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CANADIAN BEE JOURNAL

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WHOLE No.
396

It is more and more apparent that some effort should be made to equalize or distribute, the honey crop of the Marketing of Canada in some of Honey. systematic way. Bee-keepers have made too little effort to place their honey crop upon the market to the best advantage. Last season a small section of Ontario had a very crop of honey, and immediately, without considering the honey crop in general, beekeepers in that district began to dispose of their crop at any figure offering, at a time when honey was not in demand. Light comb honey sold as low as 25c per section for 25c. The editor of the Canadian Bee Journal tried to stop the sale in the market and published a report of the Canadian honey crop, which was copied into many papers. At the same time many parts of the Dominion produce little or no honey produced or sold and a large quantity could have been sold there at paying prices. This should not be. I know one Canadian district capable of taking a very large quantity of honey if we will only make an effort to dispose of it in some systematic way. It may be said, why do not the Shapley & Muir Co., Limited, sell for me. In explanation let me say, they have many other matters to look after. They labor under the disadvantage of having to buy and then sell again at low sale prices, often facing in addition a long distance to Brantford. Men or companies, however strong financially, cannot do business for nothing. But that com-

pany has not done badly in the disposal of honey, as it has handled about sixty thousand lbs. of honey of the season of 1897. Some hold their honey until it is so near spring they know they cannot dispose of it; they then expect others to be able to do so. It must be remembered that these parties have the same conditions to face. If you want to exchange honey for supplies, give your supply dealer, whoever he may be, a chance before it is too late. If you ship to a commission man do so before it is too late, and instead of taking your own neighborhood as an indication, do as men in other lines of agriculture do, find out what the honey crop generally is like and then act.

* * *

Some of the letters written to the editor of the Canadian Bee Journal have been left unanswered, as he was **Under Difficulties** left from the Hamilton convention for a two months Farmers' Institute trip through the Muskoka, Parry Sound and Algoma Districts. He will be back to Brantford if nothing unforeseen happens, about February 3rd. At some future time he will give his impressions of this country and its suitability of bee-keeping and other branches of agriculture.

Wax Production.

The British Bee Journal gives the imports of beeswax during 1896 as £194,630 or about £900,000. It was valued at a fraction under 20c. per lb.

That Comb Crushing.

Reply to D. W. Heise by R. C. AIKEN.

In the November issue of the Journal, page 115, D. W. Heise rather makes fun of my idea of crushing combs to extract them. Friend H. had evidently not read that Buffalo essay, or else there was something wrong with his head.

In the American Bee Journal for November 11th the Chicago markets are quoted, top price, comb 12 cents, extracted 6 cents, wax 27 cents.

Now friend Heise, I suppose you keep bees. Suppose a colony yields you 50 pounds of section honey, it costs you first 50 sections and starters for same, say 50 cents; 2 cases, 30 cents; freight to Chicago, 50 cents; total cost outside of labor, \$1.30. At 12 cents you receive \$6.00 less \$1.30, or \$4.70 for your labor and interest on investment in producing the 50 pounds of comb.

Your extracted will cost you for casing $\frac{1}{2}$ cent, freight to Chicago $\frac{3}{4}$ cent, leaving your net price 4 $\frac{1}{2}$ cents. You must, then, get a yield of almost 99 pounds to equal in cash value your 50 pounds of comb. Which costs you the most in labor; to remove and case 50 sections, or to remove, extract and case 99 pounds? The sections you take off and put in the honey house till a convenient time to case, the other you must extract while warm, and just at your busiest time.

When producing the comb you carry no permanent investment but the stock of bees and hives; but with extracted you have in addition your combs, extractor, tanks and uncapping can or box, an investment which is dead property (not earning) save in good years. Evidently you prefer to do just as I have done for 5 or 6 years, carry a big stock of combs to occupy room and protect against mice, moth and fire, and get no use of them till the good years come again. See?

In that essay I admitted the low price of extracted honey as a necessity in competition with substitutes, but said not a word about "wax advancing" nor of "converting the honey into wax." Please quote me correctly. I argued for reducing the labor expense, which is the great item of cost of production, and also getting that labor outside of the busy season.

Now, friend Heise, I will take it for granted you have an apiary as large as you can care for during swarming season. Next year just buy another 100 colonies and put them in an out apiary with big

brood chambers and so arranged that they will not swarm. (See that Buffalo essay.) Put on supers, with "bait combs," that you prepared during the winter, with room enough to take all they may gather, then let them run themselves till the honey season is over.

In the fall, or whenever you have the time, bring in the supers. If they have stored much honey there will be a lot of new comb, but no more than was needed. You can cut out and crush these combs just about as quickly as you can uncap as much honey. When crushed it drops into your uncapping can—made larger of course—and extracts itself. This you can do in the middle of winter if you wish, and the mussy, sticky operation is no worse, but a little more of it, than the cappings obtained the ordinary way.

Thus, instead of having your combs to give back to the bees to "dry" and again bring in and store, you make about two pounds of wax and get the use of your money right away. Then if next year is a poor one your money will come handy to use in other ways. Does it not look reasonable to thus save labor, and put the larger part of that labor outside of your busy season; to be able to double or treble your apiaries and still manage all yourself, and have a winter's job as well as a summer one? That is why not do it the ordinary way; and when it is done you have an article of honey superior to ordinary extracted, and wax of most excellent quality.

It is contrary to all my experience that ready made combs will double the honey gathered, as many claim, or even if doubled to be any more profitable; but I have some experience that says if I can sell in my territory five tons of comb honey, that if I produce and sell liquid of good quality, that is good enough to supplant the ordinary sugars and syrups, and as cheap—or nearly so—for equal quality as the syrups, I can sell 10 to 15 tons of the liquid in addition to the comb. Can you see anything in this? The problem forced on us is not how to get paying prices for honey produced by old methods, but how to meet our competitors that are in the field.

Twenty years ago it took 25 pounds of honey to build a pound of comb and therefore ready made combs saved that much for our surplus, less our investment in these ready made combs. To-day many are getting it down to less than half that, and I believe that less than one-quarter would be nearer right. Can you Mr. Heise, or any other Canadian apiarist,

stand up and say that ready made combs will cause the storing of any more, brood chamber stores included, than when they build comb, save in the rare cases of a very sudden and profuse flow? My experience says very little is gained. I am willing to be convinced, but only by proof. I, too, used to tell that wonderful story of so much honey lost when wax was secreted; but when I cannot get the extra yield when extracting, and find wax secreted and plastered about the hives in useless waste in spite of combs ready made, I conclude I will have to allow of the wasted honey till I get a strain of bees that will not secrete wax.

Bees Diarrhoea

—G. M. DOOLITTLE.

