

THE CANADIAN BEE JOURNAL

Vol. 19, No. 12.

DECEMBER 1911

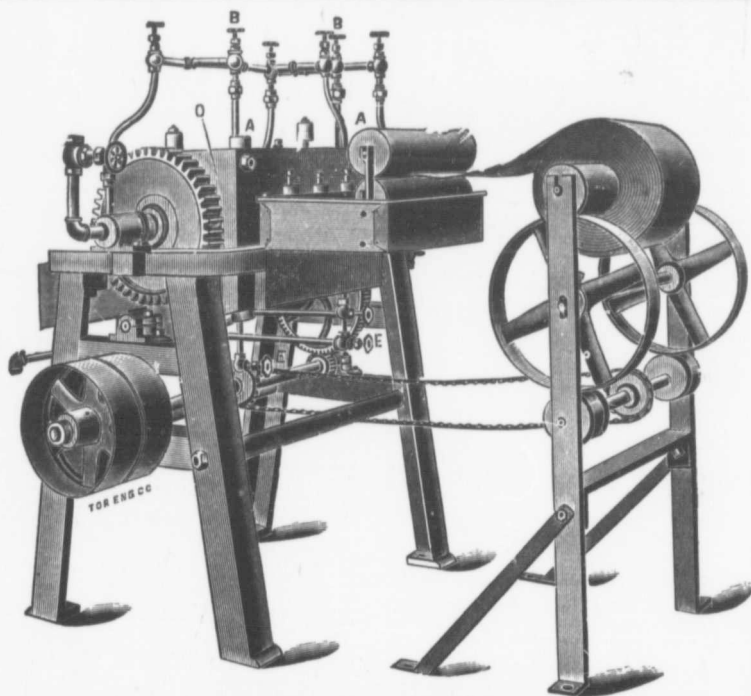
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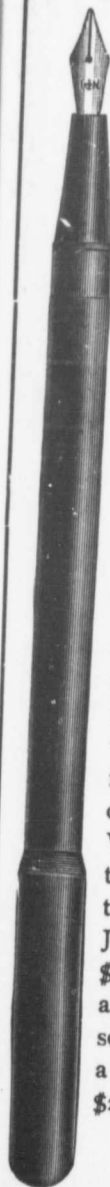
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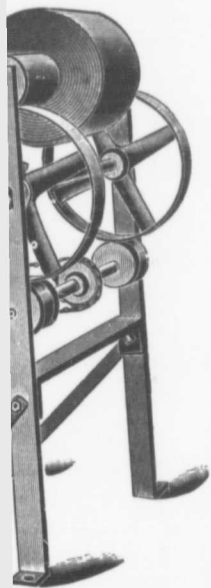
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The Canadian Bee Journal

BRANTFORD, CANADA

**The
Canadian Bee Journal**

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

Published monthly by
The HURLEY PRINTING CO.,
Brantford, Ont.

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JAS. J. H

Vol. 19, No. 12.

"CHRIST

As Christmas will be our next number will give you this opportunity of expressing an old wish of "A Merry Christmas" to every reader, and we hope that where our journal is read, the season may be one of peace and happiness.

MIDDLESEX, ONT.,
CONVENTION

The Middlesex bee-keepers' annual meeting in the city of Guelph on Saturday, November 11th, 1911, was held in the hall of the Guelph Hotel, under the presidency of Mr. Moses Pidd, the vice-president, Mr. J. H. Pidd, occupied the chair. The attendance was small and it is felt that a larger attendance will have to be made at the next time. The beekeepers out next time will claim to be the banner bearers of the nation and this record is held by Mr. Morley Pettit, president of the association and one of our oldest members. He told of the short course of beekeeping to be held at Guelph and suggested that instead of a district convention at Guelph it should be held at Guelph at the Short Course. Then the beekeepers will have the advantage of attending while the class rooms were much better ventilated than usually obtained for such a purpose. In addition, several were engaged for demonstrating arrangements were already

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The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA
W. WHITE, ASSISTANT EDITOR.

Vol. 19, No. 12.

DECEMBER, 1911

Whole No. 562

"CHRISTMAS"

As Christmas will have passed before our next number will be issued, we take this opportunity of expressing the old, old wish of "A Merry Christmas" to every reader, and we trust that in every home where our journal is read, the season may be one of peace, goodwill and happiness.

MIDDLESEX, ONT., BEE-KEEPERS CONVENTION

The Middlesex bee-keepers held their annual meeting in the City Hall, London on Saturday, November 4. The president, Mr. Moses Pierce, being absent, the vice-president, Mr. R. Wallace, took the chair. The attendance was unusually small and it is felt that a special effort will have to be made to get the bee-keepers out next time. Middlesex lays claim to being the banner county association and this record must be kept up. Mr. Morley Pettit, provincial apiarist, and one of our oldest members, was present. He told of the short course in bee-keeping to be held at Guelph in January and suggested that instead of holding the district convention at London it should be held at Guelph at the same time as the Short Course. Then bee-keepers would have the advantage of the half-fare rate, while the class rooms available for the meetings were much more comfortable and better ventilated than the rooms usually obtained for such purposes. In addition, several were equipped with lanterns for demonstrating. However, as arrangements were already under way for

honors with foul brood as a subject for sociation was unwilling to make the change this year, and decided to hold the convention in London in February.

Co-operation seems to be sharing the honors with foul brood as a subject for unlimited discussion, and of course was up before the meeting this time in the form of purchasing supplies. Some information regarding honey-pails was promised for the spring meeting. The question of honey pails brought up the matter of gross versus net weight, and after a little discussion the following resolution was adopted: "That the M. B. K. A. adopt the 5 and 10 lb. gross weight pail for marketing honey."

There is a certain amount of feeling among the Middlesex bee-keepers that the relationship between the Ontario association and the local organizations might be improved, whereby the county societies would have a more vital interest in the provincial organization. This found expression in the following tentative recommendation to be presented at the O.B.K.C.: "That the constitution of the O.B.K.A. be revised to make that association a federation of the local associations now in affiliation with it, and any others which may be formed, and that the local associations elect one delegate each to the annual convention with the understanding that the delegate should be one nominee for the office of director for the district represented."

The following officers were elected for the new year: President, Robt. Wallace, Vanneck; vice-president, E. T. Barnard, Lambeth; secretary-treasurer, Ethel Robson, Ilderton.

WOMAN'S DEPARTMENT

CONDUCTED BY

Miss Ethel Robinson, Ilderton, Ont.

Just before starting out to attend the Convention the conductor of this Department received a request from the editor to make a report for the C. B. J. On going over her notes she finds that many points which might have been of interest have been neglected, and little attempt has been made to report addresses other than to pick out those points which seemed to have some relationship to the Association. Doubtless Editor Hurley will give us the complete addresses later in the C. B. J.; this is little more than a gathering up of some of the ravelled ends which it is hoped may be of interest to those bee-keepers who were not fortunate enough to be able to attend the Convention. Straws show the way the wind blows, so these fragments may serve to indicate the general tone of the Convention.

This Department also wishes to acknowledge the many kindly expressions which were so generously given, and it will be an added incentive to carry on the work. It is really marvellous how quickly the months come round. Cannot some more of our women readers lend helping hand?

The O. B. K. A. Convention, 1911

The O. B. K. A. Convention of 1911 has come and gone, and bee keepers have had their annual altercation re the respective merits of black and Italian bees. Foul brood has been discussed in every lull of and during much of the regular proceedings. Bro. McEvoy has again expressed himself as unalterably opposed to the misnomer "European foul brood." But in spite of all the old manifestations there was a decided change in the pro-

ceedings, which may mark the advent of a new era in the association.

"The old order changeth, giving place
to the new

And man fulfils himself in many
ways."

President Craig, in his opening address drew attention to the difference in the character of the papers to be given; the discussion of details of general management of the apiary being left to the local societies, while the provincial association gives more attention to matters of administration and general policy. And as the convention proceeded other members noted the change and spoke of it. But if they missed some of the old topics undoubtedly they made up for it when they got together afterwards at their hotel.

Dr. Hewitt the Dominion entomologist, was present at the opening meeting, seeking information regarding the advisability of enacting a disease law to cover such cases as the province had no jurisdiction over. As it was too early in the proceedings to give a definite answer, a committee was appointed to consider the matter, and to send in suggestions to the Department. Later, the committee recommended that a Dominion law be passed which would regulate the importation and exportation of diseased bees, and also the shipment of bees from one province to another; a disease law patterned after the Ontario Act; and requested that no regulations be made that would interfere with the free importation of queens.

