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CANADIAN BEE JOURNAL

PUBLISHED MONTHLY.

NEW SERIES
VOL. VI, No. 9.

BRANTFORD, ONT., MARCH, 1890.

WHOLE NO.
409

Brantford has long been known inside and outside of this Dominion as the home of good manufactures. Comparisons have not been made, but recently at the Board of Trade some startling statistics were produced from the Customs Department. Brantford during the past year exported one twelfth of all the manufactured goods exported by Canada. She also, with the exception of Toronto and Montreal, exported more manufactured goods than any other city in the Dominion. Toronto and Montreal are centers from which many goods are exported that are not manufactured in them. The population of Brantford has increased about 1500 during the past year. The increase of factory plant and building during the past year has been \$190,000, conspicuous among which is the new factory of the Gould Shapley & Muir Co., limited. This is a proud position for any commercial centre to hold.

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* * *

The Australian Bee Bulletin under date Aug. 28, '98, states "Colonies in a normal state will be starting to breed," and goes on to give advice for spring management. Their season begins when ours ends. In the same editorial it says "Look well for spiders and moths." This is just about the season that we refer to look after moths and the best way

to do so is to keep the combs well covered with bees. At the Ottawa Exhibition we had an unusual number of bee-keepers complain that the moths destroyed their bees. We do not think this is quite correct. True, the black bees are more likely to be attacked by moths, but a case has yet to come to our attention where good strong colonies have their combs destroyed by moths. A case of that kind generally runs through the following stages: The bees have more comb than they can cover, the moths attack the uncovered comb and gradually encroaches on the space occupied by the bees. We like lots of spiders about the combs when the combs are off the hive.

* * *

A portion of the report of the Brantford Convention is published in this issue.

Although extremely cold the attendance was fairly good, and we venture to assert that when our readers see the proceedings published in The Canadian Bee Journal they will agree that an exceedingly profitable time was spent. The proceedings were as follows: A chairman was elected, a lot of questions were drawn up and these were discussed one after the other. The members spoke in consecutive order and not otherwise unless to ask a question. When all had spoken or declined to speak a few minutes were allowed for general discussions. The first question began with the first gentleman in the circle, the next

with the second gentleman, and so on all around the circle. So harmonious, profitable and pleasant was the entire proceedings that at the close member after member rose stating the convention was the best they had ever attended. It was moved by one outside of the county that a similar convention be held at Brantford a year hence. We have no doubt many will attend this convention next year. Since the convention closed, we have received letters from several regretting that the intensely cold weather had prevented their attendance. One came from Mr. S. T. Pettit. He would have been present but for the intense weather, coupled with the fact that Mrs. Pettit had not fully recovered from a severe attack of "Grippe."

* * *

As our readers know, we have, for quite a few years, made an effort to get every possible information about the possibility of securing a
**The British European and particularly
 Market for a British market for honey.
 Honey. The E. L. Gould Co., and
 the present Gould, Shapley
 & Muir Co., Limited, Brantford, made
 two shipments of honey to Europe, but
 owing to inexperience, probably wrong
 connections, and Canada not having the
 prominence she now has, these shipments
 were accompanied with heavy losses.**

Last year the editor of the CANADIAN BEE JOURNAL, after years of urgent request that the Dominion Government take this matter of opening the British market for honey in hand, succeeded in getting the Hon. Sydney Fisher, Minister of Agriculture, and Prof. Robertson, Commissioner of Agriculture, to look after a shipment of honey when it reached England. The Gould, Shapley & Muir Co. Limited, sent the shipment, at the same time asking Prof. Robertson to freely distribute samples free of charge wherever he saw that it might do good and lead to drawing attention to Canadian

honey in England. As a result of the connections thereby established, the Company realized fair returns for their honey. They have sent several carloads of honey and have also a young man in England, formerly in their employment at Brantford, to represent the company there, selling both bee-keepers supplies and honey. The price realized on 60lb cans, after deducting other expenses, has been just about 7cts., less cost of can, the honey being shipped in car load lots.

The honey must be of proper quality. The company has adopted a label of a special trade brand and others will be prevented from using this. If present prospects continue, the company may be open to purchase large quantities of suitable honey. They are of course interested in the welfare of bee-keepers generally, and the more honey they can secure a market for, the more people are likely to buy bee-keeper's supplies from them and the better for the Company. Other things being equal they will give their customers the preference.

With great care to maintain the present reputation of Canadian honey, only the very best being selected, we may secure quite a market; but we do not think it will pay, nor will it be advisable, to send small promiscuous shipments. A few shipments of inferior honey at the outset would likely destroy, for many years, the opening created by the Company.

On page 452 appeared an article about "Unfair Exhibiting." Unfortunately the printer did not follow the instruction of the editor and failed to credit the British Bee Journal. As it stands it cannot be well understood. We therefore hasten to make the correction. This journal has never been accused of systematic pilfering as some other papers have, and in this matter is like Cæsar's wife, "above suspicion."

Wintering Bees.

—ARTHUR STOREY.

Having read Mr. Dunn's article in the February C. B. J., the latter part of which treats on his preparation of 72 colonies for winter; I wish with your permission to say something on this question. I have seventy colonies at an out apiary prepared in a somewhat different manner. It might be of interest to the Bee-Keepers who read the Journal—I know it will be to me—if Mr. Dunn and myself send in a report about the beginning of June giving the success each had in wintering. I will describe how mine are prepared, I made a clamp long enough to hold seven hives. Papered it on sides, bottom, and ends with old newspapers; then put three inch strips on the bottom for the hives to rest on. Packed all below and around the hives with planer shavings. The packing is three inches at the bottom and front and eight at back and top of hives. I put a few strips of lath on top of frames, also new cotton cloth to cover the top of hive; then a piece of old carpet or bagging so that I can lift the shavings up off the cotton and keep it clean. Next I packed four inches or thereabout of shavings, then a thick layer of newspapers; after that I filled the clamp to the top with shavings—about eight inches at the back and ten or a little more at the front. The entrance is left five inches long, half inch deep with a one inch hole at the center of the end of the front of hive. This hole is to allow a free air passage if the bottom entrance gets clogged up with dead bees which often happens. A board is then made large enough to cover both entrances, and lath nailed to three sides of it. This is fastened on the front of clamp with one screw nail so that it can be turned at any time for examination. The board thoroughly excludes the light, and the dead bees fall down between the board and clamp, when they are pushed out by the inmates of the hive, and also allows a free air passage, and keeps wind and snow from blowing directly into the entrance.

I have 58 colonies at another out apiary wintering in cellar, under a dwelling house, which I examined yesterday. The temperature was 42°; bees perfectly

quiet until disturbed with the light. This is the second examination since they were put in November 18th. Very few dead bees on the floor so far. At the home apiary I have 60 colonies in the cellar, where the temperature has been below freezing for several days; the bees are perfectly quiet. I may say that all hives in the cellars have a sawdust cushion on top of frames three inches thick; this seems to retain the heat. The other 15 are outside prepared in similar manner to the 70 colonies at the out apiary, and are wintering well so far, however, the first of June will tell the tale.

Lindsay.

Notes from the Central Ontario Apiaries.

Extracting the buckwheat honey was left until the last of September in order to get the honey as well cured as possible. The work was all done in a tent 12 x 16 feet, and although the work was done after the flow had ceased, there was not the least commotion or robbing among the bees. I have extracted for several years in a tent at the out apiaries and I like the arrangement better each year. I have not the least hesitation now in removing bees to any locality likely to produce a flow of honey at moderate transportation charges, for I can both do all the work and live in my tent if necessary. After extracting, the top stories were set on 2 x 4 inch scantling and tiered up six in height with a queen excluder underneath, and covered with sun caps and the bees allowed to clean them out.