It is asserted by some that the only disease which bees have during the winter that is worth mentioning, is diarrhoea, which appears usually in February and March, after a steady cold winter. That such a state of affairs only exists under like circumstances, has caused some to look upon diarrhoea as the effect of a cause, rather than a disease, myself being one of this latter number. We have also been told that the cause of this disease is pollen, honey dew, cider mixed with the stores, extreme cold, dampness, etc., but it seems to me that none of these are the PRIME cause, for the bees can eat any food that they will partake of, during weather when they can fly every few days and not be effected in the least; while extreme cold and dampness produce no bad effects unless long continued. Let us look at the thing rationally and see if there is not a cause for the trouble not usually spoken of, a cause that does not occur in the native home of the bee. If I am correct, the honey bee is a native of a warm climate, where it has a chance to fly every few days all winter, or where winters are really unknown, and so it happens that we do not see bees soiling their hives and combs at any time, except after a long continued confinement. If we had June or September weather all of the while, would bees die of the so-called diarrhoea, as they often do some winters? All know that they would not. Suppose any person from some peculiar environment was obliged to remain all they ate for two or three weeks, and after nature gave out, would any physician in the land say they had

diarrhoea? I think not. So, then, we see, as nature has made it a necessity for bees to fly to void their excrement, it is their being obliged to stay in their hives longer than nature allows that causes this so-called diarrhoea. If it were not so, why do we read many times from various writers, "my bees were suffering badly with diarrhoea, when a fine day occurred, which gave them a chance to fly nicely and now they are all right?" Also, why do bees not have this disease down in Texas and Florida? Can any reader understand how a bee, just ready to die with such a dangerous disease, can be cured of such an epidemic by a few moments flying, only on the grounds given above? That nature has made the bee capable of containing their excrement longer during confinement in cold weather than in warm, is a self evident fact, and is about the only reason why we can keep bees here at the north at all, for bees will soil their combs and hives in one-fourth the time with a temperature of 70° to 80° that they will in one from zero to 45° above. One reason for this is that with the higher temperature, they remain active, and so consume food to supply the waste tissue, while with the lower temperature, that semi-dormant or quiescent state which requires but little food, and which is so conducive to a long retention of the faeces. If bees are kept in constant commotion from any cause, such as rats, mice, or the apiarist disturbing them too often, they are placed in the same condition they are if kept too warm, and a like result follows; hence quietude is one of the great requisites for safe wintering, when bees are surrounded by environments different from those in their native climate. When bees remain in that quiescent state which is required for safe wintering, a pound of honey a month suffices the whole colony, and in this state a colony would pass five months of confinement and be in a normal condition, but if the colony becomes uneasy under their confinement they will eat from five to seven pounds a month, and soil their hive and themselves so as to cause their loss in from eight to ten weeks from the time they commence to eat so voraciously. Looking toward perfect quietude and a control of appetite, cellar wintering has proven about the best plan, because from the even temperature maintained the bees need but little food to keep up the necessary warmth they require during this period of partial activity which our northern winters compel them to pass through. As but little food is required, the body of the bee easily contains all of the waste material after digestion,

and thus all goes well. Next to the cellar comes chaff packed hives, because, as the bees are surrounded by porous walls, which takes off the moisture passing from the bees' bodies, also retaining the warmth generated by themselves, they are kept at a more uniform temperature than they would be without the chaff packers, thereby lessening the consumption of honey and enabling them better to throw off a part of the moisture contained in their food and to contain the rest till the weather shall be sufficiently warm for them to fly. This mode has a seeming advantage over cellar wintering, in that it allows the bees to fly if an opportunity permits during the winter, but is offset by a more uniform temperature, and a consequent decrease in the consumption of stores in the cellar. Then, outside of the two things spoken of above, if we can have a hive in which the bees can cluster compactly, the cluster have a good queen, each hive be supplied with an abundance of good sealed honey or sugar syrup made from the best granulated sugar, and those on the summer stands have a chance to fly once in six weeks or two months, we shall be quite sure of successful wintering, because all of these things have a tendency toward accomplishing our object of keeping the bees in such a state of quietude that they can contain their forces for a great length of time, for it is my belief that upon this hangs all the secret of successful wintering.

Borodino, N. Y.

QUESTIONS.

What Can I do to prevent burr and Brace Combs in the hive?

- 1st. Heavy top bars.
- 2nd. Exact and correct spacing of frames.
- 3rd. If these do not accomplish the desired end, a slatted honey board with exact bee spacing above and below, will largely prevent burr combs between the board and super above.

EUGENE SECOR.

Use top bars $1\frac{1}{2}$ inches wide and space them $1\frac{1}{2}$ inches apart from centre to centre.

W. SCOTT.

Use $1\frac{1}{2} \times \frac{5}{8}$ inch top bars. This will not

prevent them altogether, but it is probably the best plan to practice.

R. A. MARRISON.

Space your frames equal distances apart. Have no sagging top bars, and see that a proper bee space is maintained between the top bars and whatever is placed above them. Thick top bars are believed to be an advantage.

F. A. GEMMILL.

Proper bee space of 5:16 of an inch, where space is necessary. Raise your queens from those that build the least burr comb.

R. H. SMITH.

I believe a thick and close top bar is the best way to prevent both, but I'm so accustomed to the seven-eighths wide and thin top bar, that I prefer a few burr and brace combs, to the wide and thick top bar.

DR. A. B. MASON.

This very question is troubling greatly the best minds among our bee-keepers. He who gives the solution, will be a blessing to the apiarist. Study up the various methods described in the bee journals, and then adopt the one that seems best suited to our own locality.

"One man's meat, is another's poison," and so in bee-keeping. What works well with one, may not with another. Experiment independently, and adopt that method which seems to work the best in your hands. No positive rule can be laid down to govern the matter.

J. E. POOD,

North Attleboro, Mass.

You will never "prevent" them altogether. Nice adjusting of the "bee space" has the best effect to lesson the burr comb nuisance. There is nothing so dear to the bee's soul as those unshapely bumps you call "burr combs." She will surrender her life if she can only pierce her corporosity on top of a bump of wax. Accurate spacing of 5:16 of an inch—or if perfectly true in all parts, $\frac{1}{4}$ of an inch—spacing will reduce the amount of burr and brace combs.

G. W. DEMAREE,

Christiansburg, Ky., U. S. A.

Wide top bars and proper bee space will prevent burr and brace combs to a certain extent with the right kind of bees.

J. PIRIE.

Give plenty of room A. D. ALLEN.

Proper spacing of the combs will do much to prevent the former, and as the strain of bees probably has much to do with the latter, a change of queen from a stock not given to this peculiarity would be worth trying.

W. J. CRAIG,
Brampton, Ont.

Canadian Thistles.

F. ALEXIS GIMMELARIO.

And so the Gould, Shapley & Muir Co. are going to give the bee-keepers a new honey package. That's right, especially if it is anything better than we now have.

Many times I have thought that a substitute for tin would be a bonanza, if all the essentials that tin possesses, without any of its objections, could be secured. We are not yet informed of what material the new package or utensil is to be composed of, but from what I can learn its cheapness and cleanliness is an advantage. If on the other hand the receptacle cannot be placed in water in order to liquify the honey, should it granulate, then I fear we are not going to gain much after all. As, however, the firm has gone to considerable expense in designing and preparing the article spoken of, it would not be wise or judicious to attempt to throw cold water on the new venture until it has been thoroughly tested. We will therefore hope for the best.

MELTING OLD COMB INTO WAX.

I believe that much wax and labor, has been sacrificed in following many of the old methods for rendering undesirable comb into wax. My own experience in the past has taught me that if I had to do the same work over again, that I would throw some of the old combs away at once, rather than trouble with them. The practice most in vogue is to place the old combs in a coarse bag or gurnsey sack, and sink it to the bottom of a tank, or large tin dish containing boiling water, and then skim the wax from the top as it rises to the surface. This method requires constant watching, in case the melted wax should boil over on the stove and cause trouble, to say nothing of the too much boiling the last wax receives before it finds its way to the surface. I think myself that steam for the purpose mentioned has been far too much neglected or overlooked, even when melting small quantities, and I am therefore about experimenting with the old Swiss steam extractor, on a much larger scale, however, coupled with some improvements as recommended and used by Mr. J. B. Hall. This extractor is intended for home use, the steam being generated on

the kitchen stove, if no other and more convenient place can be had.