Considerable time was given to the discussion of the work of the county associations, the value of their organiza-

tion and educational commended, and Mr. that recommendations were more likely to than when coming from bers. As the money s ing the affiliated socie increase in these this considerable cutting do Mr. Chrysler, Chathan partment ought to b money, while Mr. L ward County, thought society's membership a bonus did not amount plause with which th received would seem t ing independence on t keepers. County associ discussion the delegat here presented the mendation from th "That the constitution b revised to make th federation of the local are now in affiliation others which may be th: local associations e each to the annual cor understanding that th should be one nominee director for the distri In support of this it that at present the affli no voice in the provinc outlying districts would terest if they had som they would have a voic of their director. Mr. any change unnecessary director was merely a practically no duties at executive performing all recommendation was har committee on resolutions Mr. Robert Thompson gave a talk full of prac on the "Co-operative pt plies." By co-operation

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in his opening address the difference in the matters to be given; the duties of general management being left to the local provincial association on to matters of administrative general policy. And he proceeded to other matters of management and spoke of it. Some of the old topics made up for it when afterwards at their

Dominion entomologist, at the opening meeting, seeking regarding the advisability of a disease law to cover the province had no jurisdiction. It was too early in the year to have a definite answer, but he pointed to consider the matter in suggestions to the committee. Regarding the Dominion law he proposed to regulate the importation of diseased bees, the prevention of bees from one province to another; a disease law patterned after the Ontario Act; and regulations be made that would be in line with the free importation

me was given to the work of the county association and the value of their organiza-

tion and educational work being highly commended, and Mr. Pettit pointed out that recommendations coming from them were more likely to receive attention than when coming from individual members. As the money set aside for assisting the affiliated societies is limited the increase in these this year has meant a considerable cutting down of the grants. Mr. Chrysler, Chatham, thought the Department ought to be asked for more money, while Mr. Lowey, Prince Edward County, thought that keeping a society's membership up by means of a bonus did not amount to much. The applause with which this sentiment was received would seem to indicate a growing independence on the part of beekeepers. County associations being under discussion the delegate from Middlesex here presented the following recommendation from that organization: "That the constitution of the O.B.K.A. be revised to make that association a federation of the local associations which are now in affiliation with it, and any others which may be formed, and that the local associations elect one delegate each to the annual convention with the understanding that the said delegate should be one nominee for the office of director for the district represented." In support of this it was pointed out that at present the affiliated societies had no voice in the provincial and that the outlying districts would show more interest if they had some assurance that they would have a voice in the election of their director. Mr. Evans thought any change unnecessary as the office of director was merely nominal, having practically no duties attached, and the executive performing all the work. The recommendation was handed over to the committee on resolutions.

Mr. Robert Thompson of St. Catharines gave a talk full of practical suggestions on the "Co-operative purchase of supplies." By co-operation they were en-

abled to get the best grade, to eliminate the chances of getting poor goods, to get adaptable goods, to get them uniform and to get them cheaper. Co-operation is a live subject with bee-keepers just at present, but it is felt that the supply end of the business is scarcely large enough to make the machinery necessary for co-operation pay for itself. However, that remains to be seen.

On Wednesday evening co-operation was again discussed by Mr. Geo. Keen of Brantford and Dr. Phillips gave his address on "Diseases of Bees and their Treatment." I was unable to be present, but having heard him at Guelph last spring, I know that the clear demonstration he gives of how to treat for foul brood fills me with a feeling of confidence of being able to overcome it should the occasion arise.

Thursday morning was given over to a further discussion of foul brood. Mr. F. E. Millen, O.A.C., and Mr. James Armstrong of Cheapside, told of their experiences with European foul brood, and afterwards Mr. Pettit presented the Inspectors' report. European foul brood differs from the American in that it spreads much more rapidly and when it once gets into an apiary nearly every colony becomes infected. However, if taken in hand and treated early in the season, the loss is slight. In the infected areas the bees are almost entirely blacks, and for successful treatment it is necessary that the colonies be Italianized. Italians are not immune, but are able to withstand the disease much better than the blacks. Mr. Millen suggested that possibly the reason that the Italians showed more vigor in resisting the disease than the blacks was because no care had been taken in selecting and breeding them, and multiplying by natural swarming the poorest strains were allowed to propagate themselves. Mr. Timber thought the Inspectors ought to get ahead of the disease with a red flag

instead of running after it. However, it was explained that the inspectors had no authority to act until the disease had appeared. In Mr. Pettit's opinion bee institutes and demonstrations were the best red flag. The matter of Italianizing of course brought up the old discussion of Italians vs. blacks. Mr. Haberer, of Zurich told how he had been reading in the German bee journals that it was the black bee which they were paying special attention to in the matter of breeding, and that then it proved more immune to disease than the Italians. Mr. McEvoy: "The Italians are the greatest feeders of the larvae; the blacks will not clean out the cells."

Mr. Tyrrell of the "Review" then came to the defence of the black bee. Mr. McEvoy, however, was irrepensible in his opinion that the Canadian black bee was a very poor sort. Mr. Lowey likewise was up in arms on behalf of the blacks which he found would clean out the Italians every time. Mr. Hersher put the final word to the discussion by declaring with the conviction born of experience, "Get foul brood and you will Italianize."

Dr. Phillips was asked why it was that E.F.B. spread so much faster than the American. He did not know fully, but it was partly due to the rapidity with which the disease developed—three days from the time of infection, while with A. F. B. it required 12 to 15 days from the time of infection for the disease to appear.

Mr. E. B. Tyrrell, Detroit, gave some practical hints on the principles of successful co-operation. First, you must have a definite object worth working for; second, a definite plan; and third, unity. You must pull together for a single purpose. A co-operative association is a machine for doing business. With a proper organization there was no occasion to fear flooding the market; the greater the

production the bigger the market would be.

Mr. C. C. James, Deputy Minister of Agriculture came to the bee-keepers as an old friend. It was some years since he had been present at a bee-keeper's convention, but it did not take him long to find out that it was the same old crowd when he heard them talking foul brood. "But" asked Mr. James, "suppose you could wipe it out, what ever in the world would you have to talk about?" And you are still asking for more money and suggesting running over the grant; but we can take this as a sign of healthy activity." In his introduction the deputy minister touched sympathetically on the vital principle of co-operation; he was one of the great army of consumers to whom the increase in the cost of living was a matter of vital importance. It wasn't the farmer who was reaping the benefit of the high prices. Organization was necessary to see that the consumer should get a fair deal as well as the producer a remunerative price.

As the present time of holding the convention finds many of the bee-keepers away hunting, many others finishing up their bees for winter, it was thought that perhaps the attendance might be improved by changing the date of meeting. It would also relieve Mr. Hodgetts of the pressure of two conventions at once. In view of these considerations Mr. Pettit invited the convention to meet at Guelph during the short courses in January, 1913. He pointed out that there they had excellent accommodations for meetings and as the students in the short courses stayed in boarding-houses there would be ample accommodation at the hotels. The proposal met with scant favor from members who had attended a previous convention in Guelph; the memory of cold rooms and snow-bound trains was strong upon them, and the attractions of Toronto far outweighed those

of Guelph. Hence the meeting was unanimously in favor of

The Committee approved the co-operative selling, strongly convinced of the scheme, reported a general optimism among bee-keepers would not warrant a decision taken at the present time. The result anticipated for the future is selling at a good price when the hand is regarded as being in the bush.

On Friday morning the one of New York State beekeepers told of his experience with the treatment of European foul brood was a message of hope to the bee-keepers of Ontario where the disease were just beginning. When Mr. Stewart took the bee-keepers of the province roughly discouraged, but "shaking" had proved the industry, and now, the fight against disease, the bee-keepers and better bees they had. Better bees and better bees are found all through the country. Combs have been discarded and it can be believed that combs can be cleaned, but that was a mistake. Usually found that colonies had the least amount of European foul brood first. In any case it is much more valuable which fact of course gives the chances of success in the only practised one sheet of foundation. The next cent would be re-infected and it is fier to treat these a second time shake the whole yard.

Although a large part was given over to co-operation not until the closing minutes

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Deputy Minister of the bee-keepers as was some years since at a bee-keeper's con- not take him long to the same old crowd n talking foul brood. James, "suppose you what ever in the have to talk about?" asking for more money ning over the grant; is as a sign of healthy his introduction the uted sympathetically le of co-operation; he at army of consumers se in the cost of living vital importance. It who was reaping the prices. Organization see that the consumer eal as well as the pro- tive price.

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of Guelph. Hence the decision was un- animously in favor of Toronto.

The Committee appointed last year on co-operative selling, although still strongly convinced of the feasibility of the scheme, reported a lack of enthus- iasm among bee-keepers, which lack would not warrant active steps being taken at the present time. It was a re- sult anticipated for some time. Honey is selling at a good price, and a bird in the hand is regarded as better than two in the bush.

On Friday morning Mr. Chas. Stewart, one of New York State's apiary inspec- tors told of his experience with the treatment of European foul brood. It was a message of hope to the bee-keep- ers of Ontario where the ravages of the disease were just beginning to be felt. When Mr. Stewart took hold of the work the bee-keepers of the state were thor- oughly discouraged, but Italianizing and "shaking" had proved the salvation of the industry, and now, as a result of their fight against disease, they have better bee-keepers and better apiaries than ever they had. Better bees and better meth- ods are found all through the state. Old combs have been discarded. It used to be believed that combs never got too old, but that was a mistake. It was us- ually found that colonies with old combs had the least amount of stores. When European foul brood first strikes an api- ary it is much more virulent than later, which fact of course, increases the chances of success in treatment. He only practised one shaking onto full sheets of foundation. About ten per cent would be re-infected, but it was eas- ier to treat these a second time than to shake the whole yard twice.

Although a large part of the program was given over to co-operation it was not until the closing minutes of the con-

vention that any definite action was taken. Mr. Byer presented a recom- mendation from the directors that as the exhibit of honey had greatly fallen off at the Horticultural Show, it would be to the advantage of the bee-keeping in- dustry to take steps to have the money now devoted to prizes used for defray- ing the expenses of a cooperative honey exhibit. The debate was warm for a little while. Everyone who has ever exhibited honey has a grievance, but the fact that everyone felt that it was a dis- grace to the association to have the ex- hibition advertised as the "fruit, flower and honey show" and have such a small quantity of honey in evidence, helped in the solution. It was feared that a purely co-operative exhibit with no opportunity for emulation would not arouse the nec- essary enthusiasm to insure success, so the matter was finally settled by a mo- tion to have the executive appoint a committee to get in touch with the local associations to arrange for them to put up county displays, the whole to be taken charge of by the provincial association. This carried unanimously. Then as it was past one o'clock and we were all very hungry we went to lunch without even a motion to adjourn. Now, county associations, it's up to you to show the value of your organization in putting this matter through successfully.

