Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured covers/ Couverture de couleur
- ☐ Covers damaged/ Couverture endommagée
- ☐ Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/ Le titre de couverture manque
- ☐ Coloured maps/ Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- ☑ Bound with other material/ Relié avec d'autres documents
- ☑ Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

- ☐ Coloured pages/ Pages de couleur
- ☐ Pages damaged/ Pages endommagées
- ☐ Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- ☑ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached/ Pages détachées
- ☑ Showthrough/ Transparence
- ☐ Quality of print varies/ Qualité inégale de l'impression
- ☑ Continuous pagination/ Pagination continue
- ☐ Includes index(es)/ Comprend un (des) index

Title on header taken from:/ Le titre de l'en-tête provient:

- ☐ Title page of issue/ Page de titre de la livraison
- ☐ Caption of issue/ Titre de départ de la livraison
- ☐ Masthead/ Générique (périodiques) de la livraison

☐ Additional comments:/ Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X 14X 18X 22X 26X 30X

12X 16X 20X 24X 28X 32X

CANADIAN BEE JOURNAL

PUBLISHED MONTHLY.

NEW SERIES VOL. II, NO. 9. BRANTFORD, ONT., MAR., 1895. WHOLE NO. 361.

NOTICE.

If you find a cross in blue over this item it means that on our nooks your subscription is in arears. Please send remittance to Goold, Shapley & Muir Co., (Ltd), Brantford.

The Annual Meeting.

As was anticipated the annual meeting of the Ontario Bee-Keeper's Association was a decided success as to numbers. The convention was perhaps the best attended for many years. Great credit is due the local men, who did so much to have the arrangements at Stratford all that could be desired and particularly F. A. Gemmell who we believe succeeded in getting the one railroad certificate which was lacking to get fifty members with these certificates and the return rate of one-third fare. There were several who did not get a single ticket with the railroad certificate but purchased a return ticket. In this there was no intention to do harm but it nearly cost all the rest of the members who traveled by rail the difference between one-third and two-thirds return fare. There is absolutely no risk run by purchasing the full fare ticket to the convention and getting the railroad certificate when the secretary has made the same arrangements which he should. In any case the return fare is not more than two-thirds which with the single fare makes it one and two thirds If fifty attend with certificates the return fare will be one and one-third the same as those secured this year who made proper arrangements. We trust that next year there will be no such mistakes made.

***

Programme.

The decision to have the programme arranged in detail before the time of meeting is good. Some cannot attend all the days and by having these arrangements before it is time to be at the place of meeting such parties can select to hear the topics they are most interested in. By having such a programme, the subjects dealing with question bearing directly upon bee-keeping, much useful information may be gained. It is also a president's duty to check personalities and keep the discussion upon the questions under consideration. Such a check applied without fear or favor would soon do away with what little lack of harmony there may be.

***

Pure Honey Bill.

This will likely be a good time to do good work for the Pure Honey Bill. It is not unlikely at this date of writing (Feb. 20th) that before the April number of the CANADIAN BEE JOURNAL is issued, you will be asked to support one of the candidates for the Dominion House. You will do no harm by asking such if they will support the Pure Honey Bill. The more who show they take an interest in bee-keeping the better. Such a showing always has its good effects. We are very much pleased to in-

form our readers that the Ontario Bee-Keepers' Association decided at its annual meeting to keep on demanding the passage through House and Senate of this measure.

***

Regrets.

Members regretted the absence of several well-known faces at the convention at Stratford and many private enquires were made for our brother E.R.Root, Medina, Ohio. We were sorry to get a letter from "Ernest" some days before the convention stating that although he had recovered from his recent attack of illness he was very liable to catch cold, and did not consider it wise to attend the convention. We shall expect (D. V.) to meet him at Toronto.

***

Explanations.

Owing to an absence of three weeks since the convention at Stratford, we are not able to give as much of the report as we would like to. There are also several very important articles which will not well bear delay in publication. Those who have suggestions in connection with the Toronto Industrial Prize list will kindly send them to the editor of the CANADIAN BEE JOURNAL at once, or they w ll be too late to be of any use this year.

***

Score Card.

We are more than pleased to tell our readers that a score card to be used in the judging of honey has been authorized by the Ontario Bee - Keepers Association. The card may not be perfect but this system is certainly a long step in the right direction, and it is only a question of time when such a system will be universal. We may later on state how we arrived at the division of the points in preparing the motion brought before the association.

***

F. A. Gemmell.

The many friends of Mr. Gemmell will regret to hear that owing to impaired health he is spending three months in California. Mr. Gemmell is one of our best and most progressive bee-keepers and we expect something of interest from his pen. We trust he will return to Stratford full restored to health.

***

Bees in Spring.

Owing to careful tests in previous years it is our intention to take our bees early from cellar, in fact as soon as there is any prospect for good flying weather. With several sheets of paper over the quilt and a good warm cushion over that we think they will do no harm. As to stimulative feeding in the spring many of our readers knows we have been against it unless under exceptional circumstances such as Mr. McEvoy pointed out last spring As soon as practicable after setting out, examine every colony and see that they have sufficient stores, but avoid the handling of bees and opening of hives during the spring

***

American Bee Journal.

In the January 17th issue of the American Bee Journal we find an excellent engraving of Mr. Wm. McEvoy and family, Woodburn, Ont. The group consists of Mr. and Mrs. McEvoy, two daughters and three sons. It is a bright and interesting group, which we hope at some future time to reproduce in the CANADIAN BEE JOURNAL.

***

Local Societies.

The local societies which affiliate with the Ontario Bee-Keepers Association have to do some very careful financing to do the greatest possible amount of good. The majority of them try to arrange in some way to supply the members with a copy of the CANADIAN BEE JOURNAL. Those who supply this for a membership fee of twenty-five cents find it difficult to make both ends meet. Those who get along fairly well make either the membership fee 50c. supplying the Journal free, or what generally amounts to the same thing the membership fee 25c. per annum and then a charge of 25c. extra to those who wish a Journal. To those who are in this way entitled to the CANADIAN BEE

JOURNAL, but who are already entitled to a copy through membership in the Ontario Bee-Keepers Association, we give the privilege to selecting one of the United States Journals. In this way we get the best possible support from Canadian bee-keepers and we must confess we have nothing to complain of. We have tried to conduct the Bee Journal in the best interests of the bee-keeping industry in Canada, and if their patronage and approval in word is worth anything, it says that they think we have endeavored to advance the interests of the calling.

***

Queen Cell Protector.

We have now for several years tested the West Queen-Cell Protectors and Spiral Wire Queen-Cages. They have attracted no very great attention, not nearly as much they should, but they fill a very important place in the bee yard. In another place will be found an article by Mr. West upon the manner of using them. Our own experience warrants us in saying there is no properly conducted apiary in the land which can afford to be without some of these cell protectors. The queen cages are also very convenient.

***

A BIG OFFER.

We are anxious to see the membership of the Ontario Beekeepers Association doubled during the present year and as a step in this direction the publishers of the CANADIAN BEE JOURNAL, are prepared to make exceedingly liberal offers. To the one sending by June 1st, 1895, the largest number of members fees not including those who were members during the year 1894, we will give a prize consisting of a new Knoll Double Action Pressure and Suction Washer—a first-class machine, value $8—As a second prize, two dollars worth of Beekeepers supplies to be selected from the list of Goold, Shapley & Muir Co., Ltd. As a third prize an exceedingly convenient folding clothes rack. To all others sending at least two new membership fees we will give some premium selected by ourselves. The membership fees must be all in the secretary's hands by June 1st. The first prize must be a list of not less than five names to show that some effort has been made in this direction. Now, we should like to see everyone go to work, send the fees to the secretary as you get them and let him know you are competing for the prizes. It is not at all likely that the first prize will go to a large list of names, and everyone can get a prize. The membership fee is one dollar and everyone who becomes a member gets the CANADIAN BEE JOURNAL free for one year.