On the 17th of October we commenced to move the bees home for winter quarters, leaving them away as long as possible to avoid the canning factories and fruit evaporators in the vicinity of the home apiary. The apiary at Presqu'Isle Bay was moved first. One of my neighbour bee keepers owns a large sailing yacht that will carry about seventy-five colonies, and he turned in and helped me get them home. We brought the whole outfit home in two loads and landed them within ten rods of the home apiary, and they were carried on hand-barrows and set on their stands scarcely knowing that they were disturbed. The other apiary near Welter's Bay was brought home in a car and placed on a siding at the corner of the

home apiary and unloaded the same day. As all were screened top and bottom the bees were not disturbed in the least. They were all in excellent condition for winter, weighing on an average seventy-five pounds each without sun caps, all in nine frame hives.

Oct. 24th, 1898.

I commenced to extract the buckwheat honey about 15th of September after the flow was entirely over. We extracted the most distant yard from home first, it being situated on Presqu' Isle bay at the west end of the Murray Canal. The honey barrels as well as the whole outfit for extracting, was taken from home to the out apiaries in a sail boat and landed right along-side of the hives. The tent was placed in the centre of the yard, a level spot set aside for it. When placing the bees on the stands, care was taken to haul the back ends of the hives towards the tent, and there was no confusion among the bees when we pitched our tent.

In extracting in a tent I allow the extractor to set on the ground, and dig a hole under one side of it to draw off the honey. My extractor holds 300 lbs. of honey below the comb baskets, which are four in number, and the shaft reaches the bottom of extractor and is fitted in a socket soldered to the bottom of the can. In extracting, when the can begins to fill, the least particle of comb from cappings will gather around the shaft, and when the honey raises to the comb baskets I draw off as fast as I extract and not a particle of comb will be found in the honey. Of course in my large funnel for filling the barrels I have a double screen of fine wire cloth to make sure that no bees can get in the barrels.

For cappings I use and prefer a barrel that will hold about 400 lbs of honey. I bore an inch hole just above the lower hoop, and cover the hole inside with coarse wire cloth, and arrange it to draw off the honey in the same way as the extractor, by digging a hole in the ground, under the side of the barrel. In this way it can run all the time, day and night, and when the barrel fills with cappings I take a piece of 2x4 scantling and tramp them down solid. In this way I can get a large amount of cappings in a small space, and when the honey is hauled home the capping barrel is plinged up and rolled on a wagon, and allowed to drain out clean after it arrives home.

As the honey season was over before I extracted, I expected some trouble from

robbing, but we had no trouble on that score. By wheeling in from 8 to 10 top stories as quickly as possible, then giving them a rest while extracting, there was no commotion whatever among the bees. After the honey was extracted, I had teams come just at dusk in the evening and haul the honey home, the top stories carried out and piled six in height on 2x4 scantling, and the bees left to clean them out. Next day the tent was taken down and the outfit placed in the sail boat and taken to the other yard at the east end of the Murray Canal, a distance of about five miles. This yard was extracted in the same way, but as there was no way to get the honey home, except by rail, it was left in the tent for three weeks, as I do not move the bees home to Trenton, until I am sure that they will not visit groceries, canning factories, and fruit evaporators.

About the middle of October the bees were moved home. Although late, the hives were all screened top and bottom, the same as in hot weather. The Presqu' Isle yard was moved first. Mr. Aaron Young, a bee-keeper at Wellers Bay, owns a fine sailing pleasure yacht, and he turned in and helped me move the Presqu' Isle yard. We brought them home in two trips and landed them in the home Apiary, they were carried on hand barrows and placed on the stands. The other yard was brought home in a Stock car. We left home on the 7 a. m. train and the car was left at the yard on the Main Line. We loaded the bees, (180 colonies,) top stories, honey, and the whole outfit, and was back home in Trenton in three hours time, and were unloaded same day. In my next I will describe my method of preparing for winter and how they are placed in the cellars.

In my last article there is a printers error. I am made to say "the passengers were greatly 'annoyed' with that sort of freight;" it should read "amused."

C. W. Post.

Trenton, Oct, 15th, 1898.

Steel ships suffer from barnacles, which foul their bottoms much more rapidly than they do wooden ones. These strange marine growths are sometimes as big as one's fist and adhere to the metal plates with tremendous force, and, beside impeding the ship themselves, they catch seaweed and other rubbish and drag it through the water.

Meeting of the Senate of Canadian Bee-Keepers.

WHAT has been facetiously termed the Senate of Canadian Bee-Keepers, held a very successful convention at the Court House in the City of Brantford, on Thursday and Friday, February 9th and 10th, 1899. The sessions commenced at 1.30 p. m. on the 9th, and concluded on Friday afternoon.

Among those present were Messrs, J. R. Fleming, Everett, Mich.; R. W. Roach, Little Britain; D. W. Heise, Bethesda; Jacob Alpaugh, Galt; J. Robinson, Hatchley; Alexander Taylor, Paris. W. Atkinson, Cheapside; F. J. Miller, London; John Armstrong, Cheapside; J. B. Spencer, Farmers' Advocate, London; Ira Michener, Low Banks; C. W. Park, Caledonia; W. J. Craig, Brantford; R. F. Holtermann, Brantford; Jas. J. Hurley, Brantford; L. Vansickle, Tranquility; F. J. Davis, Grandview; W. E. Young, Tilsonburg; Mr. and Mrs. David Papple, Cainsville; F. A. Gemmill, Stratford; A. Wilson, Langford; A. C. Phelps, Mt. Pleasant.

Mr Jacob Alpaugh was unanimously voted to the chair. Before anything further was done, Mr. Holtermann suggested that those present discuss questions. This was agreed to, and a list of questions prepared. The convention quickly got down to business, and everything went forward with a rush. The first question on the paper was

When to put out of Cellar, if Wintered Without Signs of Dysentery, or Restlessness?

The chairman called for a free expression of opinion from all the gentlemen present.

Mr. Robinson said he thought he would put them out as early in March as he could; just as soon as the fine days come,

no matter whether the snow is off the ground or not. He put them out as early as he could last year, the first day they could fly—he thought about the 6th—but you must put them under protection.

Mr. Miller—I like to set them out early if the weather is favorable. If snow surrounds the hive I wait till it goes, and prefer to have them in the cellar until the weather gives signs of being so that they will be able to fly. Sometimes they get out two or three times a week, sometimes every day.

Mr. Fleming—I do not take mine out until along in April; last year it was about the 22nd; there was nothing for them to get; there were no blossoms for them to work in.

Mr. Roach—I never was favorable to cellaring; mine are out on the summer stands all the time; I find that is one trouble—they fly sooner than I want them to; some sunny days they fly out, and perish.

Mr. Alpaugh—I have had two year's experience in cellaring; This last year I put mine out on the 15th of March; they got a good fly and did well afterwards. I don't think it was detrimental to them.

Mr. Holtermann—If bees are wintering all right, I don't think it does a bit of harm to leave them until the snow is well off the ground, but it is rarely indeed that the bees are wintering perfectly. I find generally that early in March some of them begin to break cluster a little, and for that reason I set them out just as early as they can get a good cleansing fly without dropping on the snow and chilling.

Mr. Alpaugh—I am not a cellar winterer now; at one time everybody advocated keeping them in, but finally I got to putting them out early, contrary to all theories, and I found they did all right; it seemed that the earlier I got them out the better they did; they were in better shape for the flow. If I put them out as

I did in the old time they were not ready enough; those that were in fair condition seemed to be all right, and were ahead of late putting-out.

Mr. Holtermann—When you get to the time of the year that the temperature of the cellar and outside does not differ very much, there is not the ventilation in the cellar; that results in foul air in the cellar and the bees become uneasy, and then they are a great deal better out.

Should All be Set Out at Once?

Mr. Robinson—I set them all out at once, not having a large number.