Any account of the convention would be incomplete without an acknowledge- ment of the special interest given it by the presence of Dr. Phillips, of Washing- ton. This is the second time Dr. Phil- lips has been with us this year and we feel now that he is quite an old friend. Not only will his illustrated lectures greatly increase our knowledge of bees and their diseases, but it will help to foster a feeling of friendliness for our cousins across the border.

WHAT SAY YOU OF THE CONVENTION?

By Miss Trevorrow

Why! That the attendance of both members and visitors was larger than ever before. That, the capacity of the hall of which we boasted so short a time ago, was tested to the utmost.

That there was at least one case of "piping" indicative of a desire to "swarm out" to larger quarters.

That the program committee excelled themselves in the number of excellent addresses listed and delivered.

That the limelight views added interest to the program, and to our store of information in regard to the external and internal economy of the bee as well as its habits and behaviour.

That, our fellow bee-keepers of the United States gave us of their best (a good best too!)

That the American bee-keeper from Buffalo, who half belongs to us, may well be proud of his fellow-countrymen. That he, and we, may be justly proud of our speakers on this side of the line.

That a tragedy occurred when the reporters sat back and listened, (without scratching a pen) to the eloquent address on "Co-operation" read by the Brantford orator, Mr. George Keen, who carried said address away in his pocket and left the reporters in the lurch for once.

THIRD ANNUAL MEETING OF QUEBEC BEE-KEEPERS' ASSOCIATION

E. F. B. in Quebec

The third annual meeting of the Quebec Bee-keepers' Association was held in Montreal on Wednesday, the 8th of November in the rooms of the City Hall. The president, Mr. Lalonde, of Rigaud called the meeting to order at ten o'clock.

(It is to be hoped that Editor Hurley was favored with a copy of it).

That the quiet little bee-keeper, who only gets his chance when the game of "question drawer" is played, was entirely snuffed out this time.

That, whereas, in times gone by the bee-keeper took his products to market and asked the wholesale buyer what he would give, and whereas, through the instrumentality of the Honey Crop Committee, he has risen to the position of being able now to state what he will take, yet it hath not entered into the heart of the apiarian to conceive of that which is in store for him in price altitudes through the Co-operative Union.

That that that we have looked for long and earnestly is to be an accomplished fact at last, viz., that all Ontario is to unite in a grand exhibit of bee-products at the F. F. and H. Show of 1912.

That the sociability and good fellowship existing at this, as at all bee-keepers' conventions reminds us of the lines subscribed below:

There is a mystic mucilage,
For sticking souls together,
It's masterful tenacity
Will never let them part;
It holds as strong as leather,
Through change of time and weather,
The glue of social comradeship
That oozes from the heart.

Election of officers and routine business was first transacted, and resulted in last year's executive being re-elected, viz., Dr. Emery Lalonde, Rigaud, president; Mr. F. W. Jones, Bedford, vice-president; Dr. A. E. Comire, St. Francois du Lac, secretary-treasurer. Last year's directors were re-elected with one exception, the name of Mr. R. B. Ross, jr., of Montreal replacing that of Mr. G. B. Edwards of Covey Hill.

Following this a suggestion that the self in an endeavor to at the next session of islature to fix limits towns or villages, an houses. Discussion on eral and took up the until twelve o'clock. session the society visit from Dr. Hewitt, mologist, who address regard to foul brood, American. He made t came as a surprise to keepers present, that of the disease had mad certain parts of the pr described it, warned t on the lookout for it. very interesting and t society were tendered l ance at the meeting w membership has already dred mark.

PACKING BEES FOR WINTER

Indexed

By Leon C. W

In the past eight year of doors every season quite a lot of experience, we of the north must method from that used states, or even in those north as we are, for in Indiana.

That we must have sealed stores is recognized so in this article we need this subject at all. The things, however, that ar the southern bee-keeper, do at all for us farther let anyone as far north s Canada think, for instan can have any surety of su

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Following this a motion was made suggesting that the society interest itself in an endeavor to have a law passed at the next session of the provincial legislature to fix limits for bee-keeping in towns or villages, and near dwelling houses. Discussion on this was very general and took up the rest of the session until twelve o'clock. At the afternoon session the society was honored with a visit from Dr. Hewitt, Dominion Entomologist, who addressed the members in regard to foul brood, both European and American. He made the statement, that came as a surprise to some of the beekeepers present, that the European type of the disease had made its appearance in certain parts of the province, and having described it, warned the members to be on the lookout for it. His remarks were very interesting and the thanks of the society were tendered him. The attendance at the meeting was large and the membership has already crossed the hundred mark.

PACKING BEES FOR OUT OF DOOR WINTERING

Indexed

By Leon C. Wheeler.

In the past eight years wintering out of doors every season I have gained quite a lot of experience, and I find that we of the north must use a different method from that used in the southern states, or even in those nearly as far north as we are, for instance, Ohio or Indiana.

That we must have plenty of good sealed stores is recognized by everybody, so in this article we need not touch on this subject at all. There are a few things, however, that are all right for the southern bee-keeper, but would not do at all for us farther north. Don't let anyone as far north as Michigan or Canada think, for instance, that they can have any surety of success in trying

to winter bees on the summer stands by simply wrapping them in tar-paper; nor do I believe there will be many successful in wintering who wrap the hives in tar-paper with packing over head. There are several who have been very successful with this way of wintering, who do not, however, live as far north as we do. But some one will say that he has seen bees wintered that way right here in the north, and they came out fine. I don't doubt it, but I'm afraid that same party would find that if he kept it up there would be many winters when he would not come out so well. We must find some way to winter our bees that will give us a reasonable surety of bringing all or nearly all, the bees through in good shape practically every winter. To go even a little further I do not believe that the average chaff hive, as put out by supply dealers will be a safe winter repository for bees in the extreme north, although some of them might possibly fill the bill. I might say right here what I consider necessary in a chaff hive for this purpose. It must allow for at least four inches of packing all around the outside, and there must be at least a foot of space over head to allow for a good generous packing on top, and plenty of space yet above that.

A hive, no matter if it has six or eight inches of packing over head, but in which the cover sets right down on the packing is in my estimation very poorly packed. The reason is very plain, for in a hive so packed we lose sight of the very principle we are working for in having the packing over head, that is, warmth combined with free upward ventilation.

For several years I used a few hives that made no allowance for any air space over head, but I never had any luck with them, although the other hives, right by the side of them which had an air space over the packing, but was

otherwise about the same, wintered well.

Last winter I put an extra outside shell on these hives, which gave room for about ten inches of air space over the packing, and they wintered as well as those in the other hives. Some hives, which were made to winter two colonies have only two inches of packing around the outside, and winter as well as those having more packing and only one colony. The lack of packing is more than compensated for by the heat of the other colony.

I believe that the earlier we can pack our bees for out-of-door wintering the better, as that gives them a chance to allow for free upward ventilation by using burlaps instead of the regular oil-cloth or inner cover, as my experience has been decidedly against the use of a tight cover overhead. Right here is where the air space comes in overhead, for without that, those bees with free upward ventilation will have their packing full of moisture to freeze up on them and this will soon finish the colony. With the air space over-head the moisture passes right on up through and the packing remains dry and warm.

Barryton, Mich.

PUTTING THE BEES AWAY FOR WINTER

By H. Harley Selwyn.

At this season of the year possibly a short discourse on the methods followed in placing a large apiary away in winter quarters would be appropriate—at least for those who cellar-winter their bees.

In our experience two things are essential, speed and gentleness. We have put away 110 colonies in three hours, or say two minutes to the hive. This time of course runs from the minute the first hive stood on the racks in the cellar.

Our procedure has been along the

lines mentioned herein. If any suggestions for improvement can be made, the writer would be glad to see them in these columns.

First of all perhaps it would be well to consider the exact time and conditions under which bees should go into the cellar. It is, of course, the wish of all beekeepers to leave the bees out on the summer stands as late as possible in order that they may get a good fly somewhere about the time of transferring. But, and this is a point worthy of consideration in our estimation, are those bees going to benefit in the long run when they are left exposed for a period, often of ten or fifteen days at the least, to the nightly frosts and cold and blustery weather, of that season, and then to enter on their long, long winter's rest without having had the opportunity of a good cleansing flight?

Now if such conditions are likely to prevail would it not be to everyone's advantage to choose a day following a night of heavy frost which in its turn has only just succeeded some warm sunny day when the bees have been flying freely? The frost at night will have driven the cluster close together and you will not be hampered when working at the entrance of each hive; each hive will be dry (and that word although not very big means a good deal before spring); and last but not least the bees themselves will be in an ideal condition for their winter's rest.

And now for the handling of the individual hives. We have found the long rolls of tissue paper used for sanitary purposes to be the best thing yet for blocking the entrances. It has enough spring when crushed to hold in place well, it permits of some ventilation, and there is enough in twenty-five cents' worth to do several hundred colonies. Then again, unlike cotton or cotton waste or any such material, the bees do not become tangled up in it and get

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Ottawa, Ont.

WINTERING BEES IN

By H. W. Jones

I have read with much
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perhaps it would be well to get time and conditions should go into the cellar, the wish of all beekeepers is to get the bees out on the summer as possible in order to get a good fly somewhere transferring. But, and the only consideration in the case of those bees in the long run when they are needed for a period, often days at the least, to the cold and blustery weather, and then to enter on winter's rest without opportunity of a good

conditions are likely to be to everyone's advantage a day following a frost which in its turn has cooled some warm sunny weather. Bees which have been flying freely will have driven the bees in and you will not find them working at the entrance; each hive will be crowded although not very full (deal before spring); and the bees themselves are in a normal condition for their

the handling of the entrance. We have found the long narrow paper used for sanitary purposes to be the best thing yet for the entrance. It has enough strength to hold in place some ventilation, and in twenty-five cents' worth of material several hundred colonies. Use cotton or cotton material, the bees do not get ed up in it and get

hauled out by the dozen on the floor when the time arrives for its removal.