* * *

Bee Hives as Incubators.

From various sources we notice that those interested in poultry are thinking of availing themselves of the warmth from the hive in hatching eggs. The results of various experiments have been given and under proper conditons there appears to be no doubt the work can be done. We would object in the spring of the year using the warmth of the hive in hatching a few eggs of poultry, when it must be done at the expense of a good many thousand eggs of queens.

* * *

Refuse to take Winter Stores.

We notice from time to to time that bee-keepers report that colonies refuse to take down stores in the fall of the year. We of course take for granted that they have room for the stores, that the temperature is high enough to allow the bees access to the stores and next that the stores are offered the bees in the right way. When all these favorable conditions exist and the bees do not take up the stores we suspect a queenless colony and as a rule our suspicions are correct.

I like the C. B. J. and I think it is well managed. I am in my 78th year. I am well and happy and like my work, although sometimes it comes rather hard on me.

JOHN ANDREWS.

Pattens Mills. N.Y., Nov. 15th, 1894.

FOUL BROOD INSPECTOR'S REPORT.

READ AT THE ONTARIO BEE-KEEPERS ASSOCIATION CONVENTION.

During 1894 I visited bee-yards in the counties of Essex, Lambton, Middlesex, Oxford, Brant, Wentworth, Wellington, Halton, Peel, York, Frontenac, Duffern and Simcoe, and in the cities of Hamilton and Toronto. I examined one hundred and five apairies and found foul brood in thirty nine bee yards. In two apairies the disease had not made much headway, while in three it had. The remaining thirty-four aparies were very bad with foul brood and the death rate among many of these had been very large before I examined any of them. The condition I so often found things in, in several localities gave me more to do than any person ever knew of. I found some bee yards very badly diseased and near fine apairies, and the owners of these foul broody aparies away from their homes looking for other business that they were engaged in. In all such cases I looked around and got a good bee-keeper in the same localities to carry out my method of treatment in these foul broody apairies and make cures without causing loss or trouble to anyone. I never saw people so willing to take hold and cure their diseased apiaries after I explained how to do it than the bee-keepers I met with in the past season. I had one very old couple cure fifteen foul broody colonies under the most trying circumstances This aged couple where in poor health and scarcely able to go around, the weather was very warm and the bees not gathering any honey and the diseased colonies near some fine apairies. I was very much pleased to see the grand cure the old couple had made in such a short time. In getting foul broody apiaries cured I have always found that it made a great difference who was going to do the the work. Nearly all bee-keepers would cure their foul broody apaiaries in a short time and end the season with every colony in grand condition while some that had only a few colonies would be that careless and indifferent about the curing that they would not do as I told them, and then I resorted to stamping the disease out by fire for the public good. The very wet weather that set in all over the province in the last half of May and forepart of June was a serious thing as it came at a time when the hives were full of bees and brood and completely stopped all honey gathering. With the honey flow so suddenly shut off the bees soon used up the unsealed stores fast enough to keep pace with the very large quantity of larvae that required so much feeding, the result was a good deal of starved brood which was left in the cells to decay. Then when the bee-keepers found the starved brood in a decaying state in their colonies many of them became greatly alarmed and believed that foul brood was breaking out in their apiaries. Soon after that I received many letters from bee-keepers in Ontario and the United States describing a kind of dead brood that the writers found in their colonies and wanting to know if it was foul brood. In several cases it was starved brood and in many others it was the genuine foul brood. This confused state of things with the constitution of so many colonies going wrong made the bee-keepers very anxious to have their apiaries examined. After that I was wanted in many places. I rushed through every locality as fast as I could and kept pretty well up with the work. I burned one colony in Oxford county that was almost dead with foul brood and nine in the county of Halton, four at one apiary and five in another. The owners of both these apiaries were very willing that I should destroy the few diseased colonies and helped me to do the burning. I burned three foul broody colonies in Wellington county. I was pleased by the work done by the owners of all other diseased apiaries. In getting the foul broody apairies cured I always took the greatest of pains to explain to the owners how to manage the business so as to have every colony a good strong one and in fine condition every way when they were cured of the disease.

When I was first appointed inspector I made up my mind not to put the names of those that had foul brood in my annual report but to send them to the Minister of Agriculture along with a detail statement of my car-fare, livery hire, the exact condition I found every apiary in that I examined, and what was done and how I managed the whole business, and succeeded in getting foul broody apiaries cured by wholesale, peaceful settlements made, and justice done where diseased colonies had been sold through mistake, where I burned a few foul broody colonies and why I did it.

I knew well that if I was to put the names of those that had foul brood in my annual report that it would hurt the sale of their honey, queens and bees for a long time after their apiaries were cured, and to publish the names could do no person any good, while it would be sure to lead the

concealment of the disease The bee-keepers of every part of the province that I have ever been in always gave me credit for the way I managed the whole business.

At the first Board Directors Meeting, held in Lindsay, in January, 1894, it was moved by Mr. John Myers, and seconded by Mr. E. A. Jones, and carried that the Inspector send all the names to the Minister of Agriculture only. All the bee-keepers that I heard speak of this while on my rounds through the Province were pleased that a resolution had been passed prohibiting any person from getting the names except the Minister of Agriculture.

My time, car-fare, and livery hire came to $662.25.

WM. McEVOY.

Woodburn, Ont., Jan. 21st, 1895.

Test In Wintering.

A REPLY TO C. W. POST.

I gather from your article in C. B. J., page 444, under the caption "Experiments in Wintering," that you undertook to make an extensive comparative test of the real merits and demerits of the two systems, as practised by Dr. Miller and myself. Doubtless such tests when fairly, fully and faithfully carried out are at once both interesting and valuable. But was this test well and faithfully conducted? I think not. Now let us go over the articles to which you refer and I think you will agree that you have failed to so much as even immitate my system. Now let us note the difference. You have an inch hole in back end of hive. I have none at all. You placed wool loosely between hives. I do not, for the wool would obstruct circulation of air and cause dire consequences. You raised front ends from bottom board one-half inch. I leave entrance all open and raise the back end three-eighths of an inch. You raise back end two inches. I raise them three inches. I want a temperature not 45° but about 40°. Mine are each covered with a warm cushion. My cellar walls are all under ground, hence I can give lots of ventilation.

Now, Mr. Post, from the description of how you fixed your bees, I should have expected them to winter just about as you have stated.

Now, just here, I want to pin a point. Please note this: "If in severe weather you contract the ventilators in order to raise the temperature from 40° to 45° the air will become vitiated and the bees will suffer more or less." But there are other reasons why the temperature (in my system) should be about 40°.

For one I shall be glad to hear all about your new cellar. It is the real practical man that we like to follow.

Yours truly,

S. T. PETTIT.

Belmont, Ont., Feb. 12th, 1895.

Brant Bee-Keepers' Association.

Met at the Court House, December 15th, 1894, at 2 p.m. Amongst those present were Messrs. Patterson, Shaver, Morris, Berkett, Edmonson and Holtermann. The president in the chair. Secretary's report showed balance on hand of $5.43, members having been furnished the CANADIAN BEE JOURNAL upon payment of extra fee of 25 cents. The accounts were audited by Messrs. Morris and Patterson and found correct. Election of officers as follows:—R. F. Holtermann, Brantford, president; James Shaver, Cainsville, vice-president; C. Edmonson, Brantford, secretary-treasurer. Delegates to the Ontario Bee-Keepers' Convention, Stratford, Messrs. Edmonson and Patterson.

A discussion on honey dew followed. It was considered dangerous to feed such honey for winter, and even so when slight traces only existed in the honey. Re the darkening of combs, C. Edmonson, Shaver and Patterson all said that they tried it this season and were convinced that if brooding was allowed in comb it would color the honey. The president said if you do not believe it colors honey pour some water in the cells and see how the water, when stored, becomes discolored.