I am also intending to use a more extensive plan for large quantities, the steam in this instance being furnished at a factory, and utilized in such a manner as not to allow the wax to come in contact with the boiling water, as it will be conducted in either case from the melter, as fast as it becomes liquified, so that no danger can result from boiling over. Nearly one half of the wax melted by amateur bee-keepers is either over boiled, or scorched in such a manner as to be almost worthless for foundation making.

Should my experiments reach my expectations, I will give the readers of the C. B. Journal the benefit of my newly acquired knowledge very shortly.

A CONVENTION OF THREE.

A friendly local convention of three members, comprising Mr. Hall, Mr. Newton and myself, took place a few days since at Mr. Newton's home in Thamesford. Oh my! I nearly forgot to state that there was a lady and a baby too, that made a good convention also. We talked as only bee-keepers can talk when they meet, much after the same fashion that lady visitors do, when three or four are assembled all alone by themselves (so confidential like) except that our theme was not in the same strain.

The subject, of course, had to be different. Among the matters discussed was the outdoor wintering of bees, and I could not help thinking of all the changes and the various methods advocated and practiced within the last 30 or 35 years.

There have been upward, downward, too little and too much ventilation, with sometimes none at all. Then there was packing on top, sides, bottom, or only porticos of the hive; and no packing at all, the latter being the "yes, let 'em alone" plan. Next in order came entrances, large, small and medium size; some at the top, others at the bottom, with a few any place and every place, etc.

In a circular and letter received from Father Langstroth & Son, in 1864, the placing of dry corn cobs on top of the frames or combs, was advocated in order to absorb the moisture arising from the bees, so that the combs and interior of the hive may be kept dry. It appears to me that upward ventilation with absorbents has to a greater or less extent been practised ever since, and possibly before. It is quite certain that clean quilts yearly and a Hill's device or something similar has had quite a siege, and I am not yet

prepared to advocate anything else to those using such with success, as they might and can do worse, although I would like them to do better.

Gradually, however, the new cotton quilt and device referred to has been discarded, at least by a great many experienced apiarists, the old propolized ones being used from year to year, while many now use no quilt at all, but instead a $\frac{3}{4}$ inch thick pine board; and yet a few are using the ordinary flat cover, which remains on the hive summer and winter, above which is placed about a foot of dry forest leaves, well pressed down, the sides and ends being packed with the same material 3 or 4 inches thick.

If little or no upward ventilation, so called, is given, a generous bottom entrance should be allowed, and *vice versa*. I know there are those who dispute this, but until I can disprove such, I'll stick to what has proved a success with me. Keep the hive warm, especially on top, and very little moisture will condense, if provision is made for its exit elsewhere.

Do not, however, pack with any material that has a tendency to conduct the heat from the bees in cold weather. No member of this convention advocated the use of new or clean quilts, and an examination in some of the colonies in Mr. Newton's apiary, having propolized quilts several years old, and $\frac{3}{4}$ inch boards revealed the fact that all were wintering in good shape with an entrance $\frac{3}{4} \times 4$ inches. Some colonies prepared with a much smaller entrance in the fall, for experiment, had to be enlarged when freezing cold weather set in, but 2 or 2 colonies still have the contracted entrance, but are being carefully watched in case they require attention later on.

LARGE SUMMER ENTRANCES FOR HIVES.

During the past summer I used large entrances to all my hives, both at the home and out apiaries, and I liked them so well, that I am going to again use them next season. Formerly, I used the ordinary $\frac{3}{4}$ high by $11\frac{1}{2}$ inch long entrance, prior to the swarming season, after which I gave a larger opening by simply raising the hive from its bottom board, about one inch; and inserting a block of wood to keep the hive in position. This method left an open front and sides also, and the only reason why it was not used before the swarms began to issue was because my queens are all clipped, and I wanted to know about where to locate her, if I did not happen to be on hand when the swarm

came out. By using the tapered wedges recommended for taking comb honey, by Mr. Pettit, I was able to give a large entrance, without any opening at the sides, and still have the queen come out at the proper place. I observe that Dr. Miller and some others have been using some such contrivance for wintering purposes, and the Roots are even now advocating such a deep opening all the year around, by simply nailing on an additional $\frac{1}{2}$ inch strip to the bottom board now in use. That would make a $\frac{3}{4}$ inch space under the frames, the full size of the hive.

I must confess that I like lots of lower ventilation in warm weather, but I am not so sure that I would not prefer to be able to diminish it, without having to invert the bottom board, the other side of which contains $\frac{3}{4}$ inch strips, as made and used by the Doctor, Mr. Dangenbaker and others. There is only one objection to the wedge-like strips of Mr. Pettit, and that is they are loose, making yet another piece of extra furniture to be handled in the apiary. The Dadants overcome this difficulty by having the hive body telescope the bottom board, so that when more air is required, the hive is simply raised up the thickness of the bottom, and again lowered when necessary, without removing the hive from its stand at all. The objection to this arrangement is that hive bodies or brood chambers can only be used as such; and not for supers, owing to the extra room made vacant by the removal of the bottom board, thus destroying the proper bee space between the upper and lower stories. Now I want my hives all alike in depth, in other words I prefer the entrance in the bottom board, as I now have it, so that if some inventive genius can give me what I want without having to lift the hive from its bottom in order to lessen the space under the frames, I will not feel displeased at having written so long on what may seem to some a trivial point of apiculture. I may add that I am not without hope that my own efforts may assist me out of the difficulty.

In regard to having more than $\frac{3}{4}$ or 1 inch space under the combs all the year around, I might state that when using a 2 inch rim under my hives for wintering, that on one occasion, drone comb was built in this vacant space in nearly every hive in the apiary, before they were unpacked in spring. My present conviction is that as a rule too little and not too much air and shade has in the past been given colonies during

the summer season, but it will be well not to go the other extreme, and overdo the matter. There is a happy medium in this as in other things.

Winter Losses.

— A. G. WILLOWS.

It is neither so pleasant writing nor reading of non-successes and losses as of successes, but it is often just as profitable to study the former as the latter. I will therefore give the readers of the C. B. J. an account of the management, or rather the mismanagement, of my bees during the past year, with the hope that the beginners in bee-keeping among them may be able to draw some profitable lessons therefrom. And here allow me to state that my excuse for neglecting the bees so much is ill-health, having been confined to bed for about three weeks, which included the time of bass-wood bloom. Since then I have not gained in strength, and most of the time have been able to do little more than, as the convalescent German expressed it, "walk a leetle 'round."

I moved the bees here from Carlingford, in Perth County, in May last, after fruit bloom had closed. They were not in very good condition, as I had left them while they were buried in snow, and they had little attention until after I got them here. Clover yielded just enough to keep up brood-rearing to its fullest extent; no surplus. This, of course, induced swarming, and on July 2nd, when I was taken ill, many of them had swarmed without commencing work in the supers, and most of the rest were preparing to swarm. After this time they had no attention. Fortunately queen and drone traps had been placed on most of the hives, so that few, if any swarms absconded. They could not leave, but being forcibly detained, they were in little humor for work, and few of them did good work in sections in the basswood flow, which commenced the second week in July. A few filled the sections that were on, but the flow was not good. When I got able to look over them again, I found some of the queens in the drone traps, with comb and brood, and, of course, no laying queen in the hive. If virgin queens were there they could not get out for fertilization. Others were

queenless, and altogether they were in poor shape for winter. In the beginning of October, I united the weak and queenless colonies and made sure that all had plenty of stores. There was fall flow enough for most of the brood-chambers to be filled with stores, but unfortunately some of them put in a supply of grape juice.

The season was open, with many days warm enough for flying until after New Years.