After all entrances are closed and covers off leaving nothing but the canvas quilt on top of the frames, have your assistant place one hand at the centre and under the alighting board and advance face forward with his hand behind him, you of course, taking the rear corners of the hive. In this way not only is the weight of the hive distributed between two, but there is not the slightest danger of the hive shifting on its bottom and causing trouble. If wished the body may be fastened to the bottom at the back only and then when on the rack or whatever may be provided to hold it in the cellar, a screwdriver can be inserted in the front and the body elevated off the bottom by means of a block to permit of freer ventilation.

When all the hives are in and everything in place close up the door and with the aid of a lighted candle remove the paper stuffing, but get a move on or the bees which fall on the floor, and there are always some which rush madly out, will be getting up your legs in such numbers as to make one considerably uneasy, especially in the cramped space afforded by a cellar full of hives. Then your work is practically done. Go away and leave them to themselves and the darkness, and let it be good and dark into the bargain. In a very short time they will settle down again, filled no doubt, with the impression that it was only the snow arriving after all.

Ottawa, Ont.

WINTERING BEES IN QUEBEC

By H. W. Jones

I have read with much interest the recent discussion on the methods of wintering bees. The following notes, which contain the results of thirty years' ex-

perience, may perhaps prove of interest to the readers of the Journal.

Here, as a rule, we winter about two-thirds of our bees outside in an old style of chaff hive that A. E. Manum used to use, and somewhat similar in principle to the wintering case recently described by R. F. Holterman. It is a large outer case, furnished with cover and bottom stand, and gives a space of some four inches on all sides of an eight, nine or ten-frame body in the middle. This outer space is filled with dry leaves, and neither case nor packing is removed from one year's end to the other. You will notice that it differs from Mr. Holterman's method in that each case holds but one colony instead of four, and that so to speak, it is a permanent arrangement. Now, in wintering our bees each year both indoors and outside, we possess the means of making a comparison between the two ways. In our opinion, the strong points for out-of-door wintering are, first, that it saves a few hours of heavy lifting when taking the hives in and out of the cellar, and, second, that possibly bees begin to rear brood a little earlier in the spring. We are, however, inclined to favor cellar wintering for several reasons. There is a distinct saving effected in the amount of winter feeding, by the latter method, the honey that requires to be fed to the outside colonies exceeding that necessary to ensure the safe wintering of the indoor colonies by about four or five pounds per colony. In the case of the outside colonies again, the winter entrances need to be small, and are in consequence very easily clogged up, especially in the spring. The danger of the bees suffocating by this method therefore is very great. Last spring we lost three colonies out of one hundred and fifty from this cause alone, in spite of the fact that they were examined twice to guard against this very accident. What we gain by early brood-rearing in the out-

door colonies we save in bees when wintering in the cellar, and these indoor colonies, if in the cellar until the weather conditions become settled start work at once when eventually put out, and suffering no checks, rapidly build up into big, strong, surplus gathering colonies. Last winter we lost ten colonies out of doors and none in the cellar, a proof that it is worth something at times to be able to control wintering conditions.

Bedford, Que.

"KEEP BETTER BEES"

indexed

By Joseph Gray.

Before the arrival of the C. B. J. I had been thinking of L. Hutchinson's slogan "Keep More Bees." Now comes A. B. Jarratt with "Keep Better Bees" and a still more recent slogan "Keep Bees Better."

The very interesting description of A. B. Jarratt's stock headed with a black queen make one think he is content on one point, viz., honey production, and if that point alone was to be considered he could increase the quality of his yard by two years breeding from that particular queen, the first year to produce queens for drone production, the second year to produce queens to mate with those drones. But he says he needs "better bees" in temper, and I suppose that his choice of Italian stock rests upon the assumption that Italians offer greater resistance to E. F. B.

How to Get Better Bees.

If one trader has sent you virgins and treated you in an unbusinesslike way what about the one who sent you nine fine large queens? Honest goods can alone build up the reputation of the queen-breeders, be they private individuals or companies. Puff advertisements will not do. There must be a conscientious endeavor to keep better bees, and

pass on this standard of excellency to your customer.

Queens are not manufactured but bred, and I doubt if A. B. Jarratt would get any better delivery so early in the season if an Ontario Queen Co. were formed. Even in the land of the Western Sunset, which is ahead of you for queen-raising in spring we often have to wait over a fortnight for the virgin to become a laying queen so early in the season. It's patriotic to form a company in your own province, but I fail to see where any better service could result therefrom. A. B. Jarratt had one remedy and that was to place his order early, and I venture to say that the breeder who values his reputation will deal honestly with him and not take his order if he cannot fulfil by date named.

Keep Bees Better

There is a wealth of thought in Miss Robson's statement "Instinct acquired by living with the bees." The passage of arms "Instinct versus System" between Miss Robson and Mr. Hand is interesting. Where would system be without instinct? Is not system the outcome of instinct? I well remember the Geary System coming up in the old country. It was claimed that a child could manipulate the slides. Yes, so it could but it required all the instinct of the experienced bee-keeper to tell when to manipulate them, and to work the system just right. Where is the Geary today? On the scrap-heap. All that was claimed for the Geary, all that is claimed for the Hand system, can be done by the bee-keeper who works his stocks in pairs a la Dr. Miller, and who has acquired instinct by living with the bees.

But it is to the enthusiasts that we owe progress, and in Mr. Hand's system he has made an advance on the Geary in that it needs only new bottom boards instead of new hives.

"The best laid plans of mice and men,
Gang aft agley."

Drone Par

The Editor is correct C.B.J. page 227. "The sect resulting from the single germ 'cell.' A tor, seeing that the c a single germ cell, the of the preceding sire, at first in lineal ancestry, sire is second in lineal duces only quarter-blood error in friend Hand's "Only one parent" is real breeding therefore We are so accustomed descent in stock breedin most impossible to appr with an open mind. is only one parent, lite two. The male influenc ing generation is equal fluence of the present g other stock breeding.

"Son of his grandfat logical. Shure, he's his The drone has but one present generation, i.e. ther; his sire dates back ing generation, the sire's transmitted to him in a through the queen mothe Wasco, Cal.

indexed LINE BREEDING

By Joseph Gray

On page 316 Mr. Hand marks re "Line Breeding" "we should not pin our scientists." I certainly w that I quoted from any b scientists.

The Drone is not the Pro Mother

I have not the precedin me for reference, but if the I stand corrected. The very drone has but one parent o

Drone Parentage

The Editor is correct in his statement, C.B.J. page 227. "The Drone is the insect resulting from the development of a single germ "cell." And now, Mr. Editor, seeing that the drone comes from a single germ cell, then it is half blood of the preceding sire, and this sire is the first in lineal ancestry, whereas a grand-sire is second in lineal ancestry and produces only quarter-blood stock, hence the error in friend Hand's Lineal Breeding.

"Only one parent" is incorrect for lineal breeding therefore always incorrect. We are so accustomed to direct lineal descent in stock breeding, that it is almost impossible to approach this subject with an open mind. Apparently there is only one parent, literally there are two. The male influence of the preceding generation is equal to the male influence of the present generation in all other stock breeding.

"Son of his grandfather"; that's illogical. Shure, he's his father's son! The drone has but one parent of the present generation, i.e. the Queen mother; his sire dates back to the preceding generation, the sire's influence being transmitted to him in all its fullness through the queen mother.

Wasco, Cal.

INDEXED LINE BREEDING

By Joseph Gray

On page 316 Mr. Hand opens his remarks re "Line Breeding" by saying that "we should not pin our faith to fake scientists." I certainly was not aware that I quoted from any but accredited scientists.

The Drone is not the Product of His Mother

I have not the preceding journal by me for reference, but if the error is mine I stand corrected. The very fact that the drone has but one parent of the present

generation—i.e., the queen mother—proves that even though the latter be mismated, the drone takes his inherited traits from the sire of the queen mother.

I am not writing for the benefit of queen-breeders, but for the wider class of readers of this journal, who, possessing an apiary, wish to "keep better bees" I also assume that they stand reasonably clear of other apiaries. Again I assert that the qualities of one queen can be, by two years' requeening from that queen, be transmitted to the whole apiary. This is not an experiment, but is the actual fact and can be proved to the advantage of the readers of this journal.

"Proof of the Pudding"

A mismated queen produces half-blood workers and queens, but pure blood drones, which latter are the equal of pure mated queens for mating purposes.

Quality

It is well-known that thoroughbred stock do not produce all ideal stock; hence a wide range of selection is required for our purpose.

"A freak!" What is a freak? Mr. Hand admits that none of her qualities were admitted to her offspring, but were lost.

An Appeal to Reason

Mr. Hand brings forward the old idea that cell structure is the factor in changing the egg from male to female. There are few practical readers of this journal but who will have found eggs in normal queen cells, which are $\frac{1}{8}$ inch in diameter, while the drone cell is only $\frac{1}{4}$ inch. We have a more reasonable theory advanced by scientists, viz.: that the queen possesses complete control in the matter of fertilization or non-fertilization of the eggs.