The rendering of wax was discussed with and without the solar wax extractor. The solar had the preference.

NOTICES.

We find that in his annual catalogue of Beekeepers supplies, W. A. Chrysler, Chatham, is offering to take subscriptions for the CANADIAN BEE JOURNAL. The CANADIAN BEE JOURNAL has as its warm friends the best men in the country.

* * *

See the special offer in the editorial columns to those who will increase the membership of the Ontario Beekeepers' Association. The Association have not half the members it should have. Those outside the province are eligible for membership.

How are the Bees Wintering.

—R. H. Smith.

READ AT THE ONTARIO BEE-KEEPERS' ASSOCIATION, STRATFORD.

Perhaps it is early in the winter to be anxious how the bees are likely to come out in spring, but if they are properly prepared early in the fall the bee-keepers nowadays have very little anxiety about wintering compared with some years ago. Wintering was one of the greatest problems the bee-keeper had and great losses were reported nearly every spring, but now owing to the extensive experiments made by some of our best apiarist and given to the world we do not hear of such losses. For the benefit of some beginners and others who are still troubled with this question, I will give the method we have adopted.

I may say I have wintered bees in the North West Territory one winter and in the northern part of this province the past 11 years.

Our first experience was with clamp wintering packed in chaff but later we found a good cellar less labor and more satisfactory where such long, cold winters and low temperatures are the rule. Now that we are located in the southern part of the province we find clamp wintering to be the best for the following reasons: The bees are never moved from the summer stand but are packed in the same position as they have been all summer, consequently they do not require moving together as for the old system of clamp wintering or carrying into the cellar. The bees can always get a flight if the weather is fine enough as it usually is several times during the winter with us, but the greatest saving is in the spring when setting out time comes they do not have a general flight as cellar winterered bees, with the attendant risk of swarming out, when some colonies willget too many bees and others be depopulated. It also covers what is generally considered essential, and that is spring protection, as they are not unpacked till settled warm weather. This plan is less expensive than chaff hives and better in many ways than packing each hive separately.

It will be understood the hives stand in fours, that is two face east and two west, each four about six feet apart with an alley about the same width. The preparation of the bees is begun in August when each colony is examined to see that they have a good laying queen and enough honey to keep up brood rearing.

In September the hives are weighed and the weight noted and any deficiency made up by giving full combs of sealed honey or feeding till they have 30 lbs. of good stores when they will be ready to pack. The packing boxes are made to hold four hives leaving two inches of space for packing around the outside. The packing, dry forest leaves, are taken from the box leaving about and inch or more leaves in the bottom, the box is placed on the stand and the hives lifted into it. The little bridges placed over the entrance and the leaves packed tightly around and between the hives. The quilt is raised at the back about a ¼ inch to allow moisture to escape. Then the box is filled up with leaves about 10 inches a few slats laid on to keep them close, the flat cover put on and they will need very little attention till spring. Brooding will go on no matter how changeable the weather is and by the middle of May they will be boiling over with bees. About the first of June they may be unpacked. Last spring with an assistant I unpacked 80 colonies in two hours and stowed away the boxes with the leaves in them till again required in the fall when I packed 115 colonies in the same manner.

St. Thomas, Ont. Feb. 1895.

Something About the Production of Comb Honey.

FRIEND HOLTERMANN —There's a good deal in the way a thing is used, and there's something in being used to a thing. I suspect you and I could have quite a comfortable quarrel over separators and supers. You "object to nailed separators." So do I if they're wood, not if they are tin. I think however, tin is going out of use, and it is hardly worth while to discuss them much. If they are not nailed there is a kind of shrinkage lengthwise making them take a more or less corrugated shape, and I don't know of any way to prevent this but by nailing.

On the other hand, the stiff grain of the wood prevents their being anything but straight as their length, but there is a constant tendency to curl in the other direction. If they are squeezed up tight between the sections, that takes out all curl, but to allow that the separators must be absolutely free to move. If they are nailed, there will be more or less shrinking and swelling, and if there are two nails at each end the separators will not lie perfectly flat for a very great length of time, and the nails will prevent their straightening out.

no matter how tight they are squeezed.

But there's just a little question in my mind whether you and I might not both change our minds if we should put a single nail in each end of the separator If put in the middle of the width of the separator, that would hold it and still allow it to lie out perfectly flat when squeezed. But then when a separator becomes all daubed up with bee-glue the best thing is to throw it away and as I use a separator only about one season I don't want the trouble of nailing them on and then taking them off.

I've never used sawed separators. Perhaps I might like them better than sliced ones. Please tell us what advantages they have. How do they compare with the sliced in cost? But I want you to understand that there are sliced separators and sliced separators. I've had some knotty and crocked ones, and you couldn't have straight sections with any management, and I considered that the damage from using them was twice as much as the cost of the separator. Then again I've had sliced separators that were perfectly straight every one in the lot, and I really cannot imagine what more could be desired. But I don't believe good sliced separators can be made of basswood. At any rate none that I ever tried would compare with the poplar or whitewood.

You give the section holders a big send-off in these words: "With this arrangement it is a pleasure to take comb honey. It is bound to increase in popularity and thousands of bee-keepers in Canada are taking comb honey with it." Now I'm not directly going to dispute that. I've faith in your intelligence, faith in your integrity. But when I read a statement of that kind, and then think of my own experience, I can't help feeling kind of dazed by it. And you have good backing in Ernest Root. I'd like to have some one tell me why it is that I find the section holders in no way comparable to the T super and you find it just the reverse. Is it that you don't know how to use the other?

It can hardly be sectional prejudice, for the T super came from Canada, and if I mistake not the section holder from this side the line. Why is it? Rightly managed, it's just as easy to fill the T super, and ever so much easier to empty. The bees will work just as promptly and well, and in that respect if there's any difference at all its against the section holder, for in that case the sections are just as much farther up as the thickness of the bottom bar. The T tins hold things level just as rigidly as the bottom bars, possibly a little more so.

If I am not mistaken, the strong point claimed in favor of section holders is that the outside frames can be jumped into the middle to be finished up. At one time I thought there might be a good deal of advantage in that, but after giving it a pretty faithful trial I found it was much prettier in theory than in practice. The unfinished section wouldn't be finished up as nicely in any other place as the one it had so lived its life in. Separators perhaps have something to do with it, so that when a section is moved it will have a little more or less room than it had before. Besides, when the centre sections are all filled and the outside ones still need some finishing touches, its better to take the fully finished ones in a super along with the unfinished ones from a number of other supers. So no matter how easy it may be to move sections from the outside to the middle, I never practice it, do you?

My assistant who generally does the cleaning, claims that it's easier to clean the T supers than the section holders. and I suppose neither of us would use a super from year to year without cleaning. The bodies of the supers are about the same, so that we have the T tins of the one to clean against the frames of the other. I don't think you can make a very short job of cleaning the frames, while she dumps a big lot of the T tins into a wash boiler of water with concentrated lye, and in a few minutes they're all clean.

As to cost, the advantage is on the side of the T supers.

If the section holders have any real advantages over the T super, please tell us what it is.

I see you Canucks are laying out to have the convention of the North American beat any previous one. All right, pitch in, but remember there's no law against beating the Toronto meeting later on. After all, if you can duplicate the last convention of the N. A. B. K. A. at Toronto you'll certainly have one of the best ever held.

C. C. MILLER.

Marengo, Ills., U. S.

[We will answer the above questions in the next number of the journal.]

I consider your editorials amongst the best. Saml. H. Bolton.

McComb, Ont., Dec. 25th, 1894.

I like THE CANADIAN BEE JOURNAL very much. It is getting better every year.

James Davidson.

Goderich, Ont., Dec. 31st, 1894.

Stimulative Feeding.