I did not get them packed until about the middle of January, when, having a young man staying with me, I procured some planer shavings and packed 35 out of 50 colonies. They had no opportunity of flying from that time until about the middle of March. There has now been warm weather enough to enable me to form an idea so far as possible without opening the hives, of their present condition.

Of the 35 colonies packed, 12 are dead, and of the 23 living, several appear to be very weak.

Out of the 15 colonies unpacked, 3 are dead and 2 or 3 weak.

On examining the combs of those that died, the stores in many of the cells near where the cluster had been were found to be bulged above the tops of the cells, and sour, showing the presence of fruit juice.

To sum up, the main causes of my loss were the following: Lack of attention during and after swarming; unsuitable stores; lack of protection, and in the case of those that were packed, late packing and poor packing material, the shavings being the coarsest planer shavings I ever saw. Lastly, I would draw attention to lessons indicated by this experience in packing. Of colonies packed about 35 per cent were dead. Of those not packed, 30 per cent are gone, with a difference in the condition of the living, I think, in favor of the latter about as great.

We can draw no conclusions from this against proper packing, but only against improper packing, done too late in the season. The material that was used would certainly to some extent prevent sudden changes being felt so quickly in the hive, but it would absorb little of the sun heat, and retain it but a short time. Then, being packed so late in the season, the bees were confined for a long time after it, without having the opportunity of a cleansing flight after being disturbed. The result indicates that they would have been better left undisturbed.

There were many days through the winter on which there was more or less

bright sunshine, and, had dry sawdust or something of that nature been used, it would have absorbed much more of the heat from the sun, and have retained it much longer, very much to the advantage of the inmates of the hives. I consider dry sawdust the best packing material that is readily available, and the packing should be done not later than the last week in October.

If there is fruit juice or other unsuitable stores, they should be taken from the hives, and good stores,—sealed honey or sugar syrup,—given as soon as the flow from such sources is over.

St. Catharines, April 6, 1897.

Notes and Pickings

By D. W. HEISE.

Rev. E. T. Abbott, Gleanings 9, declares emphatically that it is not the farmer with his pure honey put up in bad shape, improperly cared for in every way and unattractive, who spoils the market, but the blame can be traced to the slick salesman and mixer. Mr. A. also accuses the so-called professional bee-keepers, with their large crop of honey, much of which could be sold in their home market if an effort were made to do so. But instead they ship their entire crop to some large city, perhaps follow it up, and when they find the market full of honey, they cut the price a few cents just to close out their crop, and then go home and write for their favorite bee-journal a railing article about the "Shiftless Farmer Bee-Keepers Spoiling the Market." Mr. A. thinks that a poor article set up beside a first-class one always shows the latter up to better advantage, and that it is by contrasting the poor with the good that we form our judgement.

My trip to Hamilton to attend the convention may be an expensive affair unless prevailing conditions soon get a kink in the back. Before leaving home I neglected to tell the home folk to take the shade boards down in case the temperature should rise sufficiently to entice the bees out of a flight. That very thing did happen, and the result was my bees remained inside then and have done so ever since. I am very anxious for 50 degree weather.

Gleanings 12, Dr. Miller, in speaking of whittling the projection of the top bar

down narrower than the rest says he don't believe there's any need of it. I suppose the projection was made $\frac{1}{4}$ inch narrower to allow the fingers to take hold. In actual practice I don't believe anything of the kind is needed. You don't take hold to lift the frame until after you have slid it a little distance from its neighbor, and then you've plenty of room to take hold without any whittling away. After reading the foregoing I sallied off to the honey house to see where the finger marks (caused by taking hold and pressing the propolis against the wood, whenever being handled) would be found. And in every case, the marks indicated that the frame had been taken hold of immediately over the end bar, and not by the projection. That other point taken by the doctor, that one doesn't lift a frame till sliding it from its neighbor is well taken, and I have decided that I have no use for narrowed-down projections.

Aspinwall, in Review 317, sums up the advantages to be derived from the use of Plain Section, thus: They cost less, on account of having less wood, and saving the cost of expensive machinery for making insets. He finds the weight of wood two-thirds of an ounce less in the new. A saving of 20 per cent. in shipping cases, and a great advantage in cleaning, as a plain section can be cleaned by machinery. Notwithstanding the advantages that have been brought out lately in favor of the plain section, there is one objectionable feature of the no bee way section (that will injure the comb honey trade, unless guarded against) that should not be lost sight of, it is this; if a dealer sets out one, or half a dozen sections for the inspection of a prospective purchaser, of course the first thing that person must do is to pick up and handle every one of them. On account of the honey coming flush, or nearly so, with the wood, ten chances to one if that person doesn't poke his finger and thumb right bang into the honey. If the honey were really bought by the person so injuring it very little harm would come from it. But in a great many instances the bleeding sections would be left on the dealer's hands to daub and stick up everything with which they come in contact. In my opinion, the great drawback in using the new section will come in at the very tail-end of the whole season's operation.

What a great pity that Editor York could not have had those attendants of the Buffalo Convention whom he shows in a picture in A. B. J., December 30th,

all numbered, so that he could give us a list of the names corresponding to their number. While there are quite a number that I can call by name, there are a great number who I recognize as having seen, but for the life of me I can't say who they are, which is annoying indeed. But I attach no blame to Mr. York, and am thankful for the picture as it is, which no doubt, cost him a great deal more than it did me.

Mr. J. E. Crane, in Review 323, brings out an entirely new idea in regard to the shipping of comb honey. He furnishes his large boxes containing 15 or 20 cases, weighing from 3 to 500 pounds, with a wheel caster on each under corner. Mr. C. says when a freight man tackles one of these heavy boxes he drops his truck at once, for he sees at a glance that the box is already mounted on wheels and without difficulty he pushes it to its place in the car. This cinch of Mr. Crane's will no doubt be a great boon to large comb honey shippers. Editor Hutchinson has already caught the fire and says in a foot-note to Mr. Crane's article, "At first thought the putting of casters under our shipping crates seems almost laughable, but the more I think about it the more feasible it seems. Better yet, our friend Crane has tried it, and that is worth more than what I might think about it."

In discussing the merits of feeding back, for the completion of unfinished sections, Editor Hutchinson said at Buffalo he had secured as many as four pounds of increase in weight of comb honey, from the feeding of five pounds, although the average is about two pounds from the feeding of three. During the same discussion, T. Danzenbaker said he put 15 to 20 unfinished sections at the entrance of a hive at night, and in the morning the combs were empty. This latter plan is worth anyone's while to try who has unfinished sections.

"What good did anyone ever claim the drones do? 'They keep the brood warm,' some one says, but before they keep the brood warm they have to be first kept warm, and they only hatch in the warm season when there is little danger of the brood getting cold, and when night comes, do not all the bees return to the hive, and keep it warm? Is it not true, that during the time when drones are plenty the bees are rather too warm in the hive? Is not this the time when they cluster on the outside because it is too warm inside? And you want the drones to keep them

warm? Better have the drones reared for winter, then?—C. P. Dadant, A. B. J., 790. I notice when C. P. gets down to facts they are very stubborn ones. I do not think I have any use for drones outside the one and only purpose for which I believe they were created.

Separators, or stips of veneer, are recommended in shipping crates. By their use, if one section breaks down it cannot assault its neighbor. A good idea, I believe. The same thing will apply to wired frames in a brood chamber and extracting supers. In all melted down cases that have come under my notice the evidence went to prove that one particular frame on one or the other side of the hive was the principle offender. In its downfall it did violence to its neighbor; the neighbor, unavoidably, follows suit, until the whole contents of the hive was an indiscriminate mass and the colony ruined. I fully believe this whole difficulty can be overcome by using nothing but substantially wired frames.