Mr. Miller—I usually set out part; if it was so that I could set them all out in the early afternoon to have a good fly I would put them all out at once. I like to put them out about that time if it is possible to get them all out.

Mr. Roach—Mr. T. J. Webster kept from 200 to 250 swarms; one time he set them all out at once, and lost them all but about forty. He advised me if I cellared not to take them all out at once.

Another Delegate—I set them all out at once and mix them well in the yard. If it is going to be a nice day, I start at one corner and then go across to the other corner, and while I am carrying them out the others are flying.

Mr. Holtermann—I generally do not set them all out at once. Sometimes I think I will risk twenty or so, and out they go and run their chances on it turning cool, and then I set out a lot again, but in any sense I do not think it advisable to set them all out at once, they get too excited.

Mr. Alpaugh—I have set them all out at once. I don't know whether it is through laziness or not, (laughter) but generally I carry out some and then quit. I like the idea of distributing some in one place and some in another, and having a commotion all over the yard. When you take them out of the cellar they make a rush out of the hive, they come out into the warmth too quick, and when they are set out over the night they warm gradually and start and fly some at a time.

Mr. Robinson—It has been said that if you give them a few puffs of smoke they will not rush out so quickly.

Mr. Miller—You should put them out in the forenoon so that they will have all day to sport.

Should Bees be Put on the Old Stand?

Mr. Robinson said he put his on the old stands last year, as did Mr. Miller, also.

Mr. Craig asked whether it was gener-

ally held among bee-keepers that they will go back to their old stands of the season before.

Mr. Miller said that was always his experience. Mr. Holtermann set out a few at a time, but they paid no attention to where they came from. Mr. Fleming had had some experience in moving bees, but never had any trouble, putting them down in any position. In fact, the majority of the old bees are dead, and the young ones never see the old stands.

One delegate said that when he moved his off last fall they were in till January, and any number of them went back to the old place.

Mr. Holtermann—Although I do not take his side, that is strong evidence. I do not think that any of us are doubting that bees will go back to the old location, but when they have been in the cellar all winter, what about it then?

Mr. Roach—If the bees are the same ones you carry in, I think they know the location they were in before, and if they were on a new place they would be very apt to get lost. I have seen that by moving hives late in the fall.

Mr. Fleming—Any excitement in first spring will draw their attention to that spot and overcome any liability to go back to the old stands.

Mr. Alpaugh—Most of the bees will know their old location, more probably if they have been wintered good and quiet. It is very little more trouble to put them in their own stands than in any other place. The trouble is, if they get back to the old stand and find a hive there they will try to get into it, providing they find the hive where they were used to setting.

Mr. Shaver—I know in the first fly you will find them go back to their old places.

The next question brought before the convention was

When Should Bees Wintered on Summer Stands be Examined?

Mr. Shaver said he could hardly answer the question. He did not examine them all at first; only those that are not wintering; you can see some signs outside. He said he marked them and the first nice day he went through them. Those that he thought were wintering nice he did not touch at all till later on.

Mr. Robinson—I never examine. Some say examine and some say to leave them alone. All I know about it I learned from books and not from experience.

Mr. Atkinson—I generally like to examine them in April. I do not winter in

the cellar. I examine them before I take them out of the clamps. If they are short of honey I mark them and see to their wants, and if they are not very strong I look to see if they have a queen, and if they have not a queen I see after them, so sometimes right away and sometimes later on.

Mr. Miller—In setting them out I notice their condition as to weight and strength. Those are the only two conditions. The colony that I consider is all right I let alone, and the colony that in passing through the yard I find by a mark on the hive that they are light in bees or stores, I sometimes raise it up underneath. My hive will admit of turning in any shape.

Mr. Taylor left them alone if they had plenty of honey. Sometimes he put a little stone on so that he could go through the next day and see how they were.

Mr. Holtermann—What I wanted to bring out was this, and I think it has been done—to mark them as you are bringing them out—if they are light, and then all you have to do when you want to examine them is to lift them from the bottom, and that shows you whether the bottom board is clean or not. If it is not clean, clean it, and it gives you an idea of the strength of the bees. If possible, do not allow the sealed quilt to be broken, and if they are weak take out some and put in a division board and chaff cushion behind it.

Mr. Alpaugh—When I used to be carrying them out in spring I took note of a good many of the hives; if they appeared clean and nice, of medium weight, I set them down without any other note, but if they were very heavy I marked them in case I needed them to draw from, and light ones if I needed to give them anything. Sometimes I would go to the heaviest ones and could take all because there were no bees there. You cannot always tell by weight whether they are in good condition or not. If I found them clogged I would mark them also and go and clean them. I used to close the entrance up quite close, $\frac{2}{3}$ of an inch to start with; if I found they needed more, give them more or less. If they fight to get in they need more room, or if they cannot get past one another; that does not mean when they first go in the stand, you have to give them a little fly.

Mr. Miller—Mr. Holtermann said he did not like to break the seal of the quilt; I would like to ask why?

Mr. Holtermann—That quilt gets down tight, and if you break it before spring a good deal of warm air escapes. I have never found one that was not down pretty

well. I think that is where a great many make a great mistake.

When Should Bees Be Examined on Summer Stands?

Mr. Shaver said that he examined them one year on the 18th of March, but that is not done every year. The weather was pretty warm, not a particle of snow on the ground; the colony came on in good shape, but the spring was very fine; it was about four or five years ago, and we got a large flow of blossom honey. As a general thing he examined in April, but did not examine all at a time; he watched them until they were all unpacked—one year the 9th of May, but was sorry for it, as on the 12th there was a severe frost, and on the 13th drones were carried out by the handful. He did not like to break the seals early in the spring if it could be helped.

Mr. Atkinson—Generally I take mine out about the 24th of May, or the first of June. I raise the cover and look at the top, and can tell if they have plenty of bees, and I look to see if they have honey as well; if they have, I shut down the top and do not bother them any more; I do that along in April.

Mr. Robinson asked if they had plenty of honey in the fall wouldn't they have plenty in the spring?

Mr. Atkinson said he did not think so, at least not always; if they have about 25 lbs in the fall they are apt to come short; the winter has a great deal to do in regard to the consuming of honey.

Mr. Alpaugh—You may put away two colonies; one has a lot of honey and not many bees; maybe the other has a lot of bees and not much honey, and they will weigh about the same; they are going to eat a lot of honey; the few bees may come out the best; the old bees have got to live, and if you have a lot of them there they are going to eat a lot of honey.

Mr. Roach asked whether a small colony would not consume more than a large one, in order to keep up heat?

Mr. Shaver—But even then they will not consume as much.

Mr. Fleming always calculated that it had to be warm enough to handle them out doors, and then only a few hours in the day; their first examination was to clip the queen's wings and to unite any colonies that are queenless—if the bees are not too old, and there are enough to make it pay.

Mr. Heise examined first in the spring, when the bees commenced to fly. He had

his shop on one side of the yard and his dwelling on the other, and he was always passing through the yard and up and down the rows and he easily took notice of every colony that was flying, and as soon as he found one that the entrance showed that they were not doing as they should he could tell what was going on inside—by how they were hanging around the door; in such case he made a note, and examined that hive the same day, if possible; in the first place he gave his bees abundance of honey in the fall, and he was satisfied that not one in fifty was going to be short of stores, so it was not necessary for him to examine them; he just examined the ones that were not doing what they should do. He said it was a mistake to keep tinkering with the bees in the spring when they did not need it; he did not care whether it was the best colony in the yard, if you keep tinkering with it from day to day you will soon have no colony there to amount to anything. He never took them out of packing till he was sure of steady warm weather—about the latter part of May or the beginning of June. He had had them swarm before he took them out of the packing. His first examination was when the temperature was about 70. He removed the second quilt he put on in the fall and put on a gum quilt. That was not done until it was safe to open the hive. If any cushions became wet they were exchanged. Mr. Atkinson spoke about 25 lbs of honey for winter stores; he would not be satisfied with much less than double that amount.