EDITOR HOLTERMANN,—As the above question was discussed at the North American Bee-Keeper's Convention, held at St. Joseph, Mo., by several of our leading bee-keepers, and as a great deal has been written in the bee periodicals on the same subject, and as the season is nearly at hand when such work should be attended to or left alone, will you therefore allow me space for a few lines in your valuable journal to state my view and conviction I arrived at on the same matter.

When I have declared that for the last twenty years I cannot recollect a year that I had less than 250 colonies of bees in the spring, (in some of those years I had and owned more than 600,) you probably can make up in your mind that I have experimented with stimulative feeding in the spring. Yes, I have, but must state that so far as my experience taught me, that stimulative feeding of bees in the spring does more harm than good, and therefore of late years I have fed my bees in the fall instead of in the spring, provided they had not plenty of stores to winter on or enough to last them until the first day of May. I let them do their own feeding in the spring and they will "make their own nest" just as it suits them best; also put their stores where it is most convenient for them to get and use it It seems to me that some of my brother bee-keepers are putting too much stress on stimulating bees in the spring regardless of the weather and the conditions of the colony.

In carrying out such work of stimulating bees in the spring, if done at all, it must be done very judiciously. We have to take into account the difference in the climate of the country and the uncertain conditions of the weather, especially during the nights. We must watch for the time when bees can spread out on the frames without danger of getting chilled. But I would not advise stimulative feeding in early spring to any one, unless they are out of stores entirely. If they have an abundance of stores I would advise never to feed bees to stimulate breeding. If our hives and bees are what they should be, feeding could do no good. Bees will, without any feeding, always breed as fast in the spring as the temperature and other conditions will admit of. Heat is where the lack is, and after many trials I did as stated above, abandoned stimulative feeding.

It is an unquestionable fact that warmth for a weak colony, or any colony, is indispensable for good progress in the spring. The more warmth the better, after they are put on their summer stand.

All stimulative feeding will be in vain, or even harmful, if the colony is not kept warm, and every unnecessary disturbance or excitement is damaging at any time in the year, but mostly so in the spring, and we cannot feed bees without creating more or less disturbance and excitement. The main point is not to excite the bees to fly out to become chilled, and I make it a rule in my yards not to open a hive to take out frames and overlook my bees, at a lower degree than fifty-five in the shade, unless I considered it actually necessary.

In regard to strengthening weak colonies in the spring by uniting or by taking frames of brood from those colonies that are strong and can spare a frame occasionally, I do not believe or advise any one to follow it, unless a colony is queenless or the season has so far advanced that there is no danger of frosty nights. It is far better to build them up even though they are mere nuclei. I have built up nuclei and got a fair crop of honey from them, if they only filled one space between the combs on the 15th day of April. If I unite in the spring at all I wait until the weather becomes warm or a few days before white clover bloomed.

CHRISTOPHER GRIMM.
Jefferson, Wis., U. S.

Lambton Bee-Keepers' Association.

The annual meeting of the Lambton Bee-Keepers' Association was held in the village of Wyoming on Saturday, the 21th ult. There was a number present, some of whom drove a considerable distance. The president, Mr. Mowbray, occupied the chair in his usual able manner. The minutes of last meeting were read and adopted, and the secretary-treasurer presented his report, after which Mr. C. Boyd and W. Granger were appointed auditors, who found the books correct. The election of officers and directors for the ensuing year then took place, which resulted as follows:—W. Mowbray, Sarnia, president; C. Boyd, Petrolia, vice-president; J. R. Kitchin, Weidmann, secretary-treasurer; directors, E. A. Jones and G. Forbis, Kerton; W. Granger, Wyoming, and Jno. Armstrong, Wansted. The president gave an address on bee-keeping of the past and present. He showed that years ago the expense of the apiarist in securing a crop was less than at the present time and that prices for honey

were better. He also spoke of associational gatherings and how to keep up an interest. The president wished to know the state of the members' bees at the present time. The reason, he said, I ask this question is that my own bees are weak in numbers and are principally old bees, all on account of the short honey crop, which he was afraid would bring mortality to many a bee yard. Some of the members' bees were in the same condition, while others were not, the condition of them varying according to locality. The president stated that had he attended to the little creatures as he should he could have remedied the existing state of affairs.

A member—"How would you have remedied it?"

By feeding earlier in the fall which would have stimulated brood rearing and thereby have plenty of young bees to go into winter.

The question was asked—"Has anyone tried the Wells system of raising comb honey?"

Mr. Jones said that he had been trying some new experiments, and that some of his neighbouring beemen had been laughing at him; but it was by experimenting that the industry advanced. During the past summer he had placed four separate hives in one case with one tier of sections above, and queen excluding zinc between the bees from the different queens, then freely mixed together in the one case of sections. But as he stated one poor season was not enough to test its merits or demerits. It was decided not to give the members anything as a premium The next meeting will be held in the town of Petrolea on the second Saturday in May.

J. R. KITCHIN, Sec.-Treas.

Weidmann.

Something New.

I see in the AMERICAN BEE JOURNAL of December 6th, pages 719, that Mr. John McArthur has been experimenting with drones from laying workers and seems to think it a success. Well, I tried with drones from virgin queens and the thing won't work. I reasoned that if all the drones from a pure Italian queen are all pure Italian drones, although she was mated with a black drone, (the drone eggs not being impregnated) why are not the drones from a virgin queen just as good as any. Well, I raised two nice Italian queens late in the fall, and as soon as hatched I clipped their wings so they could not possibly get mated. Well, before I put them in winter quarters they commenced to lay, so I put plenty of drone combs in the hives. Now, I thought I would have lots of pure Italian drones in the spring, and so I had, in all stages from the eggs to full sized drones. But as soon as I set them on the summer stands the bees commenced to kill off the drones, so I killed the queens and the bees stopped killing the drones. I soon had lots of as nice Italian drones as need be. Then I raised a lot of queens from my best Italian queen, and they were flying out with my nice drones for nearly three weeks and did not get fertilized until the natural drones commenced to fly. They all got mated with black drones and their breed was all hybrid. I had at that time over a hundred hives of black bees and only a few Italian queens, so I concluded the theory of drone eggs not being influenced by the impregnation of the queen, was all bosh. But I never thought of trying drones from laying workers and don't think I ever will.

W. C. WELLS.

Phillipston, Ont.

Nova Scotia Bee-Keepers' Association.

The third annual meeting of this Association was held at Wolfville. December 31st, 1894. Among those present were Prof. Craig of the Experimental Farm, Ottawa; Dr. A. P. Reid Halifax, and Prof. Fraville, of the Horticultural School, Wolfville. The address by the President. J. B. Davison, Esq., Wolfville, was very instructive, and a vote of thanks was tendered that gentleman for his able discourse. Prof. Craig addressed the meeting, giving the Association every encouragement and dwelling upon the bee-keeping resources of this province. Prof. Fraville also spoke at length upon the scientific points of Apiculture, and the relation between Horticulture and Bee-keeping. Those present listened with great interest to the address of Dr A. P. Reid, Halifax, who advised that the members take steps to bring the subject of Bees and Beekeeping more before the public, and, as he said, very few people knew anything about the habits and management of the Honey Bee, almost everyone thinking that because the bee has a sting, that therefore it will use that sting whenever opportunity offers. Now, such is not the case, 99 out of every 100 persons would be surprised to see a practical Beekeeper open the hive and handle the bees as if they were house flies. The subject of granulation of Honey was another item about which few people know anything. They think because the honey crystalizes, that it must be sugar,

and therefore the honey businees suffers; the public should know that all pure liquid honey granulates. The President thanked Dr. Reid and promised that the Association would take steps in the direction proposed. Several members entered into a discussion about the size of brood-frames. Some are using the Galop, and others the Langstroth frames; each were in favor of their respective styles. Other business being disposed of, the election of officers for the ensuing year was then taken up. Mr. Davison on account of failing health, declined being re-elected President. The officers of the Association are now as follows:

President—E. F. Beeler, Berwick.
1st Vice-Pres-Rev P S McGregor, Hantsport
2nd Vice-Pres.—E S. Goudge, Halifax.
Sec'y-Treas—J. H. Cox, Cambridge Station.