"Keep only strong colonies, for few, but strong, colonies, bring greater results than many weak colonies." This, according to Beedom Boiled Down, is the rule of a German Apiarist. This great fact was verified in my locality the past season. One bee-keeper started in with 35 weak colonies; another with 20 strong ones. The former secured 900 pounds surplus, while the latter secured 2000, only about two miles apart. By the way, Beedom Boiled Down is a very interesting department in A. B. J. The only fault I find in it is, the boiler does his work so perfectly and systematically and gets everything down to such a proper consistency that there is no room for criticism. Please, Mister Boiler, give us an opportunity, now and then, to crack you over the knuckles, just to remind you that you are not the only one in beedom doing business, or trying to.

W. W. M. Neal, in A. B. J., 806, thinks the idea needs encouraging, that a laying worker can be seen and told by her locks. Just hold the comb up before your eyes and simply look at it, and if you can't find laying workers by the deference the other bees show them, you can't find a queen by the same means. They always have a soaked appearance like a robber. The worker forms a circle about them and offers them food, which they constantly seem to accept as they are constantly wiping their mouths, etc., etc. There, now we know how to find a laying worker;

but to what good? For Mr. M. Neal winds up his article by giving a remedy for the same, "just break these colonies up." He finds it the quickest and cheapest. Then why spend perhaps hours in hunting out a laying worker which is no earthly use after caught, and whose colony is only worth the breaking? I don't care whether I know one or not; the only thing I care to know is that none are trying to rule in my hives, and if I find any I dispatch them hastily in the very manner prescribed by Mr. M. Neal.

It was decided at the Buffalo Convention that Doctor Miller should answer the contents of the question drawer in A. B. J. After doing so on page 803, he says, "Some questions that were handed in are omitted, being of such character as to require something of a vote of the members of the convention. Indeed, it seems hardly the thing that questions handed in at a convention should not be answered on the spot, so as to have the advantage of possible new light from members present. While the doctor has perhaps done full justice to the said questions laid over, yet after all, his answers are but the expression of one mind, mature and experienced though it may be. I believe it is a great mistake in not allotting ample time at conventions for the full and free discussion of those knotty, intricate little problems that are sure to find their way into the question drawer. By submitting them to a full convention, ideas by the dozen will be brought out that would never see the light of day by the method adopted at Buffalo. It might well be said in the language of Thos. Gray:

Full many a gem of purest ray serene,
The dark unfathomed caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.

Who Shall Keep Bees.

—C. H. DIBBERN.

I have just read the article in the January Number of The Canadian Bee Journal, by C. C. Miller, and while treating the matter fairly and well, practically concludes like many of his productions by saying "I don't know." Now, it seems to me that we bee keepers, or ye editors, have very little to say in the matter anyway, as those who want them will have them, if they can get them, and keep them if they can. Human desire, profit and ability always will con-

trol the matter. Why not discuss as to who should keep hogs or who should keep sheep? This is supposed to be a "free country." I do not know how it is in Canada, but here people do pretty much as they please about what particular occupation they shall pursue. I do not believe that it costs the farmer twice as much to produce a few hundred pounds of honey per pound, than it does the "specialist" with his hundreds of colonies. In fact I know that the advantage is all with the farmer.

As I have owned over 100 colonies during the past ten years, I am perhaps a specialist, rather than farmer or merchant which latter is my main occupation. The idea the Dr. advances that farmers should be in some way prevented from keeping bees, as they "spoil the market" is preposterous. Now, Dr., honestly, did you ever know a farmer who did not get all he could for his honey? Owing to bad conditions of his product he may sometimes be obliged to accept less than the regular rate, but does not willingly do so just to beat prices down. I sometimes buy honey from farmers, and they usually ask me what I am getting for the best honey, and although the style of package and general condition may not compare with mine, they will generally insist on that price.

Doctor, are we not a little "narrow" when we preach that only specialists should keep bees? I well remember when I was struggling to get a start in life, and after meeting many disappointments, I thought a few hives of bees would be a help to me, and how I was discouraged by a few "bee men" who seemed to fear that I would interfere with them. Did that keep me out of the business? Not much! but I rather concluded that if it was a good thing for them, why not for me. That was thirty-two years ago, and I have had bees, sometimes more than 200 colonies, ever since, and they have been a very considerable help to me too.

Milan, Ill.

Willie—Pa, what's an usher?

Pa—He's the man who shows people where they mustn't sit at church.—Chicago News.

Mrs. Biggers—Oh, yes, I understand my husband thoroughly!

Mrs. Jiggers—Practice, no doubt. I have heard that he gets sometimes so that no one can understand a word he says.—Indianapolis Journal.

Eighteenth Annual Meeting

OF THE ONTARIO BEE-KEEPERS' ASSOCIATION



Continued.

Mr. J. B. Hall—You need not test it; if you get a honey that will weigh twelve pounds to the wine gallon you need not have any analysis. I think Mr. Holtermann would buy that honey for any market he may have to supply, but, I was speaking about the killing of the bees themselves. Of course, in taking extracted honey you can double the quantity of honey per colony if you take it unripe. I have suffered considerable from these unripe people; they are very unripe, otherwise they would not do such a thing. But, there is the greatest difficulty in the bees themselves. This much we know, if you take the comb honey of two hives of bees along side of each other, gathering from the same field, one will be a beautiful waxy honey and the other will be very thin; if you put a pin into the cappings of the comb it will empty every cell. That is something I can't account for, unless it is the race of bees that does the trick.

Mr. William Couse—What race of bees do that?

Mr. Hall—I was simply talking of that stock, not the breed. Some of them do not ripen their honey and you cannot get them to ripen it early.

Mr. Couse—Is there any difference between Blacks, Italians, and Cyprians?

Mr. Hall—I am speaking about the bees that we raise from our own Italians mating with some other outside brands; we find an occasional stock of bees that give us a lot of honey that is not fit to sell and will not keep.

The President—I would like to know how many of the members present have seen the report from the Inland Revenue Department.

Mr. Hall—I found it useful in several cases, so useful that one man has appropriated it.

The President—Just allow me to glance over this and I think that if the percentage of water as mentioned by Professor Shutt should be established, a great many persons who supplied samples to the Inland Revenue Department will have to take

them back and ripen them over. We have shown there, and it is pronounced genuine honey, such percentages as the following: 23.50, 25, 21.40, 26.20, 22.80, 26.90, 21.30, 24, 21, 25.30, 27.40 not clear, sediment observed, adulterated with starch glucose. That is one of the samples that was traced indirectly to a Montreal firm. As stated there I think with two exceptions all the samples adulterated with glucose were traced directly or indirectly to one firm in Montreal. 27.50 from the same place, obtained from another man, but they had obtained their supply from the same men that the other supply was obtained from and this man obtained his supplies wholesale from the Montreal firm. 27.20 genuine; that was obtained from T. R. Davies, it does not give the name of the producer; crystals; brownish yellow. 23.7 clear; yellow, thick, grossly adulterated with starch glucose; that was obtained from a man in Ottawa who supplied the retailers, and he himself obtained his supply from the Montreal firm. 15.56, 15.68, 15.18, and 17.08.

Mr. Hall—Is that a different analyst or the same analyst?

The President—It may be a different analyst. The way they did it was to secure the samples and have them analyzed by the analyst that was appointed. If there was any dispute or doubt about it, it was re-analyzed at Ottawa.

Mr. Gemmell—Are you giving all those samples as tested by the one analyst?

The President—Yes. 15.56 pollen grains honey mixed with cane sugar.