A Machine fashioned by the Master Hand to Fulfil the Demands of Nature

The Master Hand made no error in giving will control to the queen in the

standard of excellency to

manufactured but bred, A. B. Jarratt would get very so early in the season Queen Co. were formed in the land of the West, ahead of you for queen-keeping we often have to wait for the virgin to be queen so early in the season to form a company province, but I fail to see better service could result B. Jarratt had one remedy was to place his order in the name of the company to say that the value his reputation will with him and not take his name but fulfil by date named.

Bees Better

Health of thought in Miss Hand's "Instinct acquired by the bees." The passage "Instinct versus System" between Mr. Hand and Mr. Hand is interesting. Where would system be without system? Is not system the outcome of instinct? I well remember coming up in the old country and claiming that a child could be trained. Yes, so it could. All the instinct of the experimenter to tell when to stop, and to work the system.

Where is the Geary to be scrapped. All that was said by Geary, all that is claimed by the system, can be done by who works his stocks in the name of Miller, and who has achieved by living with the bees. The enthusiasts that we have in Mr. Hand's system is an advance on the Geary system is only new bottom boards for hives.

and plans of mice and men, Gang aft agley."

matter of egg production. Nature has placed the bees in a unique position, by varying the size of the babies' cradles, and she has made the queen equal to all possible demands.

The queen lays eggs in queen cells when queens are needed. As the queen cell cups constructed by the bees are $\frac{1}{8}$ inch in diameter, this statement by Mr. Hand is at variance with the suggestion of the cell structure being the factor in determining the sex.

I will conclude by urging your readers to keep better bees. Let them seek out their best queen and after two consecutive years breeding and requeening from the one queen, they will establish through her an improved strain in their apiaries.

Wishing your readers a successful year for 1912.

Wasco, Cal.

PARTHENOGENESIS

By George B. Howe.

In the November number of the C. B. J. on page 316 J. E. Hand in trying to explain "parthenogenesis" appears to have the idea that it is merely theory and not fact. Parthenogenesis seems to me to be as true to-day, and as satisfactory an explanation of certain facts, as it was when Dzierzon gave it to the world. If friend Hand will take black or pure Carniolan queens and mate them with Italian drones, he will find that the blood of the resulting drones will not be "contaminated."

No, brother bee-keeper, if you have a pure queen and she gets mismated by all means use her as a drone mother, provided she is otherwise a superior breeder. Her drones will be as pure as any properly mated queen in your yard. I have tested this out time and time again, and never knew it to fail. If the queen is pure her drone progeny is also pure.

Again, friend Hand says on page 317, "Evidence of a tangible nature, however, is not wanting to show that the size and shape of the cell perform an important office in deciding the sex of the egg deposited therein." All theory again, friend Hand! Did you ever take a knife and cut the cells off the centre of a comb and put it into the centre of the brood nest and have the queen lay in it before the cells had a rim to the cell of $\frac{1}{8}$ of an inch? Or did you ever put in a sheet of foundation when honey was coming in but slowly, and see what fine workers you got from the eggs that were laid in the shallow cells. The best test is to take an old brood comb with the centre cells cut close to the mid rib, and put it into the centre of the brood nest during a slow honey-flow. Anyone can prove this to their own satisfaction. Let us explode any old theories that do not stand real tests. The size of cells has no bearing upon the question of the sex of the bees resulting from the eggs laid in them.

I could write more on this subject but think this is quite enough.

Inbreeding Bees

To inbreed bees is about as hard to do as it is for a man to fly. Here we have it that a queen is never fertilized but once, and a drone mates with only one queen. To inbreed we must use the male or female more than once in the same family. If we select and breed from our best honey gatherers using drones from our best honey-gatherers as well as queens, you will find that your supers and pocket book will be fuller. Don't be afraid of inbreeding your bees. Sixteen years of breeding one strain of bees along similar lines as friend Hand proves to me beyond a doubt, that we may improve our bees as well as any other stock, only it will be more slow and uncertain on account of the peculiar nature of the bee.

THE AUTOMOBILE

By I.

I enclose two photos of my car. I put my car to the test on Jackson, 24 h.p., Model 1911, a five passenger touring car. It is so constructed that it is bolted to the chassis by means of block bolts, the body is hanging until it is needed, a flat Lorry sort of supplies, etc.

The one photograph is of extracting supers from the out yard. The other is as I was passing through with my last load of winter packing. It is some of the others I took at the planing mill.



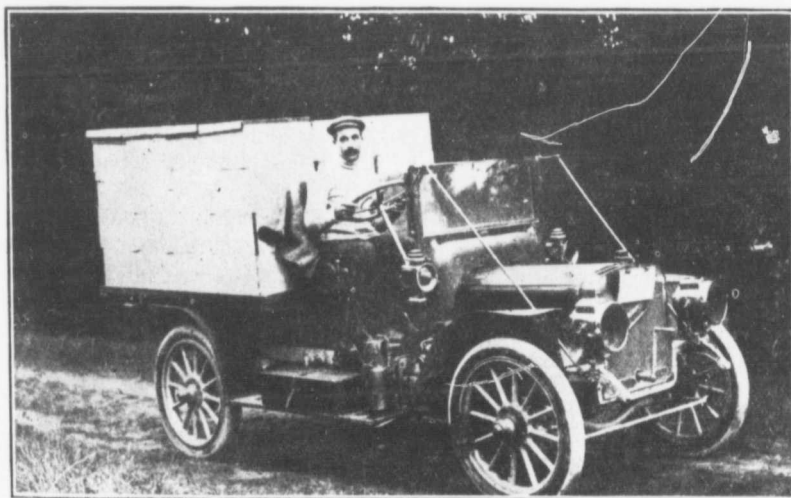
The motor in this car is taking any sized load I put on, but it would be more than 1000 lbs. on, on the springs and tires, which should be taken into consideration.

THE AUTOMOBILE IN BEE-KEEPING

By I. Balmer

I enclose two photos showing the use I put my car to. This is a two-cylinder Jackson, 24 h.p., Model D, 2800 lbs.—a five passenger touring car. The body is so constructed that by taking out four bolts, the body is hoisted up in the barn by means of block and tackle, and left hanging until it is needed again. I made a flat Lorry sort of body to carry bee-supplies, etc.

The one photograph represents a load of extracting supers ready to take to the out yard. The other picture was taken as I was passing through Burlington with my last load of planer shavings for winter packing. It is not as large as some of the others I took away from the planing mill.



A Load of Honey

The motor in this car is capable of taking any sized load I have a mind to put on, but it would be folly to put more than 1000 lbs. on, on account of the springs and tires, which must always be taken into consideration when load-

ing. I can change the two bodies in less than half an hour, and find this style of car very convenient. If I ever want another for the bee business it will be one of the same pattern, that is, a car with a removable passenger body.

Loss of Queens When Mating

Page 312, C.B.J., the editor of the Woman's Department gives me a gentle rap for not telling what percentage of queens get safely mated, or what plan I pursue with those colonies that lose their young queen. If they are good healthy queens, no matter by what process they are raised, I have no fear about their getting mated. It is simply a case of luck (if there is such a thing). One queen might get killed out in the fields; another might attempt to go into the wrong hive, and

get killed. We have no control over those things, and it is a matter I never try to keep any record of.

Utilising Queenless Colonies

There was one lot of 32 in which I found two queenless and broodless, and

Hand says on page 317, tangible nature, however, to show that the size and cell perform an important part in the sex of the egg development. All theory again, friend you ever take a knife and cut the centre of a comb and the centre of the brood nest queen lay in it before the queen to the cell of $\frac{1}{8}$ of an inch you ever put in a sheet of paper when honey was coming in and see what fine workers the eggs that were laid in the cells. The best test is to cut a good comb with the centre to the mid rib, and put it in the centre of the brood nest during the flow. Anyone can prove this to their own satisfaction. Let us test the old theories that do not hold water. The size of cells has a great influence on the sex of the bees resulting from the eggs laid

on this subject but quite enough.

Breeding Bees

Beekeeping is about as hard to do as any other business. Here we have a queen who is never fertilized but who mates with only one drone. To breed we must use the male sex more than once in the same season. We select and breed from our best workers using drones from the best honey-gatherers as well as the best. You will find that your supers will be fuller. Don't be misled by the breeding your bees. Sixteen colonies of one strain of bees along with the other as friend Hand proves in no doubt, that we may improve our bees as well as any other stock. It will be more slow and steady on account of the peculiar nature of the bees.

as I had a few colonies in the home yard a little too weak for the time of year, I brought the two home and united them to others. When two colonies are brought a distance like that they can be divided up and used to strengthen four

five months and a jotting down of the experience gained may be interesting and helpful to others.

Last fall I placed ten colonies in winter quarters and all came out nearly as strong as when they went in. The season



Planer Shavings for Wintering Cases

weak ones. The divided colonies should be placed on the top of four weak ones with a wire cloth between for two days, after which the wire cloth should be exchanged for a queen excluder. I have never found it profitable to let a colony raise a second queen after the honey-flow, as they do not get strong enough for winter. My intentions are to have a few extra nuclei in each yard in the future, so as to be ready for any mishap during mating.

Burlington, Ont.

NOTES ON THE SEASON'S WORK

By J. R. Black

The season for the apiary is now closed. We have taken our last surplus honey and the colonization movement has ceased. A backward look over the past

opened with fair promises. The white clover was plentifully scattered over the roads and pastures, though some of it was winter-killed. May was warmer than usual and the heat, accompanied with dryness, seemed to affect the secretion of nectar. June was not so proportionately warm, but, somehow the honey-flow remained far below the average. July, our month in which surplus is gathered was equally disappointing. The drouth and heat were excessive, and these factors doubtless were responsible for the poor yield. During August buckwheat came in and gave the bees ample stores for winter and a little surplus for their owners.