The meeting then adjourned to meet at Berwick next June, at the call of the President, who promised to entertain the members, and to give them some practical instruction in Queen rearing Mr. Beeler is considered the best informed beekeeper in Nova Scotia.—*The Acadian Record.*

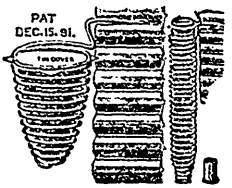
West's Spiral Wire Queen-Cell Protecter and Cage.

The general objects of the queen-cell protectors and queen-cages are, first, to protect individual queen cells and young queens against being destroyed by bees in such a way as to provide for forming a safe and effective queen-nursery in any hive; secondly, to facilitate handling, carrying, shipping, and introducing queen-bees, and especially the introduction of substitute queen-cells or new queens into any hives with safety; and, finally, to discourage or prevent the swarming of bees and to facilitate the introduction of swarms into new hives. The long cages are the *best bee-escape* in use.

If a queen-cell is introduced to a colony of bees immediately after it has been deprived of its queen, without any precaution, the cell will be destroyed at once; but the bees never destroy a queen-cell at the point where the queen helps herself out when she hatches. So, use the "spiral wire queen-cell protector" and introduce safely at any time. It is the *best* and most *convenient* way.

QUEEN CELLS FOR THE PROTECTORS.

Go to the hive that has your cells ready to be cut (I prefer cutting only a day or two before hatching, also prefer swarming cells and get them from our best strains that cast our early swarms, cutting the cells five or six days after they swarm,) and with a penknife blade, thin and sharp, made a little warm by holding it against the barrel of the bee-smoker, cut out all the cells you desire to save. Keep them right end up all the while, and be very careful not to jar, nor expose them to the sun or cold very much. Trim off the bits of comb from the cells and place them in the protectors.



QUEEN-CELL; HOW TO PUT IT IN THE PROTECTOR.

Hold the small end of the protector between the thumb and first and second fingers of the left hand; hold the queen-cell by the large end in the right hand in the same way, then put the cell into the protector; and as soon as the fingers of your right hand touch the protector, by pushing slightly the protector will shorten up so as to fix the point of the cell just through the small end of the protector. Let loose with your right hand, and the coil will spring back and cover the butt end of the cell; then slip the tin cover in between the wire coil just above the butt end of the cell where the wire is wound close, then the cell is ready for introduction.

QUEEN-CELL; HOW INTRODUCED.

After inclosing each cell in a protector, and applying its cover, go to as many hives as you have queen-cells, kill the old queen in each hive, hang a protector-inclosed cell on the upper part of a comb by pushing the spur of the cell-protector through the comb and then close the hive. Owing to the protector and its cover, the bees can not destroy the cell, as they never attack the lower end of a cell, and this is the only part exposed. The queen will hatch out in two or three days, and run down on the comb, and in about eight days more will begin to lay. I prefer this way of requeening a yard of bees, especially in the swarming season. The objects are, to requeen cheaply with the best queens and to discourage swarming.

If you have any doubt as to a queen-cell's hatching, then introduce two cells at the same time, caging one of the cells. If both cells hatch queens, you can use the caged queen elsewhere. If only one in the cage hatches, let her out of the cage and all is well, if let out soon enough.

Middleburg, N.Y., U.S. N. D. WEST.

ANNUAL MEETING ONTARIO BEE-KEEPERS ASSOCIATION STRATFORD, ONT.

(Continued.

(The President's address was heredelivered. which will appear next month.)

At the conclusion of the address, it was moved by F. A. Gemmell, seconded by S. T. Pettit. that a vote of thanks be tendered to President Pickett for his address.

Mr. J. K. Darling, followed with the following address:

In dealing with a subject like the one before us it is just as well to remember that in nearly every pursuit in life there is an impelling motive, an object to be attained, a purpose to be accomplished. This is especially true of beekeeping. Then again we must remember that these objective points differ according to the tastes of the persons engaged in those pursuits. This also is true of beekeeping.

One person may keep bees "just for the fun of the thing, you know." Of such I would say, that if they do not get all the fun they have bargained for they must be rather slow to appreciate a good thing when they have it, and as I have found no difficulties from this standpoint I pass it by.

Another may keep bees for the purpose of experimenting for the benefit of others and increasing his own knowledge in that branch of natural history. Him I would leave to battle with his own difficulties, as I am not competent to deal with them even if I should know what they were.

Others keep bees for the money they may get out of them, the profit there is from a dollars and cents point of view. This I think is true of the vast majority of the beekeepers of to-day. and it is from this point I wish to make a few observations.

Assuming that we are all engaged in trying to obtain maximum returns from a minimum of labor and expense it naturally follows that anything which hinders our realizing our ideal is a difficulty to be overcome if in our power to do so.

I scarcely know just where to begin; for we are met with some, obstacle at nearly every season of the year. However as the winter is a period of comparative quietness will take the first thing we meet in the spring, and that is, Winter Losses.

There is a difficulty here that has baffled many a beekeeper, myself among them. The question forces itselfupon me:—What is the reason that I put away four colonies and brought out two my first winter (1892-3), put away 33 and brought out 33 the second winter, put away 59 and brought out 59 the third winter, put away 110 and brought out 110 the fourth winter, and since that I have suffered losses from 5 to 20 per cent., notwithstanding the fact that the bees are wintered in the same cellar and under the same conditions as nearly as possible. This is a serious item in the matter of extra labor and expense and reduces our profits.

Then again, when the bees are set out in the spring they have a "jubilee," and like some specimens of humanity, don't know enough to go home. They will crowd, first to one hive and then to another until some are full to overflowing and others are empty. True, we might even them up by moving the hives, and so partly overcome the trouble the first day and the next, with the result that some colonies have queens and few bees, while others have nearly double the bees they should have and very likely no queen.

Close on this comes Spring Dwindling, until some colonies that appeared to be in the best shape of any in the yard become the poorest, and in some cases "peter" out altogether. I remembered one season I had one colony that lost several queens in that manner and did not give me a pound of surplus, in fact had to be fed for winter. I was so badly discouraged with them that I would have sold them very cheap, but the next season they proved very profitable. They were the best colony I had in the yard.

Now suppose we have got past winter losses. swarming out and pitching in, balling of queens, desertions and spring dwindling, and have arrived at the honey flow, how do we often find it? Perhaps two colonies that appear to be equally good are standing side by side, the one will fill two, three stories containing over 3000 cubic inches each, while the other will not fill one, or if they do that much for you they cannot be induced to enter a second story. Again, the two may stand side by side and while the one is storing nature's sweets as fast as it is possible for them to do, the others do very little and presently swarm. or, we may find that the two colonies may both work well for a time, one keeps at it, the other, swarms, or they both may work well and both swarm, one swarm doing its best as soon as settled in the new hive, the other loafing around for a few days and then coming out again with neither honey or eggs and then they all leave without any thought or care what is left behind. Sometimes colonies appear

to be good workers in the body of the hive, but utterly refuse to "do a tap" in an upper story and seem to think they are not called upon to "go outside the corporation" Can it be that these are a little smarter than other bees, and have enough reason to conclude that if they do work up there they will not be allowed to enjoy the fruit of their labors ; and have enough of human nature about them to refuse to work for nothing and board themselves?

I might go on very much further in enumerating difficulties of the above nature, but time will not permit.

The object of this paper is not so much to tell the things I know as to name some of the things I don't know ; not so much to display my knowledge as to expose my ignorance. Perhaps some of you will think it should have gone into the question box instead of being read here, if so I cannot help it, I cannot take it back now.