Mr. Armstrong—Just as soon as I could see the bees flying I wanted to look into them a couple of times a day; I wanted to get them out early; but I have quit that altogether, and do not now take them out until the weather becomes real warm.

If Bees are Short of Stores, What is the Best Method of Supplying them when Combs of Honey are in Stock, and when not in Stock?

Mr. Shaver thought if the bee-keeper had no combs of honey, he should have them filled. He thought it was far ahead of feeding, and that the combs were easily filled; put them on the slant and pour one side full, and likewise the other. If the queen is laying, or has a strong brood, he said he would uncup it.

Mr. Craig wished to know if that system of filling the comb was generally understood.

Mr. Shaver—Have it nice and warm,

and start at the top, slant it, and you can fill them up pretty well.

The Chairman—Won't it run right over the cells?

Mr. Shaver—Not if you hold it right; hold it too high, and it will run too fast. A good idea is to fill two at a time, and let one lay while you are filling the other; a coffee pot is a good thing to use.

Mr. Holtermann—Take a perforated can, and let a fine stream go into the cells.

Mr. Robinson wanted to know what they called short stores. The chairman replied, if a hive has only one or two pounds; you might think they have enough, but they have not; if they have very little they won't brood.

Mr. Miller—Very often I would find a colony that wanted feeding when I could not open it up before the syrup came, when I would lift one corner of the cushion and fill from the feeder. I find that a weak colony will take this up well. When I find a colony that wants it, I put a quilt and also a cushion on. The cushion goes right down and laps over, and I lift back the cushion and run the funnel down and have a slide on the reeder and pour in what I want; in that way no heat escapes.

Mr. Fleming—If you keep what honey you have on combs equalized up, and will feed it, by the time the honey flow commences, it will just about keep you going. You will find the strongest colonies are the shortest of stores. I use a ten-frame Langstroth.

Mr. Taylor—As soon as I find a colony short of stores, I take one of my feeders—my feeders do not cover the whole top of the hive—I put on four or five pounds of honey or sugar and cover it up and leave it there, and find it works all right.

Mr. Heise—What little feeding I have done the last two or three years has been simply giving them combs I kept over. One time in January I poured about a quart of warm syrup over the colony of bees (it was the best in the yard and I was anxious to save it) I think I made a bungle of it, but they came through all right, and turned out to be the best colony I had the next spring.

Mr. Mitchner—If necessary, we take honey and thicken it with sugar and run it on top of the comb.

Mr. Holtermann—We cut a little hole in the solid quilt. I think the longer I live the less use I have for feeders in any shape or form; I would use honey, full combs, and if I did not have that I would feed sugar syrup put in as Mr.

Shaver says, or with a can with fine perforations. I believe the sooner we give up, and the more we condemn the feeding back of honey, the less trouble we will have in many ways.

The chairman asked if any of the delegates found a tendency on the part of the honey to sour.

Mr. Shaver replied that he had never had any trouble, if the honey was good; he would not use poor honey.

The Chairman—Syrup will not sour, but honey alone takes up the moisture and sours very quickly. What little I have to say about spring feeding has been mostly between apple bloom and clover. I did as Mr. Holtermann says; I practised it many years ago. Take a tin and perforate it full of little holes, lay your comb in the bottom of a 22x22 and hold the can up a little and let it stream down. You can fill every cell in the comb if you want to; it is better to fill one comb well than to fill into three or four and have them scattered from the bees. You have to feed according to the strength of your colony; if you have a weak colony you want to give them only a little feed, so that they can take care of it.

Is Stimulative Feeding Desirable?—Mention the Conditions.

A member introduced this question to the convention. He said that two years ago it was not very cold, but the bees were in all the time and did not gather much and in a season like that it paid to stimulate, and the people that did stimulate got good results. Another season, when the bees are out every day and gathering honey and so on, it might not pay. This is the question; under what conditions?

Mr. Shaver said he had done it some years and other years he had not; one year he gained by it and another year a frost came and cut the blossoms, the clover was hurt, and he had to feed quite a while. He saved his by feeding a little in dishes in the open yard.

Mr. Robinson In 1892 I uncapped every cell in the hives, and in April, when the bees swarmed, I never had larger swarms—eight and ten pounds to the hive. I sold some hives and know what they weighed. That was the only time I ever tried it.

Mr. Atkinson—I do not believe in it at all. Last year I had a lot of honey over and I fed them every day for a month or more, and some that I did not feed swarmed first, so I came to the conclusion

that it did not amount to much. I find a weaker colony will overtake a strong one sometimes when it comes to swarming. Last year I had several swarms before those I fed, and I fed them perhaps fifty or sixty pounds. I fed good ones, the best I had in the yard; when they did swarm I had good, decent swarms, but I ought to have.

Mr. Armstrong—I have never done a great deal of stimulating but I think it would pay every time. Between fruit bloom and light clover there is a gap, and I think it would pay (although I have hardly done enough to tell) every time there is a dearth of pasture. It would keep your bees moving along and it would do them good to be stimulated right at that period, even if they have plenty of stores.

Mr. Roach—I was ten years on a farm, rather in an isolated position, nice locality, under a south and western bush, facing the south-east, and I stimulated by feeding in a trough ten or fifteen rods out. I hewed out a trough and filled it with limbs and straw, and I would put in the feed and have them swarming by the 15th or 20th of May. If there was a west or north wind they were sheltered and could go and come without being chilled. Under circumstances like those I do not think there is anything better to have your bees in fine shape for the harvest. My neighbors would say "My bees are not swarming; they are dying off every day," while mine were swarming. You, perhaps, could not do that unless you fed your neighbor's too.

Mr. Heise—I never stimulate, except in cases like Mr. Armstrong's—simply to tide them over a dearth. If you set them back it may take them weeks to regain themselves. Two years ago I fed 140 lbs. of feed, and it returned me 1000 lbs of honey. Before that dearth commenced I had colonies preparing to swarm and I expected they would give up the idea, but under the feeding, the majority of them, while perhaps it did not further preparations much, yet they held their own.

Mr. Mitchner—We tried stimulating feeding but do not approve of it.

Mr. Holtermann—It depends upon the conditions a good deal. Mr. Craig, Mr. Grey and others have tried a good many ways, and where the bees can fly, if for any reason they are not gathering much or cannot gather, I believe the tub or trough is a very good method. We put out a tub, put warm syrup in it, and put a lot of straw in. I put in enough so that before cool weather came on in the after-

noon they would clean it up nicely. Every colony gathers in proportion, a strong colony will gather a lot and a weak one a little, and it will stimulate them in proportion to the number of bees. The next time I put in more than the bees could take up before the cool of the afternoon came on and a great many bees were chilled in the tub, so that you have to be very careful. In Brantford, a good many seasons the bees work on the trees in town—they open up first—and then they begin to open up in the country. We have not got that break between fruit and clover that is generally the case, and if the weather is right they get enough so that they do not need to be fed. Two years ago there was a season when day after day the weather was not cold, (no danger of chilling the brood in the hive) but it was wet and the bees did not gather. I have examined hives, and if you will set your bees out, and they will fly, that day the queen will begin to lay, or the next, and if they are not working for a week she will quit laying, and then when they commence she will begin laying again. I am acquainted with a man near Ottawa who, two years ago, stimulated his bees and got half a crop of honey, while men alongside did not stimulate and their bees ran down so that they killed their drones, and these men did not get a particle of honey. It was simply a little investment in the way of stimulating feeding. You have to take your chances. As far as our own bees are concerned, I do think we have not given them due attention at that time of the year, with the result that we have not had the returns we should have had. Mr. Pettit, of Belmont, stimulates in this way; he has plenty of honey in the hive in the fall, he winters well and has strong colonies, he makes a practice of changing all the honey in that hive as much as possible into bees, and the way he does it is by changing the position of the combs in the hives, he keeps changing them around, if they have a full comb of honey they may not touch it.