15.68, 15.18, 15.19 no pollen grains; adulterated by admixture with starch syrup or glucose. That was a sample obtained at the Rossin House Grocery, 139 King street west, Toronto; it was manufactured or furnished by the West Virginia Preserving Co., Wheeling, West Va. 16.93 genuine; 16.15 pollen grains, genuine; 14.73, 15.21, 16.43 pollen grains; honey mixed with cane sugar. Second analysis, probably adulterated with cane

sugar. What I read from this down was all said to be genuine, 16.10, 17.39, 16.99, 16.28, 17.97, 16.94, 17.55, 17.15, 14.86, 15.20, 13.70, 15.20, 32.7, not adulterated; no foreign substance detected.

Mr. Hall—That might be; there is a lot of water in it.

The president—Both of these samples were obtained in Seaforth, Ontario. 27.6, 30.4, 26.8, those three samples were obtained from Woodstock, from Mr. J. B. Hall, bee-keeper; 27.6 was clover honey. 30.4 buckwheat honey and 26.8 pure clover honey.

When I glanced over this, and I well remember what we had been appointed to do as an Executive Committee, and when I saw men's names connected with it who had a large percentage of water in their honey, I calculated that we had a good deal to do yet before we could arrive at any definite conclusion.

27.2, 26.2, 28.7, 23.8, 30.8, 27.5; the last three samples were obtained from Ingersoll. 25.4 is from Mr. John Newton, of Thamesford. 28.2 from Turville Bros., London; the producer was W. Fulton, Brewster, P. O. I wish to say just here that these are all passed as genuine honeys and there is no disparagement in my reading those names, but I am giving these points just to show that we have a difficult problem before us.

27.5, 25.06; these two are from Stratford, A. Beattie & Co.; they were not the producers. The next three samples are from Tilsonburg, 29.1, 29.7 and 26.5; two from St. Thomas, H. H. Waddell and S. Pettit.

Mr. Gemmell—The honey which you mentioned from Stratford was not my honey, but my honey was sold there.

The president—Then, there was one sample obtained from Winnipeg that had 14.62 percentage, adulterated with cane sugar. Down towards the bottom, after getting through with Winnipeg, there is R. F. Holtermann, Brantford, from thistle and basswood, 20.28, crystallized.

Mr. Holtermann—I sent to Dr. MacFarlane two samples of honey, one, the thinnest that I thought ought to be allowed upon the market and the other one better ripened; he got them from me, and he knew that I sent them, and I sent them purposely.

The president—From clover honey, from the same gentleman, 27.10; this is marked as though it was crystallized.

Mr. Holtermann—Yes, it was granulated. The crystallization has nothing to do with it, that is simply granulation.

The president—The first thing was to get those who had the matter at heart

and wished to have their honey tested. I tried last year when the matter was up to have it according to the specific gravity. I think if you take a pencil and a piece of paper and figure it out a little you will find that a sample of honey that will weigh 14½ pounds to the gallon—

Mr. Holtermann—Where does the marked distinction come in? You propose specific gravity and we propose a percentage of water.

The president—If we have to take the per centage or water, we cannot find it without having the honey analyzed.

Mr. Holtermann—It is exactly the same thing; there is no difference between the two.

The president—If we take the specific gravity, any instrument that will test specific gravity for syrup will test the specific gravity of honey, and every man can test his own.

Mr. Holtermann—We might ask Professor Shutt if the two propositions are not identical.

Professor Shutt—There is only a little misunderstanding between Mr. Holtermann and Mr. Darling; of course the results are identical, but it is the means of getting at it. Mr. Darling means to say that it is quite within the means of every bee-keeper to test his own honey by means of the specific gravity test, but it is not within his means and power to test the specific gravity of water. The result is the same, but one you can do and the other you cannot do.

Mr. Holtermann—There is no difference, the result is exactly the same, and Professor Shutt admits that. If he reaches a certain specific gravity, then he must reach a certain percentage of water. An order-in-council allows you to limit the percentage of certain matter, but an order-in-council could not be passed saying honey shall have a certain specific gravity. Dr. McFarlane told me that. We want to catch these 40 per cent boys, that is what we are after. I have a proposition; I do not say that we shall rush right at this thing but we want to get at it. We thought last year we would have to try and do a little this year; my proposition is this (if anyone has a better one, I am perfectly willing to accept it.) I will move that this Association

Mr. Frith—Mr. Darling has the floor I think.

The President—I was just saying that if we take the specific gravity test, every bee-keeper could test his own honey, and he could ascertain to his own satisfaction the amount of water that it contained. If

we take a sample of honey that will test fourteen and a half pounds per gallon, imperial measure—I have an instrument and have tested it at home, and it is a pretty stiff sample of honey—and add twenty-eight pounds of water to it, we still have a mixture that will weigh thirteen and a quarter pounds per gallon. What did you say would be a test per gallon?

Mr. Hall—I said twelve pounds to the wine gallon.

The President—That is the result, and any person who has gone far enough in arithmetic, can satisfy himself, if he tests his honey by the specific gravity test, as to the percentage of water it contains over and above what it ought to contain; if he cannot work it out there are certain tables which any person can get. The instrument which I spoke of registers just like a thermometer and he knows whether his honey is heavy or not.

Mr. Holtermann—I have a motion, that you appoint from amongst yourselves one or more, I do not know that it is advisable to have many, and that that representative or those representatives co-operate with the representatives appointed by the Department of Inland Revenue at Ottawa, the Dominion Experimental Farm and the Ontario Agriculture College at Guelph, and that that committee try to secure a dozen or more, as they see fit, samples of honey capped in the hive and that in those samples the percentage of water be found and that they report to this meeting a year from now. That will give us somewhat of a data to work upon and I believe we will be acting in the right direction.

Mr. Frith—In regard to this matter, it is going to be a very difficult matter. In the first place we have really no such a thing as honey. I do not know whether that is new to bee-keepers or not, we have no element by the name of honey.

Mr. Holtermann—We have no element by the name of pork and butter.

Mr. Frith—But we have a compound, made of different things, and that varies in different honeys in proportion; the proportion of these things mixed together varies in honey not only from year to year, but from locality to locality; these specific gravities all vary; it is greater in some and less in some. Water has one specific gravity, glucose has another, grape sugar has another and cane sugar has another, and these are all in honey.

Mr. Holtermann—What about milk?

Mr. Frith—I do not see how we can arrive at this matter; by the report of the

Inland Revenue Department, it varies from fifteen to forty-two per cent.

The President—That is a mistake: thirty-three per cent is the highest.

Mr. Frith—I do not know how we are going to arrive at these figures; I am not a chemist.

The President—That forty-two per cent is of sucrose.

Mr. Frith—There is honey that is produced by the best keepers in this province and perhaps in Canada, in which the percentage of water was high and the specific gravity low.

Mr. Holtermann—That is a mistake; I find in all these tests here that the percentage of saccharine matter varies according to the specific gravity.

Mr. Frith—Do these experiments which have been presented to us to-day vary in accordance with the water? Can you say fifteen per cent of water will give a certain specific gravity?

Mr. Holtermann—Very closely; I would like to ask Mr. Frith one question. That objection in regard to the percentages varying holds good to even a greater extent in milk, and there is legislation in regard to milk, and why shall we not have it in regard to honey?

Mr. Frith—We may get it; I hope we can.