One writer (I am sorry I have forgotten his name) said a few years since that a man could winter a hundred colonies of bees with as much certainity of bringing all through as there would be in wintering a a hundred sheep; that winter losses among bees should not be any heavier than among other farm stock. I wonder if he is of the same opinion still, if so will he be kind enough to tell us how, so we can do it too?

Will some of the Beemasters ; yes Beemasters; not merely Beekeepers, tell us how to make the bees keep at home in the spring like good children? How to make them kind to their mothers? Will they not tell us how to avoid spring dwindling and desertions? Are they able to induce lazy or sulky bees to work? Are they able to get the bees to work in the upper stories whenever they wish? Can they induce all swarms to go work at once in the new hive instead of enjoying a "Honey Moon" for a week or ten days while the honey flow is passing by, never to return to them.

Cannot those Beemasters who appear to be able to get a fair crop any season and extra large crops in good seasons tell us who are not up to the times just how they manage to succeed, tell us so that we can go and do likewise? If they can and will do so, and in that manner help us to overcome those difficulties referred to. they will help us a long way towards securing a maximum return with a maximum expense.

At the close, Mr. Darling asked if some plan could not be adopted, by means of which the meetings of the Association could be made more popular.

Mr. Holtermann—Our discussions sometimes drag out too much. We want practical essays. discussions to the point, and a detail programme arranged beforehand.

M. B. Holmes, Athens—Many men appear to have success and no difficulties. The men having no difficulties never attend conventions, they have no time. We want to bring out more men who onght to be here to take part in the discusson

Doctor Duncan, Embro—We should have a programme prepared before the meeting. then it could be studied beforehand and onecould be prepared to take better part.

Wm. McEvoy, Woodburn — We want more useful inventions at the convention and encourage the bringing of them to these meetings.

S. M. Smith, Listowel, Ont—I think we should have a full programme before the meeting.

J. B. Hall, Woodstock—Discussions are better than essays.

S. T. Pettit, Belmont—I think it is well to have essays. it gives a man time to get out his best thoughts and in condensed form These writings are also educative in reports.

W. F. Clarke, Guelph—The Dairyman's Association had a programme a full month before the meeting and the stuck well to the programme. too.

It was then moved by R. F. Holtermann. seconded by W. F. Clarke that in future a full programme be prepared some time before the annual meeting.—Carried.

Moved by J. B. Hall, seconded by S. T Pettit that the executive be a committee to do the above work.—Carried.

The discussion on Mr. Darlings' paper was postponed.

Prof. Fletcher, Entomologist Dominion Experimental Farm, Ottawa, followed with an address.

SPRAYING WITH ARSENITES VS. BEES

He read the following from F. M. Webster, Wooster, Ohio :—

At the Rochester, N. Y., meeting of the Association, I gave the results of some experiments looking toward a solution of the problem, "Will spraying fruit trees while in bloom affect the bees which afterwards visit these trees for the purpose of securing either honey or any other substance carried to the hives. and if such be the case. what is the effect upon the inmates of such hives?" The results of my first attempt at settling this question will be found on record in Insect Life, vol. v, pp. 121-123 and it will, therefore, not be necessary for me to repeat them here. On account of the meteorological conditions under which the experiments were carried on they have never been deemed conclusive in point of definite results, even by myself, and I have only

been waiting a favorable season in order to finish the work. This year the time appeared to have arrived in which I might hope to solve the problem.

On May 2nd two apple trees in full bloom —and the blossoms were abundant—were thoroughly sprayed with a mixture of one ounce of Paris green to each 12 gallons of water. After the water had evaporated the poison could be clearly observed both on bloom and foliage. The application was made during the forenoon, the day being warm and clear, and during the afternoon quite a number of bees were caught while visiting the bloom and marked with carmine ink. The hives were located but a few yards distant from the trees, and both being situated at a considerable distance from any other trees at that time in bloom. None of these marked bees were afterwards found dead about the hives. During the night following the application there was a rainfall of 0.20 inch. On the following day bees were caught and killed by being dropped into a cyanide bottle where the cyanide was imbedded in plaster of Paris, after the usual custom. As soon as the bees were dead they were dissected as follows: The posterior legs with pollen attached were severed from the bodies and placed in a small glass vial and securely corked. The contents of the abdomens, including the honey sacs, were next dissected out and placed in a separate vial, and the same mode of procedure was followed with the whole inside of the thorax, this giving me the entire bee except the head, anterior and middle legs, wings, and chitinous walls of the thorax and abdomen. Besides these a number of the bees were kept intact. The whole series was submitted to the assistant professor of chemistry of the Ohio State University, L. M. Bloomfield, to be tested for arsenic by the Marsh method. Mr. Bloomfield found the weight of material submitted in each case to be as follows: Posterior legs, with pollen attached, 0.3198 gram; contents of abdomens and honey sacs, 0.0990 gram; ditto thorax, 0.0710 gram. After the usual tests to prove the absence of arsenic in the reagents it was found that no arsenic was associated with the posterior legs or the pollen with which they were loaded, none had been left in the thoracic matter, but the material from the abdomens gave unmistakable proof of the presence of arsenic. The entire bodies of a number of the bees, taken at the same time from the same tree, were then washed with diluted ammonia water, three washings failing to give a trace of arsenic, but the bodies, after being thus treated, and being boiled in water slightly acidulated, gave distinct traces of the poison, thus eliminating any possibility of the poison having been introduced into the abdominal matter at the time of dissection and from the exterior. May 15th a crab-apple tree (*Cratægus*) was sprayed with a mixture of the same ratio of Paris green as before, but in this case only the contents of the abdomens were retained. This matter, to the weight of 0.1463 gram, treated as in the preceding, gave unmistakable proof of the presence of arsenic.

Just at this stage of my investigations, chance, if such a thing there be, threw in my may still more conclusive proof. A few days prior to my last experiment, probably about May 10th, a small apple orchard on the experiment farm was sprayed with Bordeaux mixture, to which had been added Paris green at the rate of four ounces to each 50 gallons of the mixture. The bloom had at this time nearly all fallen from the trees, the exceptions being an occasional belated cluster. Three colonies of bees, recently brought on to the premises, were located near by, to all appearances in a perfectly healthy condition. A few days after the application of the poisoned Bordeaux mixture one colony suddenly became extinct and a second greatly reduced in numbers, dead bees being abundant about both hives. From these colonies I was able to secure dead bees, and both honey from uncapped cells and dead brood from the hive that had been so mysteriously depopulated. When tested for arsenic by Mr. Bloomfield, precisely as with the other matter, contents of abdomens of the dead bees to the amount of 0.2334 gram revealed the presence of arsenic; 3.7061 grams of honey gave no trace of poison, while 1.8481 grams dead brood showed it to be present, and the entire bodies of the dead bees, thrice washed in ammonia water, as before explained, gave traces of arsenic. In regard to the honey I can only say that it was from uncapped cells, which might and probably did contain last year's honey that was still being used for a partial food supply by the bees.

Briefly recapitulated, arsenic was found present in the contents of the abdomens of bees frequenting recently sprayed blossoms, and we are at least free to assume that more or less of it was contained in the honey sacs. The dead bees three times washed in ammonia water, the latter not revealing the presence of arsenic externally, when tested showed its presence internally. Brood from uncapped cells (larvæ) of a colony suddenly dying without other apparent cause gave evidence of having died from the effect of arsenic which could have been introduced only from without.

In summing up the matter, then, I can

see no other conclusion that can be drawn from the results of my experiments than that bees are liable to be poisoned by spraying the bloom of fruit trees, the liability increasing in proportion as the weather is favorable for the activity of the bees, and that all bloom must have fallen from the trees before the danger will have ceased.