Mr. Shaver said that Mr. McEvoy informed him one season that every yard he went into that was not fed did not get honey, and every yard that was fed got honey.

Is the Spreading of Brood in Spring Desirable?—(a) If so, With What Strength of Colony?—(b) At What Season, and How Had it Best be Done?

Mr. Shaver—On a good strong colony I

do not think there is any need of spreading. If the brood is weak, uncap a little and spread; but that cannot be done by every person.

Mr. Robinson—I believe if we can get our honey to one end of the frame and group the other, it would be a fine thing to turn one comb around, or every other one, one at first; that would be spreading brood and stimulating at the same time.

The Chairman—You take any long frame, and the brood are apt to go into one end; they can make a nice brood nest in one end of the hive.

Mr. Robinson—If you have the hive facing the south, the brood will more likely be in that end.

Mr. Atkinson—Take the hive, and let it stand in the ordinary way through winter and spring, and you frequently find the brood over so that you can turn and put them any way you like. When we went into the cellar we raised them four inches for a number of years, and I have not noticed that they take it much different than that now.

Mr. Miller—In the spring, after the bees are sufficiently strong, I interchange my comb now and again.

Mr. Holtermann—Do you find that the time you can do the most good with spreading is when they are pretty near full, or weaker?

Mr. Miller—I want a good body of bees: I want brood in four combs.

Mr. Holtermann—When you spread through, is your object as much to move honey as it is to spread the brood?

Mr. Miller—Both; I want to use up the honey and also give the queen a greater chance without going to the outside of the hive.

Mr. Armstrong—Simply get the honey to the centre of the brood and get the brood to the outside, and the time I do it is when the colony is pretty strong. I use a good prolific queen. If there are any beginners here, I would advise them never to attempt spreading brood.

Mr. Heise—If I have a few weak colonies, (which usually occurs in the spring,) I open the hive and contract the brood chamber by dropping in a division: as soon as they require more combs, instead of adding them on the side I spread the brood frames and drop them in between. Whatever the season is, I do this when the colony requires more room.

Mr. Craig—A judicious spreading of brood is all right; we have done a little of it, but it requires so much caution that

we dare not advise an inexperienced person to attempt it at all.

Mr. Alpaugh—I have never done much spreading; have been very cautious, for the simple reason that the weather may be favorable, nice and warm, just when you do it, and immediately after that it may run a good deal colder, and then you will find yourself with a chilled brood. If the conditions are right, it seems that bees spread their brood just as fast as they can gather, providing there is anything coming in or if they have plenty of stores to look to. You find in the spring brood in the centre and eggs on the outer edge of the brood chamber. It should turn colder and the swarm contracts there is least harm done by drawing away from the eggs.

Mr. Holtermann—When it comes on so that the hive is quite strong, and the centre of it is all brood, pretty well, and there seems, on the outside honey, do you think it might be possible at that time to spread to advantage?

The Chairman—Perhaps; in removing they get stimulated a little, but if they have room and are good and strong the queen will lay all she can if she is removed. The matter of spreading the brood is a matter of judgment, born only of experience.

Is it Advisable to Equalize Colonies Before the Honey Flow; if so, how? Is it Desirable to Double up Weak Colonies; if so, How Weak; When should it be Done, and how?

Mr. Shaver was of the opinion that the good ones should be let alone, and the bee-keeper should build the others up, if he could.

Mr. Armstrong—Supposing I have a colony at a certain spot that is extra strong, but have not got quite enough room, and I have another one in the yard with a good queen, I just take that comb and put it in the other hive. In a very short time you can build that one with the good queen, and you won't note the effect on this strong colony; but from an ordinary colony I would take nothing.

Mr. Roach—I have taken a comb, and brushed off the old ones or smoked them off; sometimes you may make a mistake and do more harm than good unless they are very strong. I have taken them out occasionally when they have been very strong.

Mr. Taylor—I take and double up my weak colonies just before clover. Never

touch a strong colony; give them all the room they like.

Mr. Shaver—Do you think you gain much by doubling up your weak colonies?

Mr. Taylor—Yes, at that time, just before fruit; I put a newspaper between the two colonies.

Mr. Heise—A few years ago I tried to equalize, but it was unsatisfactory. The only way I do now is to take a weak colony and try and get it up to its proper strength.

Mr. Mitchner—We always contract a brood chamber, and give to the weaker ones.

Mr. Shaver said he did not think it paid to weaken good colonies a particle.

Mr. Holtermann—I would sooner let the bees run right along and build up strong ones, and let the weak ones do the best they can, and if there are weak ones at the honey time unite them then—at the clover flow, and then if you want to build up the weak ones at the expense of the strong you can try.

The Chairman—I have done some equalizing; that was in times when I did not have as many bees as later on. I believe you can do it to advantage, but you need to be careful; it is worse than spreading brood—to take from one hive and give to another. Go to your strong hive, take out your frame of hatching brood, take it to your weak colony and replace it for a frame that is just full of eggs, and take that back to your strong colony. You will find them both strong, afterwards, and no loss of brood; the same bees are there to cover the same amount of frames.

Mr. Shaver But don't you lose bees for the honey flow?

The Chairman—Yes, but the idea is to get both queens laying to their full capacity.

Should Supers be put on the Hives Before or After Swarming; if Before, Under What Conditions?

This was the next question for consideration. Mr. Shaver told the Convention that he generally examined his colonies, that he wanted them full of brood; he put on an extract to start with; he did not very often get any fruit bloom honey.

Mr. Heise—They always swarm on comb honey. I crowd them until they are black. I generally run pretty strong ones, and am pretty sure of them. I do not put any comb honey on any fruit bloom; I draw the extract off and put on the comb; very often I will give this

honey to the weaker colony, and they will boom right up. I do not put these supers on every colony; maybe ten will be ready to-day, and I follow them up that way, when they whiten out, anybody can see it by a glance; if they whiten out in fruit bloom I should put them on then; not comb honey.

Mr. Atkinson—I never put mine on till clover; as soon as they get full of bees, or white in the tops I put on supers; I always put them on before they swarm.

Mr. Holtermann—Do you put on a full super?

Mr. Atkinson—Yes; one eight.

Mr. Shaver—I use some very shallow frames in the spring; they are only comb honey supers, with a frame to match; I think they are far ahead of the larger frame, in the spring.

Mr. Fleming—I think it advisable to put them on early, just as soon as you see the honey, to prevent increase; get them on early, and if you get them to swarm you can change them over to the new colonies; that is my plan—to put them on at the beginning of the clover season.

Mr. Armstrong—Don't it make a little difference in putting on supers whether you want increase or not?

Mr. Fleming—I think for the most part dealers get the supers on too soon rather than too late, because the chances are that you can keep them down and they won't swarm at all. We have numbers of hives that do not swarm. I like to get my supers on when they are crammed full of bees, and we know when we are going to get honey by the blossom; I get the supers on just before that.

Mr. Shaver—You would advise any young beginner to put them on before they started to whiten? I have them come to me in the spring and I try to give them lessons; I want them to see them whitened and on they go. I mean comb honey. I do not mean whitened all over. That is the time I put mine on. Seventeen pounds in two days is pretty good from blossom. I do not get much from raspberry.

Mr. Roach—When they are hanging around the entrance a little I put the supers on. I have put them on in fruit blossom and I find them clean up the comb, and as soon as any honey comes they are ready to put it there. Give them plenty of room in good time.

Mr. Taylor—I put mine on good and early for extracting honey. I like to give them lots of room. If the combs are white and they are crowding around the entrance I give them eight or ten.

Mr. Heise—I have a half super. It is split vertically instead of horizontally. I get about the same results as if it was split the other way. I think it is an advantage to use half supers.