Meantime the swarming was limited. On August 1st I had only two swarms come off. I experienced unusual difficulty in queen rearing. When hatched, more than one half would disappear between birth

and the time for laying they had begun to appear in a discouraging Cells would have times before a laying to stay.

But when August wheat flow was on I for "increase." I to and bees from each weekly, placing these a queen cell in each. I made two new colonies these in two hive cell in each. In creased to 17, and later or two of brood to each strengthen them. No new colonies have you full of young bees a winter.

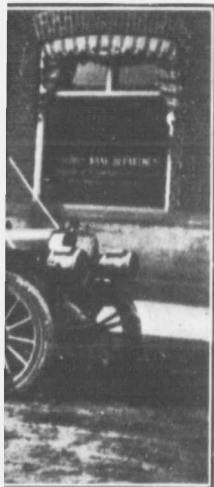
My supply dealer in the spring and sent me thin foundation instead did not care to send it I would experiment with chamber. I placed the frame, pressing the edge centre. These I placed in the brood nest. them and built fine workers out of them. By was enabled to get comb from hives having this too, at not much if I had supplied only foundation.

I tried the following replacing of patches of rounded by worker cell drone cells and replaced thin foundation. The proceeded to fasten it in worker cells on it. By able to utilize much comb nest which otherwise been suitable there.

My experience in the effecting an increase in the

a jotting down of the may be interesting and

ed ten colonies in win- all came out nearly as ey went in. The season



r promises. The white fully scattered over the res, though some of it l. May was warmer the heat, accompanied med to affect the secre- June was not so propor- but, somehow the honey- ar below the average. in which surplus is gal- ly disappointing. The it were excessive, and utable were responsible d. During August buck- and gave the bees ample : and a little surplus for

swarming was limited. On d only two swarms come ced unusual difficulty in When hatched, more than disappear between birth

and the time for laying. And even after they had begun to lay they would disappear in a discouragingly large proportion. Cells would have to be given several times before a laying queen was secured to stay.

But when August set in and the buck-wheat flow was on I began to manipulate for "increase." I took a card of brood and bees from each of the ten colonies weekly, placing these in two hives with a queen cell in each. By this procedure I made two new colonies weekly, placing these in two hives with a queen cell in each. In this way I increased to 17, and later I added a frame or two of brood to each so as to further strengthen them. Now, Sept. 15th, the new colonies have young queens, and are full of young bees and honey for the winter.

My supply dealer made a mistake in the spring and sent me a box of extra thin foundation instead of medium. I did not care to send it back and thought I would experiment with it in the brood chamber. I placed two pieces in each frame, pressing the edges together in the centre. These I placed as required, in the brood nest. The bees accepted them and built fine worker brood comb out of them. By this means I was enabled to get worker celled comb from hives having old queens, and this too, at not much more expense than if I had supplied only starters of wax foundation.

I tried the following experiment in the replacing of patches of drone comb surrounded by worker cells. I cut out the drone cells and replaced it by a piece of thin foundation. The bees immediately proceeded to fasten it in place and build worker cells on it. By this means I was able to utilize much comb in the brood nest which otherwise would not have been suitable there.

My experience in the lateness of effecting an increase in the number of col-

onies and in the use of thin foundation has been so satisfactory that it is likely to be repeated in both cases. I believe that the later we are able to defer working for increase the bigger will be our honey crop, and the more bees will be retained in each colony during the honey flow of July, and greater the amount of honey gathered.

INBREEDING NOT NECESSARILY HARMFUL

Interesting Experiments with Insects.

A writer in the *Revue Scientifique* (Paris), according to the "Literary Digest," describes a series of exceedingly interesting experiments conducted recently by M. Moenkhaus with a view to studying the influence of consanguinity in animal families. In civilized nations the marriage of blood relations—first cousins for instance—is held to be objectionable, and is condemned by morals and usage. It is largely believed that such unions result in their offspring in sterility, malformations, and very often also in idiocy and deaf-mutism. There are, nevertheless, authorities who believe that consanguinity is objectionable only when the partners are constitutionally diseased; and that when both are strong and healthy the children have the ordinary chance of being normal.

It is impossible, during the course of an ordinary lifetime adequately to measure the influence of inbreeding in the case of the higher animals, but assuming that the same laws hold good throughout the animal kingdom, we may, perhaps, be justified in believing that the results of experiments on insects will enable us to arrive at a definite opinion in the matter. In the insect world a generation is so short that, according to the "Digest" it has been possible in a few years to observe more than seventy-five generations in succession—a task that would

have required perhaps 1500 years had human beings been the subjects of investigation.

The insect selected by M. Moenkhaus for his experiments was a fly, *Drosophila ampelophila*. According to the "Literary Digest" he has followed for a term of years "the descendants of several couples, and has shown that crossing between brothers and sisters may be continued for seventy-five or more generations without the least injury; the vigor and fertility of the insects, their size, their reactions to light and gravity, and the duration of their lives—all appear not to be modified. In nature, fecundity varies in different cases, and the same is true in captivity. By selecting the breeders, it may be either diminished or considerably increased, despite consanguineous crossings."

To bee-keepers the matter should be of especial interest at the present time, when line breeding is being discussed and advocated as a means of improving the honey-bee. In the minds of many there has existed a doubt as to the advisability of inbreeding—a doubt which perhaps the recording of M. Moenkhaus' experiments may do somewhat to remove.

W. W.

NEW BEE PASTURES

If we admit that the man who by cultivation causes two blades of grass to grow where only one grew before, is a benefactor to mankind, what shall we say of him who brings into bearing the waste places of the earth? The time may be far distant when the Canadian people will find it necessary to devise means of subduing to man's use the wild and barren areas of their vast Dominion, but in their great neighbor's territories, works on an immense scale are proceeding which have as their object the making of the desert to rejoice and blossom as the rose. The U. S. irrigation projects are famous all

over the world for their magnitude and successful achievement, but for bee-keepers they possess an interest in that thereon is being developed a very profitable bee-industry.

On these areas alfalfa is the chief source from which the bees secure their supply, and as it blooms constantly from early spring until late in the fall, the bees have something to work on all the time, allowing a great amount of honey to be stored. Press reports from recent state and county fairs indicate that the quality of this honey is superior, its flavor exceptionally fine, and its color clear and sparkling.

Many of the projects are located in famous fruit sections and the combination is found to be of mutual advantage. The trees furnish an abundance of honey during the blossoming period, and orchardmen state that the economic importance of the bee, from the standpoint of its value in the pollenization of fruit, cannot be over-estimated. White clover and small fruits, and in the plains regions many varieties of wild flowers also furnish sources of supply.

The bee industry is a lucrative side line for the regular farmer, but there is also a wide field for the bee man on these projects where everything tends towards specialization, and where the farmers organize for the standardization and marketing of their crops. On nearly all the projects small tracts for the purpose may be purchased at reasonable rates. On many of them there are model towns laid out at intervals of a few miles. The business lots are grouped around a central square, and near the outer boundaries of the townsites the lots contain several acres each. These large lots, surrounded by wide areas of new agricultural lands devoted largely to the raising of alfalfa, are ideal locations for apiaries. They are sold at very reasonable rates, and afford opportunities for engaging in a business which pays large returns on the invest-

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ment. The average producer in the West is probably about 100 lbs. per annum. The manager of a large apiary on irrigated tracts gives the return of his hives as 76 lbs. per annum. In addition to that the increase is 10 per cent from year to year on the original investment and about 150 per cent. on the original investment. The Statistician of the Service at Washington, D. C. has furnished detailed information on the lands irrigated by the Government.

ITALIANS vs. BLACK BEES

By J. A. Mc...

A number of things have been proposed and con in the C.B.J. regarding the different races of bees, especially the Italians.

As I have had the pleasure of seeing the heads off about 80 black colonies the last two seasons it may be interesting to some of your readers to know that I prompted my so doing. Last season I was removing my colonies from the state of Illinois was only with the most of the colonies on my part that I had been robbed by their yellow cousins, the Italians. Burns often expressed, I think, the opinion that if I lived the summer I would see me rid of at least a few colonies of Black bees as I had them in my apiary. They were the poorest defences I have ever seen, hives imaginable, and it was impossible to change them around so as to be safe from the black colonies the Italian friends. I managed at all. Not so with the Italians. When an attack was made on the robbers got stung. The result was no honey changed hives.

As to the difference in honey qualities, 75 to 100 lbs. and

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the raising of alfalfa,
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engaging in a business
returns on the invest-

ment. The average price of bees in the
West is probably about \$5 a hive. The
manager of a large apiary on one of the
irrigated tracts gives the average produc-
tion of his hives as 76 pounds of surplus
honey per annum. At ten cents per
pound the returns would be \$7.60. In
addition to that the increase averages 100
per cent from year to year, doubling the
original investment and making a total of
about 150 per cent. profit each year on
the original investment.

The Statistician of the Reclamation
Service at Washington, D.C., will fur-
nish detailed information concerning
lands irrigated by the Government, upon
request.

ITALIANS vs. BLACK BEES

By J. A. McKinnon.

A number of things have been written
pro and con in the C.B.J. of late regard-
ing the different races of bees, black and
Italians.

As I have had the pleasure of nipping
the heads off about 80 black queens the
last two seasons, it may be of interest
to some of your readers to know what
prompted my so doing. Last spring after
removing my colonies from the cellar it
was only with the most cautious watch-
ing on my part that I kept the black
colonies from being robbed out en bloc
by their yellow cousins, and as Bobby
Burns often expressed, I sware an aith
that if I lived the summer, fall would
see me rid of at least one nuisance.
Black bees as I had them in their pur-
ity were the poorest defenders of their
hives imaginable, and it was only by
changing them around so as to give the
black colonies the Italian field bees that
I managed at all. Not so with my Ital-
ians. When an attack was made on them
the robbers got stung. That was all, as
no honey changed hives.