Mr. M. B. Holmes—Prof. Shutt has told us that the specific gravity test is the practical one, and the same thing as analysis, and, that being admitted, it does seem to me, and I do not want to go on record as being opposed to everything good, that an order-in-council regulating the quantity of water admissible in honey might easily convey a wrong impression to the world. Would not people be inclined to question something like this: "Oh, we didn't know that you put any water in your honey, and we see an order-in-council stating just how much water you will be allowed to put in your honey!" Might there not come a danger just there? And then, another point: inasmuch as it is pretty generally admitted that there is a very great difference in honey that has been sealed over, might there not be a danger of treating someone unjustly by an order-in-council?

Prof. Shutt—The fact that the specific gravity test gives the same result as to the percentage of water, needs some qualification. If the rest of the honey outside of the water is genuine, then the specific gravity test will give you the percentage of water or the percentage of honey sugar in it. That is to say, supposing that the only adulteration suspected is that of

water; but you can easily understand if materials were added to that honey to adulterate it, that were lighter or heavier than the specific gravity, they would not necessarily give you the percentage of water in the honey. It is with that qualification. If you are not looking for anything further but just the percentage of water, and that you go on the assumption that the rest of the honey is genuine as prepared by the bees, then the specific gravity test will give you approximately the data that you wish, the data that you will obtain by analyzing the honey and ascertaining the per centage of water. Is that clearly understood?

One or two remarks made by Mr Darling I would like to correct, for I must not go on these minutes as being misunderstood. When I was spoken to with regard to this question I did not get up as an authority, but I mentioned the fact that I was quoting from memory, that I had not come prepared to speak upon the subject, but Mr. Darling misunderstands me when he thinks I suggested a standard. I did not suggest a standard. I am of the opinion that we have not sufficient data as yet to establish a standard. I said that I believed in England they hold genuine honeys contain somewhere in the neighborhood of from eighteen to twenty per cent of water, but there were genuine honeys on record which ran as high as twenty-five per cent. What I say is this, if there is sufficient data to show that genuine honey does not reach beyond a certain limit then there is room for legislation on the question. It is a question of chemistry entirely and it seems to me that the data that has been put forward in that bulletin is about our only collection of Canadian data on this subject; it is extremely valuable but it has not been taken up with that point in view and it probably will be highly desirable to have such a committee appointed as Mr. Holtermann has suggested, which will undertake to secure genuine honeys from various sources over large geographical areas at points distant from one another and honey collected by different races of bees and from different kinds of flowers, basswood, clover, etc., analyze those and see if any conclusion can be arrived at, if any deduction can be made, as to this question of the per centage of water in honey. I do not think there would be any injustice in making twenty-five per cent. the limit. You must know that milk fluctuates very much and there are plenty of cases of genuine milk, which would be accounted adulterated by law. If there

is milk sold in a city with two and a half per cent. butter fat and eight per cent. solids, not fat, the law says that is adulterated; the man swears that that milk is just as it came from the cow; the law says, we cannot help that, the law has fixed that standard. But, that is an isolated case. If you take the milk of the whole herd it will come up to three per cent. of fat at the very lowest. That is the way in which these matters are arrived at. In regard to that word "genuine" in Mr. MacFarlane's report, I am not here to interpret it, I hesitate to do it, but really I do not believe he put down that word "genuine" having that in his mind with regard to the per centage of water in that honey; what I think he meant by that word was that it had not been admixed and had added to it glucose, syrup, cane sugar or other saccharine matter. I think that was what his idea was, that there were not extraneous sugars or sugar compounds added to that honey, and I think when he comes here and you ask him the question, he will say that was really the idea that was uppermost in his mind when he used the term and that by the use of the Polariscope and by various tests they had been unable to find any glucose, syrups or other materials that are frequently in other countries added to honey.

Mr. J. B. Hall—It means that the honey is genuine, that it simply has water in it.

Mr. Gemmell—I think that is generally understood, that it has no foreign admixture put in it.

Professor Shutt—If you read that bulletin you will see that Dr. MacFarlane covers this point of water. I am not insinuating anything, but I do say this, that Dr. MacFarlane was very guarded, because in that bulletin you will see that he says he could not, from the data that was at hand, come to any conclusion as regards the percentage of water. He did not feel himself able from the data on hand just to say what percentage there should be and if he had not come to any conclusion as to that it is certain that he did not intend that to be included by the word "genuine."

Mr. Gemmell—Does Mr. Holtermann think the honey he saw in Ottawa was adulterated with the addition of water by those retailing it or was it the produce of those who harvested it?

Mr. Holtermann—I have seen it from year to year and it is bottled and corked there like a pickle bottle and I have every reason to believe that it was unripe when put upon the market.

Mr. Gemell—Received from the producers.

Mr. Holtermann—Yes. You see, my proposition is the very proposition in regard to what Professor Shutt says: those samples were not taken particularly with a view to the percentage of water but simply the foreign matter added. If we get these samples from all over the country, or wherever we see fit, then, twenty per cent. genuine honeys run from 18, we will take only the capped honey, and in that way we will begin to get some sort of data in regard to that question, which will be something I believe which has never been done before.

Mr. Gemell—There is a great difference in the specific gravity of different honeys. In regard to eighteen and up to sometimes thirty per cent, and if we can fix a standard of say twenty-five per cent. I do not know after all that there would be any particular harm in doing it. As far as the percentage of water is concerned, the public know that there must be water in honey.

Professor Shutt—If you wish to obtain a standard, no body of expert men would go hither and thither into the highways and by-ways and collect samples. Before they can begin to put any reliance upon their data they must know the history of the sample; that is a first requisite, that the obtaining of those samples shall be in the hands of thoroughly conscientious and expert men, and that they then shall be handed over to chemists; and I might say I have just left the Minister of Agriculture and I think he is anxious to assist in any way. For my own part, we shall be very glad to co-operate with the Inland Revenue Department, and you would then have corroborative results. If you induce the Inland Revenue Department to take up this matter I think I might, without any hesitation, say we should on our part, providing the work was not too great, be very glad to co-operate with Mr. MacFarlane in ascertaining these per centages and then you would have data to go upon.

Mr. Hall—There is one thing with regard to the difficulty of getting data. One year we will get honey and the second day after it is gathered it is fit for consumption; another year we will have wet, drizzly, old country weather and we cannot get honey that is fit to put onto the market, it makes no difference what we do. If this honey is gathered and presented for analysis in a wet season the percentage will be very different to what it would be in a dry season.

Professor Shutt—Are there any data to show that?

Mr. Hall—I am speaking as a practical apiarist; I know nothing about chemistry. As a practical apiarist, I say that in a good basswood flow and a very hot dry season, you get your honey in two days from the time it is gathered fit to go upon the market as a first-class article, and if you get a wet season, you may keep it four weeks or six weeks and it is not good then. I do not know of any data.

I will second Mr. Holtermann's motion.

The president put the motion which, on a vote having been taken, was declared carried.

Mr. J. W. Sparling read his very interesting paper on the "Management of Bees in Spring."

MANAGEMENT OF BEES IN SPRING.

The spring management of bees should commence the previous autumn. Though this may sound like an Hibernianism, yet 'tis true that upon the condition in which our bees go into winter quarters, and upon their wintering depend, the profit of the next season. They should be strong in numbers, well supplied with stores, and have a young queen. These conditions being present, with reasonable care in wintering, spring dwindling need have few terrors, and necessary spring management is reduced to a minimum.

The matter of having young queens I am coming to regard as of the first importance, a failing queen at this time meaning an unprofitable colony for the season. I am aware that it is generally held as being the better plan to let the bees do their own superseding; this may possibly be correct where Italians are kept, but where the bees are of mixed blood, as is the case in most apiaries, there are too many failing queens and consequently unproductive colonies when the superseding is left entirely to the bees, and I would be disposed to advise replacing all queens after their second season.