Mr. Holtermann—The bee-keepers generally have that old idea that

A swarm in May is worth a load of hay,
A swarm in June, a silver spoon,

A swarm in July, not worth a fly;
and when they get an early swarm they think it is wonderful. If they get too early swarms they get them at the expense of strength every time. We practice putting on the upper stories as soon as they begin to whiten out along the top bar. I have always thought that was time enough to put it on. The shallow super—of course there is no reason why I should object to it—but we should avoid having odd sizes of frames, and I cannot see why we cannot take four frames, put a division board and a quilt on each side and put the four frames on the centre of the brood chamber, and put that on your hive and it gives you the same capacity as eight shallow frames. Take the four combs and they are twice the depth of eight shallow combs; you put that over the centre of your brood frame and then put a quilt over the top of that and a cushion and with these four combs you can put them anywhere, give them to any kind of a colony; but with the others you cannot do that, you cannot put them into a weak brood chamber that wants some honey. I would have them in the centre and a division board on each side. Another thing, we sometimes have succeeded in drawing out the foundations very nicely by putting on supers at that time, but it cannot always be done; your colony will build all up, it does not make any difference whether you run for extracted or comb. When the light honey begins to come in the stronger ones run for comb.

Mr. Armstrong wanted to know whether, providing they had the extracting supers all on, and did not get any honey for two weeks, any harm would follow.

The Chairman replied that they would be cleaned up before anything else would be done.

How can the Flow From Early Blossoms Giving Inferior Honey be Utilized to Draw out Foundations?

Mr. Robinson—Put the super on with the foundation in.

Mr. Armstrong—If the flow of blossom honey and the other honey comes on together, I put on a super and take a few

frames from below with some new honey in them, and raise them to the top, into the upper story, and then put a couple of foundations alternately, about two sheets foundation and full frames, and two full frames of honey in the centre, and a division board at each side; the bees will start to draw out these, and at the same time store a certain part of this undesirable honey which you wish to get rid of in these combs on the top, and it will give more room; if I want to use some of them to stimulate some weaker ones I take those frames and take and fill my super up with empty combs; before that I take my undesirable honey out. That is the way I get them to work on a strong foundation.

Mr. Holtermann—Mr. Armstrong's remarks are all right; providing you put full combs up; the way we do, and in good seasons we have had a good many combs drawn out that way, is to take up a comb with brood in; that will draw the bees up; that is the idea; if you put combs up that they can store honey in, the trouble is that there will be a tendency for the bees to use those combs and not touch the foundations so much; and if you take a comb of brood and honey and then two combs with foundation in, then another comb that is not filled—remember I am not saying anything against a filled—and then a filled, my experience is that there is a tendency for the bees to keep drawing out that filled comb and leave the foundation alone, but if you put up there the one comb to draw the bees into it, and then put your foundation in, they have to work with it or nothing; and then as soon as they fasten that around and draw it out and begin to put honey in it, I whip it out and put others in their place; then you have something that the bees will readily go up into. The partially filled will not answer. With sections you do not know when they begin to store honey; it does not seem to me practicable. I always give the bees free range in the upper story until the clover comes in, and then if you have brood there that you cannot dispose of in that hive there are plenty of places to put it. If the queen goes up and lays there and wants more room, all the better. I do not necessarily use the full story; sometimes only half.

Mr. Miller—Give each hive all the room they require, and never put an excluder in until the white flow commences, but I have the super on before that; not an extracting super, usually, but I give the

queen liberty up there in case she will use more room.

Mr. Shaver—What do you do with the brood when the white comes?

Mr. Miller—I sometimes leave the three supers right there until the bees swarm, put my excluders on the top and allow that brood then to be removed, then make my division. I do it as they need it.

Mr. Armstrong—I put them on as soon as I put the upper story on; some of mine never come off; stay right there, and they are always ready. If you do not put them on then, you have to afterwards, and the one operation does the both. The majority of mine are on right straight through, and in the yard you could not find half a dozen that are not on to-day. I don't want any brood in my extracting supers, more than I can help. If you do, the first thing that goes up before the queen goes up is a lot of pollen; that is not very nice, where you want "gilt-edge" honey.

Mr. Heise—I would not like to leave the excluder on from one year's end to other. It would help the moisture, if there was any, in the winter time, to condense. If it was zinc, a good deal quicker than if it was not there.

The Chairman—I do not like the queen in the extracting combs; no brood at all, if you can help it; the queen does not damage the honey so much as the pollen; it is the pollen that plays "hob." Sometimes they fill a cell half full of pollen and then cover it with honey; that one cell will spoil the taste of twenty cells of honey, and if you let the queen go up and brood you cannot help but get pollen.

Convention adjourned at 6 to 7.30 p. m.

(To be continued.)

Advance In Price of Goods.

All kinds of raw material used in the manufacture of bee-keepers' supplies has advanced and the end may not yet be in sight. Tin, in some instances, has advanced to double the price. Prepared metal has already advanced 1½ct. per sq. ft. Lumber and other material has also advanced. The bee season promises to be a very active one. Under the circumstances we would strongly advise beekeepers to get in their orders for supplies early and avoid the disappointments of last year, also increases in prices which are likely to take place before long.

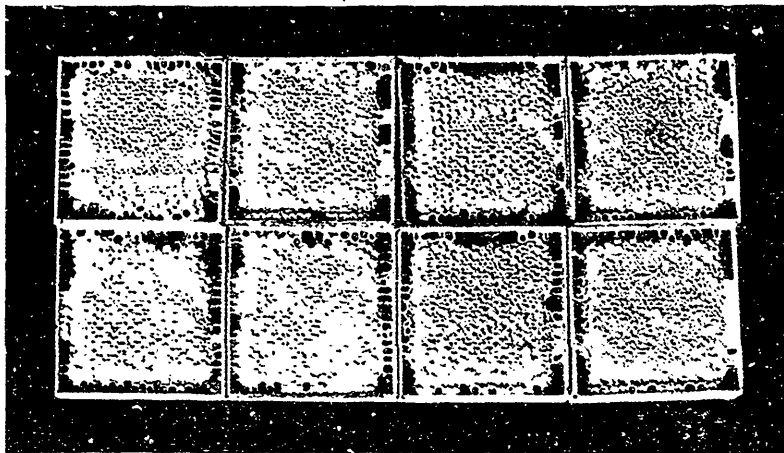
THE PLAIN SECTION.

During the past year or two no one subject has so largely engrossed the attention of our bee papers as the plain section and slat-separator. The American Bee-keeper has devoted but little space to the discussion, preferring rather to defer its remarks until the question should become more settled, either for or against its general adoption, which it was anticipated would be done during the season just past. In this, however, we have all been to some extent disappointed, as the general failure of the honey crop precluded the

Hutchinson gives it as "an object lesson in comb-building," and says it is a fair representation of such honey as he has seen produced in the two classes of sections.

We have as yet, had no opportunity of testing the advantages claimed by many for the plain section, though we have seen enough of the product upon the market to justify the conclusion that all plain sections are not as well filled as those which have come before the attention of the Review; and yet no prettier goods have been seen this year by us than has been shown in plain sections.

The eight plain sections herewith shown were purchased at retail from a local grocer from whom we obtained the producer's



PLAIN SECTIONS, FROM M. L. MAIN'S APIARY.
(The American Bee-keeper)

experimental work projected. Hence the matter stands, awaiting favorable conditions to make more thorough tests of its merits in the future.

The Bee-keepers' Review, by whose kind permission we present elsewhere in this number an engraving of four completed sections of each style, and to which illustration editorial reference is made in the March issue of The Bee-keeper, has given the matter very thorough consideration, and inclines to think well of the new style in many ways, yet wisely cautioning all to try them first in a small way before making expensive changes in their super arrangement.

In presenting the picture, Editor

address, Mr. M. L. Main, Grand Valley, Pa.