As to the difference in honey gathering
qualities, 75 to 100 lbs. and over in favor

of the Italians, has manifested to me that
there is a difference in the bees, and af-
ter the main flow most of my Italian
colonies put up from 30 to 40 lbs of fall
honey, while the blacks required to be
fed.

Yes, the blacks are all gone and I don't
want any more of them. The honey
flow was of short duration in this local-
ity, but with proper management I har-
vested over four tons of honey and in-
creased 87 colonies spring count to 165.

Raising Queens

I raised all my own queens (about 140)
besides a few supplied to bee-keeping
friends. I used no swarming cells. The
queens were all raised by the grafting
method. Cell-building colonies were fed
after the honey-flow. There is, however,
no need of feeding if there is a flow on.

My queen mating hives are half depth
Langstroth, with two division boards
and a half-inch auger hole at one side
and one end for entrances. I might add
that all my increase was made by the
nucleus method, as I only had three
swarms which were all returned.

St. Eugene, Ont.

AN OLD COUNTRY HONEY SHOW.

Dear Sir:—

Some time back you were good enough
to publish in your admirable Journal a
report of our Association, and I have
thought you might be interested in the
enclosed two photographs, which I took
at the fifth annual show on September
26th at Croydon, the judge being Mr. W.
Herrod, F.E.S. The quality of the
honey was good in each class, and the
entries in both open and members' classes
beat all records. The show opened at 2
p.m., and visitors continued to come in
till past 9 p.m., which, of course, means,
in football parlance, "A good gate." Mr.
Herrod gave a demonstration during the
afternoon with bees in the tent, which
you can see in the picture. The show

benches were nicely decorated with small ferns, and vases of flowers, and with an orchestra discoursing music the while, the hall seemed a veritable beekeepers' paradise. During the evening the prizes were distributed by Lady Edridge, and thus was closed one of the best shows Croydon beekeepers have ever had.

With best wishes for the success of your Journal, believe me, yours fraternally,

A. WAKERELL,

Hon. Secretary, Croydon and District
Beekeepers' Association.
Croydon, England.

ONTARIO FOUL BROOD REGULATIONS

Dear Sir:

You will see contained in my paper on the "Inspection of Apiaries" some recommendations which I am making in reference to a more effectual enforcement of the present foul brood legislation. I realize that in some cases the disease is not being checked as speedily as it should, but I believe that this state of affairs is more because we have somehow got the idea that an attempt must be made to doctor back to health every colony no matter how badly diseased, than through any serious fault of our legislation. Now this is contrary to the provisions of the act, and in my opinion is a mistake. There are many colonies in diseased apiaries which are not worth the trouble and money. People keeping a few hives of bees cannot afford the time to tinker with such colonies. In all such cases it would be a simple matter to sulphur the few remaining bees, and destroy by fire all the material that cannot easily be disinfected. I candidly do not believe that there would be sufficient bee-keepers in any locality willing to pay the expense of transporting their diseased colonies to a quarantine station and back again to make it worth

while trying the experiment. My opinion is that any bee-keeper who would be willing to go to that expense would prefer to treat his own colonies at home.

In reference to the quarantining provisions of the Massachusetts Act referred to by Dr. Burton N. Gates on page 318 of your November issue, the legislation referred to simply provides some details not mentioned in our act, but in reality goes little further than we do, as will be seen by referring to sections five and six of the Ontario Act, copy of which will be found on pages ten and eleven of Ontario Bulletin 190, "Bee Diseases in Ontario." These sections provide that the owner or possessor of diseased colonies of bees or any infected appliances for bee-keeping shall not sell, barter, or give them away; also that any person whose bees have been destroyed or treated for foul brood who sells or offers for sale any bees, hives, or appurtenances of any kind after such destruction and treatment, and before being authorized by the Inspector to do so, shall be liable to fine or imprisonment. The sections referred to go further and provide against the exposure in the bee-yard or elsewhere of infected comb, honey or other infected thing and makes a person liable to fine or imprisonment who even conceals the fact that foul brood exists among his bees.

The matter of giving the bee-keeper a written statement of these provisions of the act upon the discovery of disease is really attended to when the Inspector hands the bee-keeper as he is expected to do in every case the bulletin on bee diseases which contains a copy of the act. The only difference seems to be that no provision is made for giving him a written certificate releasing him from quarantine.

The point in which I believe Massachusetts is ahead of us is the provision against the owner removing bees from the premises for his own use without sel-

December, 1911

ling or disposing of it as a simple matter to have inserted in clause six to

Now while we are would like to refer to Honderich which appears where he states that "our foul brood regulations the local inspector that brood in his apiary. 'prise," said Mr. Honderich the receipt of a letter intelligence that Mr. Ch instructed not to inspect ies this season." I am so time Mr. Honderich did Foul Brood Act, and see tions really are. Secti that "Every bee-keeper who is aware of the exist either in his own apiary shall immediately notify referring to the Minister Parliament Buildings, keepers who did this d mer received prompt att as the money granted work lasted. The Depart culture is doing its best formation in reference to all parts of Ontario, and which is granted by the inspection of apiaries to th tage. Every bee-keeper wi spection should be done as sible, and when the money only way to get more insp for the bee-keeper to hire to come and examine his b as he would hire the veteri to come and examine any ot which happened to be sick There is no law against a b ing ahead and treating hi notifying the Minister of provided the inspector is come.

Yours very
MORLE

the experiment. My opinion is that a bee-keeper who would be willing to pay that expense would prefer to keep his own colonies at home.

to the quarantining provisions of the Massachusetts Act referred to by N. Gates on page 318 of this issue, the legislation provides some details not in the act, but in reality goes far beyond what we do, as will be seen by referring to sections five and six of the Act, copy of which will be found on pages ten and eleven of Ontario 1910, "Bee Diseases in Ontario." The sections provide that the possessor of diseased colonies shall not sell, barter, or give infected appliances for use so that any person whose bees are destroyed or treated for disease shall not sell or offer for sale, or appurtenances of any kind, the destruction and treatment of which are being authorized by the act, or do so, shall be liable to imprisonment. The sections refer to the bee-yard or else-where, and provide against the use of a diseased comb, honey or other articles, and makes a person liable to imprisonment who even consents to the use of that foul brood exists.

of giving the bee-keeper a copy of these provisions of the act, and the discovery of disease is reported to when the Inspector notifies the bee-keeper as he is expected to do in the case the bulletin on bee diseases contains a copy of the act. It seems to be that no provision is made for giving him a written copy, releasing him from quarantine.

in which I believe Massachusetts instead of us is the provision for the owner removing bees from his own use without sel-

ling or disposing of them. It would be a simple matter to have a few words inserted in clause six to cover this point.

Now while we are on the subject I would like to refer to the letter by J. W. Honderich which appears on page 325 where he states that "in accordance with our foul brood regulations," he notified the local inspector that he suspected foul brood in his apiary. "Imagine my surprise," said Mr. Honderich, "when on the receipt of a letter I learned the intelligence that Mr. Chalmers had been instructed not to inspect any more apiaries this season." I am sorry that at that time Mr. Honderich did not refer to the Foul Brood Act, and see what the regulations really are. Section ten provides that "Every bee-keeper or other person who is aware of the existence of foul brood either in his own apiary or elsewhere, shall immediately notify the Minister" referring to the Minister of Agriculture, Parliament Buildings, Toronto. Bee-keepers who did this during the summer received prompt attention so long as the money granted for inspection work lasted. The Department of Agriculture is doing its best to get full information in reference to foul brood in all parts of Ontario, and use the money which is granted by the legislature for inspection of apiaries to the best advantage. Every bee-keeper will see that inspection should be done as early as possible, and when the money is spent the only way to get more inspection done is for the bee-keeper to hire the inspector to come and examine his bees, the same as he would hire the veterinary surgeon to come and examine any other live stock which happened to be sick on the place. There is no law against a bee-keeper going ahead and treating his bees after notifying the Minister of Agriculture, provided the inspector is unable to come.

Yours very truly,
MORLEY PETTIT.

QUARANTINING APIARIES

The Careless and Ignorant Bee-Keeper a Menace

By H. S. Showell

On page 291 of the October C. B. J., Mr. D. Chalmers gives us a very interesting account of his observations as to the way in which the Inspectors' instructions are carried out by certain bee-keepers. Is it to be expected that bee-keepers who let their bees keep themselves and know very little more than how to hive a swarm and how to rob the bees—and this last remark will apply to nine out of ten of the people who keep a few hives—is it to be expected that they will be able to treat their bees without danger of spreading the disease? I think not, especially when so many of those bees are on crooked combs that have to be cut and otherwise mutilated before the frames may be lifted out.

For example, the inspector who inspected here this fall told one party to shake three diseased colonies together as they were all weak. As these bees were not far from one of my yards, I called to see how they got along, and was told that they had been shaken the day before, and the honey extracted, the operation taking nearly all day. Now, there was no nectar in the fields at this time so what were the other bees of the neighborhood doing that day? Every bee-keeper of any experience can supply the answer.

The thought has just struck me as to what was done with the washings of that extractor! Every bee-house should have a cess-pool or some place where washings can be emptied so that the bees cannot clean them up.

In my opinion bees can be quarantined as well as anything else. The disease is in the hive and not in the bees that are out in the fields.

The treatment of this disease should be given into the hands of competent men, just as much as the disinfecting of houses where diseases that attack the human race have been, needs to be done by men who know their business. It is exceedingly easy for the amateur to overlook some small but very important detail.