Finally, I believe we now have the first conclusive proof of the effect on bees by the use of arsenical poisons in the orchard while the trees are in bloom. Heretofore all has been uncertainty, the statements made being based on either pure assumption, or, as in one instance, on the result of penning up bees and feeding them on poisoned sweetened water. It is certainly to the credit of the entomological fraternity of America that among their number but few could be found willing to risk a positive assertion based on such slender and unreliable information, and I feel that I am fully justified in pointing out the fact that in the case of two of our fellow members, Dr. Lintner and Mr. Fletcher, in the face of the legislative bodies of their respective States, both refused to commit themselves to the extent of making positive statements either one way or the other

Mr. Lintner said that his position hitherto had been that laws ought not to be passed on the subject unless it was amply proved that harm did result to bees; and even in that event, the relative interests of the bee-keepers and fruit-growers should be carefully weighed, since it has been showed by him that many harmful insects also visited the blossoms, and they would stand an equal chance with the bees of being poisoned by the arsenical mixtures.

Mr. Smith said that the bee-keepers would always have an advantage when it came to securing legislative action, because, while they represented a comparatively small number of individuals, they are well organized, and can secure action where the much larger body of fruit-growers would be powerless.

In reply to a question Prof. Fletcher thought it was entirely wrong to apply Paris green. It might injure the stigma of flowers Spraying for codling worm and curculio was just as effectual after bloom. We can now prove it is dangerous to spray while in bloom, and there is no advantage. After ten years experience he could not think of a single insect which could not be treated before and after bloom.

Mr, McEvoy—I am very much pleased with Prof Fletcher's statement, this is what we have been contending.

J. E. Frith, Princeton—Does spraying destroy the fertilizing powers of the blossom?

WM. COUSE,
Secretary Ontario Bee Keepers' Association.
Streetsville.

Prof. Fletcher—I think it would.

Mr. Holtermann—You mention that paris green has been detected in the hive carried there by the bees, would there any danger to a person eating the honey, or is the amount which destroys the bees so small it would not injure anyone We know of course that the bees in any case at that season do not gather as a rule more than they require for their own use

Prof. Fletcher—The traces are so small they can only be detected by careful examination, they would not be likely to hurt anyone to take the arsenic poison in paris green. Arsenic was used in medicine to as great an extent.

J. B. Hall—Related an instance where a man had sprayed plum trees when in full blossom, the result was no crop.

Doctor Duncan—Arsenic is a splendid tonic but a dose which would do no harm might if repeated, it was probably the repeated doses with the bee which killed.

A Chicago man who had just surrendered his watch to a footpad was moved to remark that he didn't know when he had been so pressed for time.

Queen-Rearing.

THE RESULT OF THREE YEARS' EXPERIMENTAL WORK.

(Continued from page 440.)

The cells being ready, dip the end of each in hot wax, and at once place them *in situ* on the bar before described, preparatory to the royal food and larvæ being transfered into them. The cells are placed about ½ in apart, alternatively towards the outer edges of the bar. Here, however, like many others who endeavored to follow in Mr. Doolittle's footsteps, I did not get on quite satisfactorily, only an average of 50 per cent. of my cells being accepted; and so, after many trials, I departed somewhat from his methods; but before touching upon this, it may be well to finish the outline of Mr. Doolittle's final operations, as follows:—Having your frame ready—with artificial cups in position—cut out a queen-cell containing a good supply of royal jelly (from a stock made queenless on purpose to obtain the first supply), remove the young larva which it contains, and place a very small portion of the royal food at the bottom of the artifical cup (Mr. Doolittle is rather indefinite as to the quantity necessary)—the amount required, however, is a small drop about the size of the inflammable portion of a common safety match; place this right in the centre of the artificial cup, and, if made after my method it should rest in the apex of the *natural base.* Having supplied all the cups with this food, remove a comb of just hatched larvæ from the hive containing your best breeding queen, and transfer the larvæ to the prepared cells, putting each tiny grub directly into the royal food already therein. The larvæ must be under thirty-six hours old to procure the best results. (In case the operator does not know how to judge the age of the larvæ take only the smallest.) Place the frame of cells in the prepared super. To do this, of course quickly and well, requires practice, but one soon gets expert at it, for, with the cells already on the frames, I have gone to a hive, removed a frame of brood and bees, returned with same to my heated work-room, transferred larvæ to the prepared cells of three frames (nine cells in each), placed same in three different supers, and returned frames of brood to hives, which includes opening and closing four hives, all in the space of twenty minutes. In transferring the larvæ nothing answers so well with me as a thin little slip of wood cut very thin and pliable at the point, and slightly curved so as to slide easily and smoothly under the little grub, and raise it bodily from the bottom of the cell. By the above method I could count on 50 per cent. of the cells being accepted and turned into fine queens. Considering the fickleness of our climate and other disadvantageous circumstances beyond control, this was a fairly good result, yet I was not satisfied, and after trying many improved methods, including that adopted by Willie Atchley (of Texas, U S A, who has the repute of being the youngest and one of the most extensive queen-raisers in America), I at last hit upon the following method, by which I can ensure 70 to 80 per cent of equally good queens every time:—I prepare the frame and wax cups exactly as already described, but before placing either the royal food or young larvae therein I set the frame in a prepared super of a queened stock for the acceptance by the bees. If the bees destroy the cells, or treat them with indifference, as they will do if they don't want them—I pass on to the next hive and give them a similarly prepared frame, but it is very seldom they are refused if the hive is properly prepared and honey is coming in. Occasionally, however, and from some cause beyond my present knowledge, I have known a hive refuse the prepared cups to day and accept them to-morrow. If accepted, they are converted into perfect embyro queen-cells, narrowing the orifice and working the thin outside edges the same as if starting ordinary queen-cells. About twenty-four hours usually proves whether the bees have accepted the cells, and then, if found right and being worked at, the royal jelly and larvae can be placed at once in each cell and given to the bees to complete. This is a sort of "approbation" process because I give the crude cells to the bees first "on appro." to get them worked at and modelled to meet their little requirements before placing the food and young grubs therein. Far less risk is thus incurred of of having them ultimately refused, and the result has shown me that I get a far higher percentage of cells finished. Some will be refused, even after acceptance at first; but, if the right time is chosen, from 70 to 80 per cent is the average of accepted cells.

The actual manipulations connected with the transference of young grubs from the natural comb to the prepared cells may seem to many a tedious and difficult task before trial; but if a square inch of comb containing the young larvæ is cut out, and the cells shaved down to about ⅛ in., the task is much more easy than it looks. What I desired, however, was to arrive at some method of retaining the advantages of the Doolittle plan and yet save this transference of the larvæ; for although I succeeded perfectly with it myself, it is very prob-

able that others less accustomed to so "natty" a job, or perhaps through nervousness, might run a great risk of damaging the delicate little larvæ, or of not getting it in its *natural* position, which is essential to success. After many trials I at last found the following plan answer well :— Prepare the frame before, and get the cells accepted by my "approbation" plan; then, with a sharp, warm knife, cut the accepted cell just above the base (inside,) so that the base is left on the bar, and the part cut off forms a collar which fits on the base. Then with your "former" slightly enlarge the base of the collar, but avoid handling the collars more than is necessary, and always have clean hands. Now cut out a piece of comb containing suitable larvæ (a strip 2 in. or 3 in. long is now best), shave off the back cells down to the mid-rib or septum—I find cells that have been used for breeding once or twice best for this process, new cells being too soft, and old comb too tough—and cut the front cells down to ¼ in., taking care not to touch the larvæ, or it will be irretrievably damaged. Cut out as many complete cells containing larvæ as are required, and remove all the surplus wax of adjoining cells from the sides of the chosen ones. Now place carefully a small portion of thin royal jelly on the top of the young larvæ, and by the time you have placed the jelly in all the cells the young grub in the first cell operated on will have wriggled its way to the top of the food, and be seen floating on the royal jelly. It is then transferred bodily on to the base of the prepared cup; then slip over the "collar" which was cut off and press well home, and the job is done. When all cells are fixed and on the frame I slip the latter into a well-warmed flannel bag, take it to the hive, and put it in the super as quickly as possible.