As the honey was as nice as any we had seen, and was, indeed, very tempting, we deferred "sampling" its qualities long enough to arrange it before the camera and to expose a plate; then, upon consulting the subscription list we were pleased to find that Mr. Main was not only a subscriber, but that his Bee-keeper wrapper was insured against turning red for a year or so to come; whereupon we sent a copy of the photo to him with a request that he favor our readers with an account of his experience with, and opinion of plain sections, which was promptly granted.

Accompanying the article, published in

this number of The Bee-Keeper, was the following note:

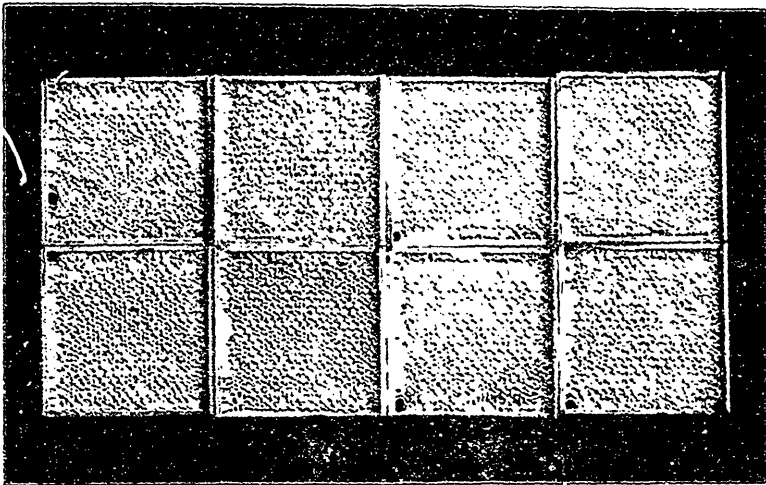
"Editor Hill:—Regarding the honey sold to Barnsdall & Co., I would say, that in the plain sections was stored by strong, young colonies, made up of two or more swarms, while that in old-style sections was from old colonies, most of which had swarmed; which accounts for the difference. I have some fancy honey in old-style section, quite equal to any in the plain ones.

Fraternally yours,
M. L. MAIN."

The American Bee-Keeper is always and emphatically in favor of progression,

other eight sections taken by us in sections with the top and bottom bar only of the section open, with solid separators and section holders. Wedges were used at the sides of the hives and between the brood chamber and bottom board, the latter feature according to the Pettit System. As far as I know of no illustration in the whole of the United States, (and I guess the best has been brought forward) equals this in finish.

The editor of Gleanings in defending the case with which plain sections can be



COMB HONEY TAKEN WITH THE GOULD, SHAPLEY & MUIR CO. BEE-KEEPERS' APPLIANCES.

but progression does not consist in adopting every new idea that is presented. If we are favorably impressed with any new idea, it is well to determine its merits by personal test on a small scale and with due discretion. It is often well to do likewise in cases which do not commend themselves favorably to our judgement.—The American Bee-Keeper.

[As so much has been attempted by way of comparison by showing the fine work that can be done with plain sections, we show two illustrations, one from the American Bee-Keeper showing the nicest seen in "plain sections," and photographed because it was so nice. The

scraped, writes: "Mr. Holtermann overlooks the fact that only the upright cleates, or that part that actually comes in contact with the sections, needs to be scraped. Actual experience (and I have seen cleated separators eight or nine years old,) goes to show that cleaning more is time wasted."

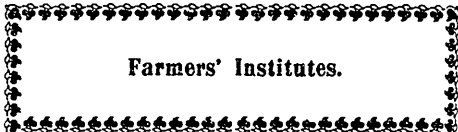
I have often heard that localities and countries differ, but I did not think it was possible that there could be as much difference as the above implies. Carrying the argument to a logical conclusion it is a waste of time to clean propolis from

any part of the hive that does not come in contact with the sections. With us we make a point of carefully cleaning the bottom board, sides and ends of the hive, also scraping the frames, and any other part of the hive before putting the super in place. The super of course is correspondingly well cleaned. Some think that the bees travelling over the soiled portions of the hive and then the comb, travel-stain the comb. This may be a theory, the correctness of which may be difficult to establish, but it is held by many. Again, is it reasonable to believe that when the bees bring in propolis and all parts of the hive except the sections are pretty well stocked that the bees will not put more there? I think so; and I believe that the-keepers of this country who have taken choice white honey free from travel-stain cannot be induced to accept this argument, and believe that for this country it is a waste of time to clean and scrape the hive in preparation for comb honey.—Ed. C. B. J.]

WHAT G. M. DOOLITTLE SAYS.

The excitement now going on in some of our bee papers over plain sections and fence separators, reminds one of a similar craze which came over the bee papers some years ago, regarding reversible hives and frames. The reversible excitement raged very nearly equal to the one of the present and caused hundreds and thousand of bee-keepers to put dollars into the thing, which dollars, if we are to judge by the quietness regarding reversible frames of the present day, were entirely thrown away; for if there are any bee-keepers now using either reversible hives or frames, they are not enough pleased with them to say anything regarding that pleasure. It is to be sincerely hoped that this plain section and fence separator matter will not prove such a bankrupt affair as did the other. History tells us that through the influence of the New York Tribune, Horace Greely was enabled to push to an issue the battle of Bull Run, when neither the country nor the army was prepared for it, thus bringing defeat and sacrificing hundreds of lives for the unadvisable "push" of one man; and while there can be no such momentous issue at stake in bee affairs, as there was in this country in the early sixties, yet I cannot help but think that

the course pursued by some of our bee papers in pushing new things, is as ill advised as was the pushing of the battle of Bull Run by the Tribune. I am not opposed to giving any new thing publicity, and a chance for such new thing to make its "mark in the world;" but it does seem that the throwing of the whole force of a periodical into such things as reversible hives and frames, deep cell comb foundation, plain sections and fence separators, etc., is ill advised, and has a tendency to influence the readers of such a periodical to invest money in something which will surely sink it for them when the craze is off, and reversible hives and frames, deep cell-walled foundation, etc., is declared a flat, dead failure. As for me, I am willing to "bide a bit," and use the old sections a little longer, especially as they brought the top price in the market the past fall, in an open race with all the others.—THE PROGRESSIVE BEE-KEEPER.



Farmers' Institutes.

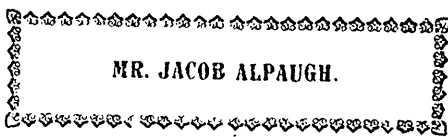
We have received from the Provincial Department of Agriculture the Report of Mr. F. W. Hodson, Superintendent of Farmers' Institutes, for the year 1897-8, a document of 500 pages embodying a vast amount of intelligence in relation to farming matters of a scientific and practical nature. The Institutes appear to be growing in popularity as the membership shows an increase of from 15,707 to 16,351 during the twelvemonth. The number of meetings was 658, the number of addresses delivered 3,270, and the aggregate attendance 126,094. Excursions to the Agricultural College at Guelph were conducted by many of the local Institutes which were participated in by fully 50,000 people. A Women's Institute has been organized in Saltfleet Township, Wentworth County, the membership of which amounts to 86, an example which it is hoped may be emulated in other neighborhoods and lead to the establishment of an organization for the benefit of farmers' wives on much the same principle as the Farmers' Institutes. Addresses were delivered at the fortnightly meetings of the Saltfleet Women's Institute of a high

order on domestic economy, hygiene, literature, etc.