Setting out the bees in spring is something to which I find myself looking eagerly forward; while this may seem a simple matter, yet 'tis fraught with some perplexities. For instance: Shall we return each colony to the stand occupied by it during the previous fall? Shall we set them out in the regular order and only part of them at a time? or shall we put them out without regard to previous position, in regular order and all at once? I don't know that it is the best, but for me

I find the last mentioned the most convenient way.

When shall we put them out? I don't deem it wise to defer putting out the bees until late in the spring; opinion seems to be veering around to early setting out, we used to be told to leave the bees in until the soft maples bloom, but that is usually too late, for if left in the ordinary cellar so late, they will suffer more loss of vitality and numbers than would be the case if they were set out at the end of March or beginning of April, as soon as the weather seems to promise to remain fine for a few days.

The bees being out, our first care is to see that they are well supplied with stores as a shortage at this time means a heavy loss in the returns. I, usually, in setting out the bees, mark the light hives with an entrance block and later give them combs of honey saved over from the previous fall or from colonies that have died during the winter, and I will admit I usually have a few. Lacking the combs of honey I prefer to fill combs with extracted honey, thinned with hot water. All the examination the heavy colonies receive at this time is generally limited to raising the front of the hive and glancing up between the combs.

As the bees are now on their summer stands, the question arises to pack or not to pack. I would say do not, as it will not pay for the labor. This conclusion I have arrived at from comparing results from my colonies wintered outside, which are left packed until about time to put on supers, and cellar-wintered ones which are never packed at all.

Some eminent bee-keepers have said that the bees by their clustering form a natural hive and so retain the heat. This I believe is largely true, nor do I think we can aid them to any great extent by division boards or cushions; while I believe this to be so in practice I endeavor to keep them as tight as possible on top. To aid in this direction I spread a newspaper or two on the thin board which is over the bees and crowd down the cover. The covers telescope half an inch over the hives.

This is generally all I do until fruit bloom appears, during the season of which I like to clip my queens, as I consider it advantageous to have all queens clipped, and think this the best time before the hives get to full or bees. Mr. Hutchinson, says he was brought to favor clipping by having so many five dollar arguments in its favor, meaning absconding swarms.

If spring feeding is at any time profit-

able, it is between apple bloom and clover, and to quote Dr. Miller, "I don't know," but think if one has any low priced honey it can be used to advantage at this time.

Another matter which rightly comes under spring management is spreading brood to increase the colonies' strength, although I fancy 'tis but little practiced. By a careful person it may, I think, be done to some advantage, but the novice, as a rule, will be safer to leave it alone, and the bee-keeper with many colonies has not usually the time to give to that which is at least a matter of doubt.

J. W. SPARLING.

Bowmanville, Dec. '97.

The President—This paper has been interesting to all of us, and it is discussing points which have been more or less a trouble to the whole of us and if any of you have any suggestions to make or any remarks to offer from the thoughts which have come to you while the paper was being read, we will be glad to hear from you.

Mr. Hall—I must say for Mr. Sparling, that I have never heard him read a paper before, and never heard him make a speech before, but this is the nearest thing to the best method of spring management that I know of. I can confirm him in putting his bees on his old stand. I have put out perhaps twenty hives at a time on different stands, and in about an hour after we set out those stocks of bees, we found them twenty-five or thirty feet from any other stand. What are they doing there, unless you come to the conclusion that they are looking for a home? When I found that out, I put my stock of bees on the stand it belonged to. They stand in blocks of four and are all marked on the front of the hive, north-west, south-west, or as the case may be. If you mix them all up you have lost all track of your bees. I believe in putting them on the old stands.

As to the time of putting out, I must say I have to go back on these soft-maple bloom fellows, and I want to put them out on the first of March, if they can fly.

Mr. Sparling—The season with you is a couple of weeks earlier.

Mr. Hall—I am simply speaking of my own locality. A number of years ago I put out a lot on the first of March. The thermometer went down ten degrees below zero after that, and I pitied the poor things, and they laughed at me and at the honey flow. They were about two or three weeks ahead of the other fellows.

It does harm to put them back in again. As regards clipping the queens, I have kept bees since 1873, and I am a clipper; and the older I get, the clipper I get. I can't run and I can't climb, and the bees have to come home. Mr. Sparling has got the right idea, too, in spreading brood. The bees know better about that than you do. Do not open a hive; it makes no difference if they have not any supplies. Do not open a hive until fruit bloom. Remember that; that is worth more than anything else in Mr. Sparling's paper.

Mr. Gemmell—You said that you numbered your hives; why didn't you number your stands?

Mr. Hall—I don't number my hives. There is a peg put in the tree alongside of the stand, lettered A. B. C. and so on.

Mr. Gemmell—I moved some bees in from the country into my yard, and I wanted to put those bees on the same stand, and I numbered the stand and I numbered the hive, and when I take them out in the spring, there will be no trouble. I wanted the old hive on the old stand. With regard to this spreading brood, Mr. McEvoy will tell you more about that if he is here. He has visited a great many aparies throughout the Province, and he has seen quite a bit of spreading brood. I have accompanied him on a great many occasions when looking out for foul brood, and I have seen some of the most awful messes you have ever seen on account of spreading brood. If you do it, be on the lookout; in nine cases out of ten you will do more harm than good.

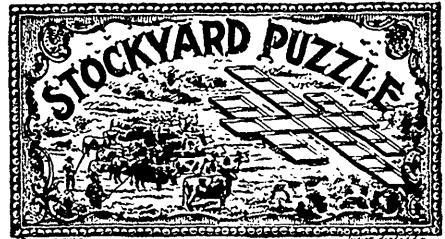
(To be continued.)

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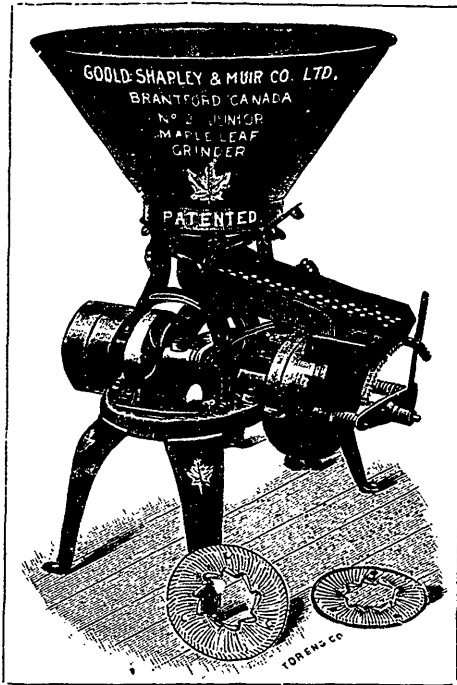
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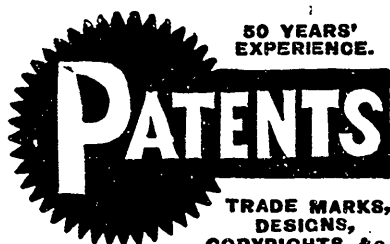
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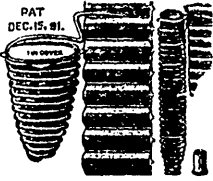
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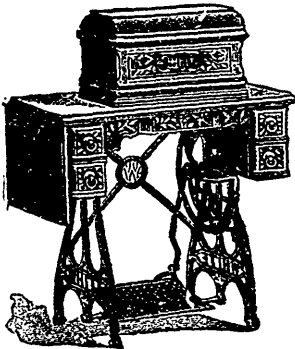
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