All these operations must be carried out in a temperature of not less than 85° Fah. I prefer one of a temperature of 90°, as the young grubs are then kept growing and run no risk of being chilled. I have a small workroom built expressly for this particular work of queen raising, in which the temperature can be raised at will. It is also necessary to have a small box into which a block of heated lead or iron, wrapped in flannel, is placed for purpose of transporting the larvae, when cut out, and a bag (large enough to hold a standard frame) made of several thicknesses of woollen material. The heated box is also useful for carrying queen-cells about from hive to hive when completed.

For the first of these processes I have discarded cutting the combs to obtain the larvae, and now remove the frames, bees and all, into my warmed workroom (taking care the queen is left in the hive). I lay it on a sloping wired frame and remove the little grubs as required. My workroom is provided by a window which swings round on centre pins, so that if the bees are troublesome and block the light while I am working, one swing of the window and they are all outside. This will be found a great convenience

In America, where the temperature rises above 85 deg. for months together, heated appliances and rooms may, of course, be unnecessary; but here in England, where in April and May last the temperature for weeks together was not more than 54 deg., and on some days (when I successfully transferred the little larvæ in my heated room) was down as low as 42 deg. in the open, had I not been practically able to control the temperature I should have failed. There are no doubt some days, even in this country, when the work could be done in the open, or with slight protection: but they are few and far between, and generally occur at a season when the best results cannot be obtained, as it is too late to get the finest queens.

One of my experiments has been devoted to finding out, as nearly as possible, at what temperature very young larvæ will chill and die, and I find approximately that from four to five minutes outside at 65 deg. is fatal to it, while under the shelter of an open shed, protected from the wind, it is alive after fifteen minutes at the same temperature. But whether it would recover the effects of the chill if subjected to subsequent warmth I am at present unable to say. HENRY W. BRICE, *Thornton Heath, Surrey*.—British Bee Journal.

(TO BE CONTINUED.)

Unlucky Selection.

The pastor had no dislike to the choir, but some of its members were almost ready to resign, not long ago, on account of one of his announcements.

So many of them were sick that the choir seats were deserted. The good man was sorry for it, but the idea uppermost in his mind was to choose a hymn that the entire congregration could sing.

He mentioned the absence of the choir and then said, "Since Providence has seen fit to afflict them with hard colds, let us join in singing "Praise God from whom all blessings flow."—New York Herald.

FIRST STEPS IN···· ····BEE-KEEPING.

KEEPING EVERLASTINGLY AT IT BRINGS SUCCESS.

QUESTIONS SENT IN BEARING UPON FIRST STEPS IN BEE-KEEPING WILL BE ANSWERED IN THIS DEPARTMENT BY THE EDITOR.

There are again a host of questions, some seasonable and some unseasonable. We shall take up the bulk of the space in "First Steps." Before the April number of the CANADIAN BEE JOURNAL reaches our readers it is not unlikely that the bulk of the bees will be out of winter quarters. I favor more and more the early setting out of bees, and particularly so if they appear to be at all restless or show signs of disease. Pack the hives warmly on top and adjust the entrance to a proper size for cool weather. Clean off the bottom board. Many a bee has been lost in her attempts to clean the bottom board. If the hive has a loose bottom board, which every hive should have, the bottom board can be cleaned in an instant. Otherwise, upon the first favorable day the frames should be removed and dead bees carefully taken out. See that every colony has plenty of stores and a good laying queen. I do not think it pays to unite colonies before young bees are freely hatching. I do not think it generally pays to send away and buy a queen for a queenless colony. The queen may at that time of year not be sent at once, and if she is she may be injured in cool weather or be lost in introducing.

QUESTIONS.

What should you do when you find a colony affected with the diarrhœa in the cellar, and it was too early or too cold to give them a cleansing flight by removing them temporarily from the cellar?—W. J.

Answer—I should very likely leave them alone. Hives are rarely so placed in the cellar that they can be got at without disturbing others, thus doing more harm than good. As soon as possible I would take them out of winter quarters and not return them to the cellar. Leave them upon the summer stand. Of course the weather must be favorable for a cleansing flight just after they are set out. In the spring at all times leave your bees alone as much as possible.

Would you be so kind as to inform me what would be the best way to winter a few colonies of bees, say twenty swarms. I have not had very good luck lately in wintering them. I had a mind to build a house to put them in. How would it do. Please let me know?—J. S., Goodwood, Ont.

Answer—Sheds, stables and outbuildings I find are often used for wintering bees. I would, however, much prefer to that letting the bees take their chances on their summer stands. I prefer a dark cellar with an even temperature, about 40° temperature, and free from noise and unwholesome smells. If that cannot be secured, I would pack the bees on summer stands. Bee houses (by that I mean a house above ground and with walls packed with sawdust or the like) have begun to be unpopular The temperature is not likely to be even and they require constant looking after. I know of quite a few which have been abandoned. I should say do not build such a repository.

The Bee With a Stinger.

(Dedicated to Wm. McEvoy.)

Once there was a naughty bee
Whose home was in a basswood tree,
And when the boys would come around
To see if honey could be found
He always used his stinger.

He had no use for such as they
And this is what he used to say:
Go work like me among the hay
And lay up for a rainy day,
Or else I'll use my stinger.

One day some smarties broke the rule
And played the truant from the school,
And with a pole they did him poke,
But were not long before awoke
Because he used his stinger.

One was stung right on the eye
Which swelled into a mountain high
Another whack upon the nose
That bloomed instanter like a rose,
For that bee did use his stinger.

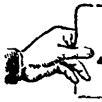
The other, then, with rapid rush,
Did hide behind a pile of brush,
Concluding at a rapid rate
To keep away before too late
From such an awful stinger.

MORAL.

Let all of us, just like the bee,
Possess our homes by industry,
And thus our hands and head employ
To make the world full of joy,
And thus avoid the stinger.

F. ALEXIS GIMMELARIO.

Stratford, Ontario.



Strictly Business

Dear B. B. B. B. B. (which being interpreted means Beloved Bee Brethren, Beforehand and Behindhand.) I have given you a well deserved rest and have not troubled your peacefulness for some time but must return to the charge for several reasons.

* * *

I thank those who have promptly renewed their subscriptions, and with their welcome dollar, have sent words of praise and encouragement. The dollar gave great weight to the opinions expressed. Keep on sending kind messages and *dollars*, if not for yourself get your neighbor to let you send his dollar. Almost our only chance of increasing our list of subscribers is through the recommendation and personal work of our friends—can't you do something for us in this way?

* * *

We have a long list of B's who are from one to six months in arrears. We have waited hoping for a remittance but it has failed to arrive. We need the several hundred dollars due and if you owe one or more of them kindly send it at once If we are to continue using fine quality of paper, furnish beautiful engravings and helpful articles you should in all fairness pay up promptly and cheerfully.

* * *

We have a few more portfolios and Fire mats left, and will continue to send these to all who renew within one month after their subscription expires but those who do not remit in that time are not entitled to any premium.

* * *

If you have any bee-keeper friends who are not subscribers, we will send the journal for five months from Jan. 1st for 25c. cash or stamps. This is simply a trial trip and we hope they will like the journal so well that they will become regular subscribers. If you send us two trial trip subscriptions and 50c we will send you a premium. or if you secure a larger number we will send you something better and these premiums are worth an effort on your part

---

"Now," said the storekeeper, as he gazed proudly at the lettering on his new brass sign, "that's what I call polished English.' —Washington Star.

The only amaranthine flower on earth is virtue; the only lasting treasure, truth. —Cowper.

The advertisement that embodies the two points is capable of exerting a beneficial influence upon any business.

"The trolley cars are just killing," remarked a Chestnut Street girl.—Philadelphia Call

Jack—What did that horse cost you? Tom—It cost me all the respect I ever entertained for the man I bought it from.—Tit-Bits.