The Report contains a selection of the numerous papers given at the Farmers' Institute gatherings covering a very extensive range of subjects. Every phase of farm work receives due attention and is ably handled by men whose practical experience or scientific attainments and prominence in the world of research renders their utterances of value. In a list so extensive it seems invidious to particularize, as many able contributors must be left unnoticed, but among the specialists are represented W. T. Macoun, who treats of the cross breeding and hybridizing of plants; G. E. Day, whose subject is "Making Plant Food Available"; H. H. Dean, T. C. Rogers, and A. F. McLaren, who deal with dairy topics; J. E. Orr, who contributes a practical paper on orchard spraying; J. E. Meyer, poultry specialist; R. F. Holtermann, on bees; John A. Craig, who writes on "Judging Sheep"; and C. W. Nash, whose most interesting paper on the birds of Ontario in relation to agriculture is accompanied by 32 illustrations. Many of the other articles are copiously illustrated in a manner which considerably aids the comprehension of the reader when technical matters are treated of.

The great strides which have been made of late years in applying scientific principles to agriculture, have greatly bettered the position of the farmer. The Farmers' Institute has done much to familiarize its members with latest results of expert investigations and a considerable proportion of this volume is devoted to comprehensive reports of recent European and American experiments. In particular the operations carried on at the numerous Agricultural Experiment Stations in the United States offer conclusions of great value to the Canadian agriculturist. Many of the details given in this volume of experiments carried on with a view to secure economy in the feeding of live stock, to test the qualities of manures, or to determine the best and most productive varieties of seed, will be found full of suggestion to the farmer, and if carefully considered enable him to effect important economies in farm methods and processes. In thus enabling the Canadian producer to keep abreast of the times and placing the result of investigations of the world's practical scientists at his disposal, the Farmers' Institute is fulfilling its object and deserves the hearty support and co-operation of all

interested in the prosperity of the country.



MR. JACOB ALPAUGH.

Herewith we present to our readers an engraving of Mr. and Mrs. Jacob Alpaugh, Galt, and their only child, Norman, a bright young lad of 13 years.

Mr. Alpaugh's name is well known to bee-keepers, and he is personally well known to quite a few prominent members of the fraternity. Mr. Alpaugh was born in Wellington county. He is of German extraction and was brought up on a farm. His father was one of the first settlers of the county and underwent all the hardships incidental to pioneer life. He was also a great hunter, killing as many as forty deer in one season and trapping several hundred musk, martin, and other fur-bearing animals.

Under these circumstances it is not to be wondered at that the subject of this sketch enjoys the sport with gun and ferret. He has killed as many rabbits this winter as his father killed deer in the older days. The father was a successful bee-keeper with the box hive, so even here Jacob has inherited traits. The latter started into bee-keeping about twenty years ago with forty colonies in box and straw hives, transferring them all into Jones hives. This way they were run for five years, when he came to the conclusion that he was on the wrong track. But there is one incident worth relating and Doctor Thom, an ex-president of the Ontario Bee-Keepers' Association, can verify the statement. Nearly twenty years ago Mr. Alpaugh made one piece sections and also plain sections. The plain section idea he discarded as of no merit. Mr. Alpaugh spent three years with Mr. J. B. Hall, where his great inventive genius manifested itself in such a

practical way that Mr. Hall was able to secure a prize at the Toronto Exhibition for the best invention. Mr. Alpaugh, to the credit of teacher and pupil, learned all Mr. Hall could teach him and then struck out for himself, and, as is quite usual, has possibly outstripped his teacher. In all probability some pupil of Mr. Alpaugh's will out-strip him. In this way a calling and the world advance's to the disparagement of no one.

Mr. Alpaugh was soon found an extensive and successful bee-keeper at St. Thomas. Here many of his inventions were perfected, and the public heard of his wax extractor, foundation and section machine, swarm catcher, etc., now made by the Goold, Shapley & Muir Co., Limited, and others. He also exhibited at Toronto taking first prize on comb honey for a number of years in succession. He wintered with great success in the cellar for a number of years, losing only two or three per cent. He got so many bees that he decided to run risks and winter outside, and has wintered very successfully in that way. Mr. Alpaugh's method has been given in previous numbers of the C. B. J. Mr. Alpaugh has wintered 400 colonies in this way in one winter, and securing in one season a crop of honey selling for \$2,000.00. Mr. Alpaugh's success is due to thoroughness in work, concentrating his thoughts and energies in one direction, close application and natural and acquired ability.

Mrs. Alpaugh is a daughter of the late Francis Malcolm, Innerkip, Oxford County. Mr. Malcolm was well known to the editor of this journal. He had the reputation of being thoroughly upright and honorable; a keen and shrewd business man, who made a point of mastering every business he undertook and was always successful. Mrs. Malcolm was English, and a splendid house-keeper. With two such energetic parents, even if she had not inherited the best traits of both parents, she would have been compelled to lead an active

life, for which there was ample scope in a large house and on a large dairy farm.

The son Norman, about thirteen years of age, is ingenious and original, handy with tools, and spends much time building ships, railway tracks with switches, railway trains, etc. He also helps his father on Saturdays, holidays and at other times. For his many good ideas in bee-keeping Mr. Alpaugh deserves to be highly esteemed by bee-keepers.

[The illustrations for the above article unfortunately went astray at the last moment. It was thought advisable not to further delay publication. They will appear next month.—Ed.]

The flame of a flaring oil lamp or stove may at once be extinguished by throwing flour upon it.

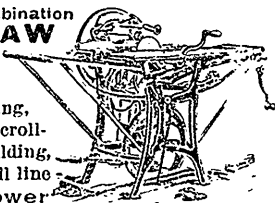
The manufacture of the tinder-box and flint is still carried on. A large demand for this primitive form of lighting is created by hot, damp climates such as that of Africa.

In the old days of wooden ships the boring insects which live in wood were the chief foes. Teak only acquired its reputation as a shipbuilding material because of its supposed immunity from them.

An eminent medical man says that the instrument least detrimental to the health of aspiring musicians is the flute. Its practice, he asserts, is not only free from risk, but it may also be indulged in with positive benefit to the health.

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R. F. HOLTERMANN, - - - EDITOR

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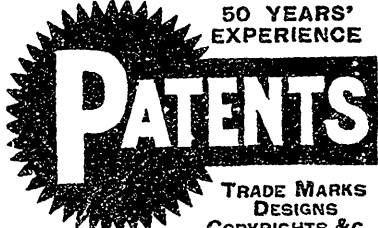
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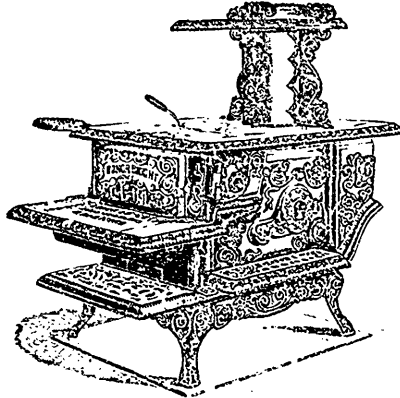
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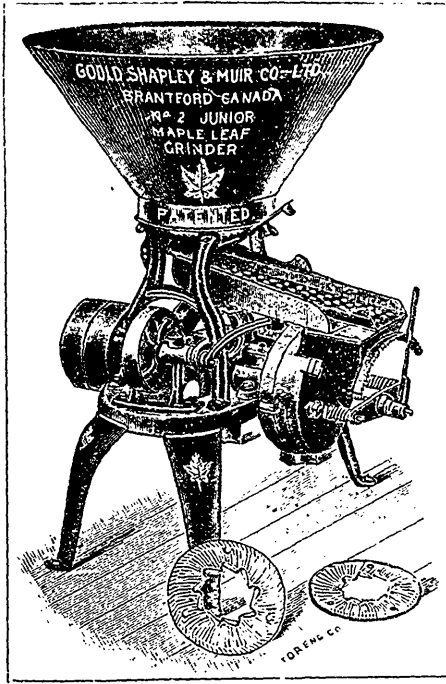
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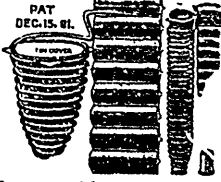
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