canada for 1904. It makes no mention of the amount of honey produced, but it gives the number of colonies of bees and it gives the population of Canada, and of the various provinces and counties thereof. York County probably uses as much honey in proportion to population as any other part of the country.

know no reason why it should not do so. But here's the point, friend Byer. Figuring that each colony, of bees in Canada produces annually 50 pounds of honey (which I doubt if it does), to give the people of York County two pounds per head would require 135,000 pounds more than their share of what is at present produced. Further, without allowing anything for what is used in the manufacture of biscuits, confectionery, etc., if each person in Canada used honey right along at the rate of two pounds per year (and two pounds isn't much) it would be necessary to increase the production by about 33 per cent to supply them.

Put that in your smoker and smoke

E. G. HAND.

HOW MANY BEES SHALL A MAN KEEP.

Paper Read at National Bee-Keepers' Convention, Chicago.)

This is a broad subject, and I do not suppose that any two in this room would answer the question anywhere nearly alike. As the writer is a specialist with beeyards located in Isabella, Macarta, and Kalkaska, Michigan, where a hundred colonies is about all that it will pay to keep in one location, and where large numbers of bees have to be kept in small yards in some cases, as in our Kalkaska county yards, quite a distance from home, this paper will be from a specialists' standpoint.

I think we will all agree that a large number of bees can be kept more probably in a location that will support several hundred colonies in a single locality than if they had to be scattered at one hundred in a place, as most locations in Michigan compels one to

Now just a word about the man. The writer will expect that he has made financial success with at least one yard, and has learned short cuts, so that when he gets his honey ready for

the market he can take his pencil and figure out all his expenses, so that if he had hired the work all done there would be a profit of say three or four hundred dollars from the one yard; for you will see at a glance that quite a percentage of the additional yards one adds will have to be managed with hired help; and it would be folly to think of more yards until one could make a financial success with one.

Now we will suppose our prospective experimentalist is a suitable person. I would have him add yards just as fast as his experience will admit. I do not think there are many in the business who would be capable of adding more than one yard each year, while many had better not try to add more than one every other year until the necessary experience is attained in managing outyards, then this can be kept up until the desired number is reached. The writer's practice is to establish about three yards near home, then go to another location where the pasturage is of an entirely different nature, and establish more yards, so that if one locality should fail to produce I will be quite likely to get a crop in the other locality. This puts the business on a sound basis. To be sure the honey produced in the yards some distance from home costs a little more to produce, but the assurance of having a crop in one or the other locations every year amply pays for the little extra expense in railroad fares, etc.

Then there is another point of importance, and that is if you like you can keep bees with a profit anywhere in Michigan, so that if one is located where the territory is all occupied all he will have to do is to take a train and go where there is unoccupied territory and establish yards in this way. One does not have to change his place of residence for the sake of keeping

more bees. The writer has kept a yard of bees of less than a hundred swarms fifty miles from home for two years with only eight visits during the two years, and harvested \$1200 worth of honey during that time, and at present has two hundred colonies in Kalkaska county, 105 miles from home, that has been worked successfully for the past two years, so what I write is from a practical bee-keeper's standpoint. In the above I admit I have wandered somewhat from the main subject, and will excuse myself by saying that I am going to tell you how many bees I shall keep under the conditions named above, for you will understand that under some other conditions one might keep more or less bees as circumstances would admit, and now for the number of colonies I shall keep. Here at Remus, where white clover and fall pasturage is the source of our honey crop, we have three yards of a hundred colonies each, this is all we are planning to keep here; then, in Kalkaska county, where red raspberries is the source of our surplus, we have two hundred colonies, these will be increased to three yards, and it looks now as if this Kalkaska locality will support more than one hundred colonies in one yard. In this case our six yards may contain seven or eight hundred colonies, although our number is only about five hundred. With this number of colonies in two locations, where the honey source is of an entirely different nature, one feels quite sure in depending on the bees for a living and a little extra for a rainy day, without burdening themselves with many more as some are doing.

E. D. TOWNSEND.

Remus, Mich.

Brant County Bee-keepers' Association will meet in the Court House, Brantford, on Saturday p.m., May 19th, at 2 p.m.

Chris Edmondson,
President,

W. J. Craig,
Secretary.

A ROCK IN THE BALTIC.

A Remarkable Series of Adventures Resulting on a Naval Mistake.

The careless firing of a new piece of ordnance by Lieut. Alan Drummond of H.M.S. Consteration, while cruising through the Baltic, has led to a series of unaccountable and surprising international complications.

Drummond sighted a new gun on an apparently deserted bit of rock that jutted up out of the sea. To his amazement his cruiser was at once fired on from the rock, and the Russian government demanded an explanation from Great Britain.

The mystery of the whole affair, the presence of cannon on such a spot, the anger of Russia and the importance given to so insignificant a matter—worked on Drummond's imagination and in a moment of headstrong feeling he went to Russia to investigate.

A series of surprising adventures followed, culminating in a scene that defies description.

The whole story is splendidly recounted in Robert Barr's great novel "A Rock in the Baltic," which has just been purchased by The Mail and Empire, and is to be the first novel in the much-talked-of "\$150,000 series" which this enterprising paper is to issue during the forthcoming two months.

This series consists of 12 great novels by the most famous living Anglo-Saxon authors.

The Mail and Empire, with its customary alertness, has secured the right in this district to publish the novels in serial form before they appear in book form, which will afford its readers a literary treat never before offered by any newspaper in America.

No other paper in the city or vicinity can publish these great stories in advance to avoid disappointment, as the edition will be exhausted before all are able to buy. Commencing on Saturday, May 5th, and each succeeding Saturday. These stories will also be published in The Weekly Mail and Empire, commencing May 10th.