Rosary Apiary, Squire, Ont.

THE CO-OPERATIVE MOVEMENT

Its Principles, Policy, and Progress

By Geo. Keen

Editor of the "Canadian Co-operator."

In the proper consideration of the subject which has been allotted to me this evening it seems necessary each of us should understand what we mean by co-operation; that is co-operation as applied to human industry.

Co-operation is not new. The tribal type of human society was co-operative in its organization and that was one of the earliest, if not the earliest form of government.

The historian Rollins tells us that while the laws of Minos, the lawgiver of the Cretans were observed in Crete that island was the abode of justice and virtue, and it remained so for one thousand years. The children were all educated alike—their parents fed at the same table at the public expense towards which all were bound to contribute either by personal or substitute labor. No reason in history can be found for the decline and fall of this state of society although it has been suggested that the introduction of slavery was the cause of its ruin.

Then we had the great Spartan leader Lycurgus who instituted the common possession of land among the people of Sparta. For seven hundred years Sparta flourished and the people were happy under those conditions. It is said they became the most patriotic people of ancient times, but their patriotism did little or nothing to encourage the brother-

hood of man beyond their own borders. And here I might say that in brotherhood you have the keystone of the co-operative arch. The exclusive form of co-operation which has its modern manifestation in mergers, trusts and combines was in a degree adopted by the Indian tribes of this continent in each agreeing to a common hunting-ground for its tribe but prohibiting its use by all others. The modern trust fixes to the satisfaction of its constituent members the extent to which the hunting ground shall be used, but the general public are the game and not the hunters. In the exclusive form international co-operators say you have injustice and the germ of decay, but in the inclusive form—that which allows everyone to participate who will, and on equal terms—one of the fundamental attributes of modern co-operative success, the guarantee of its progress and permanency.

Robert Owen

While throughout the ages there have been many illustrations of co-operative action, the era of modern co-operation in its industrial form may be said to have commenced with the philanthropic activities of Robert Owen at the close of the 18th and the beginning of the 19th century. He is generally regarded as the father of British Co-operation. He lived at the period when the factory and capitalistic system of production was being developed and noted the squalor and signs of human degeneracy it was bringing in its train.

Owen was strongly attached to the view that environment is the maker of men. Aristotle, whose praise is heard in the universities, said "Character is destiny." The only national way recognized in Owen's day, says the Co-operative historian Holyoake, was by prayer and precept. Owen said there were material means largely unused conducive to human improvement. Browning's prayer was "Make no more giants, God, but elevate the race at once." This was

Owen's aim as far as he could do it. Great and desirable only be effected by unity.

Owen was not a sentimental or barren reformer. He first, produced the results with matchless energy and adoption. Owen, by his example, Lanark made himself the industry of his time. His splendid results not before other manufacturers. He met great opposition and part of influential people to obstruct him in his community at New Lanark, had no need whatever for lawyers, was without a selfishness, without any ta relief of the poor, without or religious animosities. For hours of labor, well educated children from infancy fitted the provision by the government system of elementary education improved the condition of the workers, diminished their daily labor on capital, and cleared up 500,000 profit.

Statesmen from every part of the world visited the scene of his work. Owen created betweeen the rich and the poor for workingmen with their own hands. He was, in addition, a tireless agitator and it is probably the most lasting because it kept alive the co-operative faith in the minds of the workers after his successful experiment was over.

The weakness in the Owen system that he helped by his genius to create in the mass of the people faded. He gave them the bread of money and his talents, but failed to adequately teach them the virtues of industry. His maxim that "God helps those who help themselves."

While the 28 co-operators in Rochdale in 1844 took one year to collect \$140 capital, to-day 28,601 co-operators in that town have a capital of \$2,448,865, did a trade last year of \$3,011,070, and made a net profit of \$506,735. It will be seen therefore that to-day there are hundreds, probably thousands, of working men in Rochdale who could go down to their co-operative store and each draw the aggregate amount it took the pioneers a year to collect from each other. Co-operation has not only given working men better and more wholesome food, better opportunities for education and recreation, avoided the possibility of food combines, and enabled them to build and furnish their own homes, but it has placed in their hands something they never possessed before, capital with which to cater to their own needs, instead of being centralized for the aggrandisement of the few and the tyrannical exploitation of the many.

Principles and Methods

There are several reasons why co-operators look to Rochdale for its principles. First of all those poor, almost penniless pioneers did not rely upon governments or philanthropists for their social amelioration. They depended, as the genuine co-operative democracy must depend, upon their own associated self-help for success. They expected no advantage therefrom, they were not willing and eager to give to others. They felt too, that in having regard for the happiness of all they better insured the happiness of each, and to produce the aggregate result each and all were prepared to make great personal sacrifices.

That view involved too that co-operators should be just in their social and economic relationship with each other, that if a better type of humanity, morally, physically and intellectually is to be evolved a man should be content to enjoy the equivalent only of the social

value of the service he gives to society and not to accumulate and use capital for the purpose of oppressing the actual producer and deprive him of the greater share of the wealth he creates.

In applying, therefore, their moral principles they devised an economic system which was unique and has since been universally accepted and insisted upon by genuine co-operators. They imposed it as a condition that capital should only have interest for its own use, that men should be paid for their labor according to its value, and that, in the case of a distributive society, profits should be divided in proportion to the extent to which each individual had contributed to it by his purchases. It will give you a fair illustration how that works out if I quote the experience of a local society. The last half year the Guelph Co-operative Association made a net profit on capital of 115 per cent., but capital only took five per cent. or one twenty-third part of the total. The remainder went in proportion to purchases or in other words the member with the largest family, being the greatest purchaser, and consequently possessed of the least capital, would get the greater cash return; the one with the small family, and other conditions being equal, having the most money at his command would get the lesser advantage.

This equitable method of division of the advantage accruing from concerted effort is adapted also to productive societies, selling societies, labor co-partnership factories, housing co-partnership, co-operative banking and almost every other type of associated action.

It will be seen therefore that we lay down as the fundamental principle of co-operation the brotherhood of man and that we recognize in certain economic methods in finance, commerce and industry, the only accurate interpretation of the principle in so far as the economic relationship is concerned.

The British Co-operative affiliation to any social practice it. It is also in the Canadian Union, in the whole international organization which division to capital is not. That method of division moral and unjust and is prevailing hypocrisy, fraud in business, and the ever-growing chasm between the very rich and the very great, moral and material and every other nation divide its aggregate wealth or its average comfort of must look for the signs of decay and individual degradation: the two extremes, the very poor, made rich and case may be, through the equitable division of the accruing from human laborative movement has not a millionaire, indeed not a millionaire, nor is such a possible under its economic man has a right to a reasonable interest for the use of his have it protected against the same way as a man has ask for rent for the use of his land, and its quality to ed, but we say he has no right to tax the produce of the neighbor simply because he possess capital the other do

I will now take a hasty look at the International field and what has been done along co-operative since the inception of the movement described.

British Co-operative

In Great Britain last year to the figures of the British were 2,585,293 co-operators. nearly all heads of families

service he gives to society accumulate and use capital of oppressing the actual deprive him of the greater real. creates.

therefore, their moral devised an economic system unique and has since been accepted and insisted upon by operators. They imposed on that capital should only for its own use, that men for their labor according and that, in the case of a society, profits should be distributed to the extent to individual had contributed purchases. It will give you an experience of a local society last half year the Guelph Association made a net profit of 115 per cent., but capital five per cent. or one part of the total. The records the member with the being the greatest purchase consequently possessed of the would get the greater cash one with the small family, conditions being equal, having at his command would advantage.

able method of division of the accruing from concerted societies, labor co-partnership, housing co-partnership, co-acting and almost every other action.

seen therefore that we lay the fundamental principle of the brotherhood of man and recognize in certain economic science, commerce and industry accurate interpretation of in so far as the economic concerned.

The British Co-operative Union declines affiliation to any society which fails to practice it. It is also a sine qua non in the Canadian Union, as also I believe in the whole international movement. An organization which divides profit in proportion to capital is not "co-operative." That method of division we say is immoral and unjust and is the parent of the prevailing hypocrisy, fraud and inequity in business, and the root cause of the ever-growing chasm between the very rich and the very poor. The real greatness, moral and material, of this and every other nation depends not upon its aggregate wealth or income but upon the average comfort of each unit. You must look for the signs of national decay and individual degeneracy alike in the two extremes, the very rich and the very poor, made rich and poor, as the case may be, through the prevailing inequitable division of the material results accruing from human labor. The co-operative movement has not yet produced a millionaire, indeed not one-tenth of a millionaire, nor is such an event at all possible under its economic methods. A man has a right to a reasonable rent or interest for the use of his money and to have it protected against impairment in the same way as a man has the right to ask for rent for the use of his house or his land, and its quality to be maintained, but we say he has no right, in equity, to tax the produce of the labor of his neighbor simply because he happens to possess capital the other does not enjoy.

I will now take a hasty review over the International field and see what has been done along co-operative lines since the inception of the movement I have described.

British Co-operation

In Great Britain last year, according to the figures of the British Union there were 2,585,293 co-operators. As they are nearly all heads of families it will be

seen that if you concede an average of five per family, that would give a co-operative population of 12,926,475, or rather more than one person in every four of the whole population.

It has been estimated that if the almost consistent rate of progress of the last forty years is maintained every person in the British Isles will be a co-operator within 25 years, but I am afraid it is too much to expect. The increase last year over the preceding one was 63,099 or a total with families of 345,495, one year's increase being just about equal therefore, to the population of this city of Toronto.

A Democratic Movement

This great working-men's movement—probably the most truly democratic in the whole world—employs 69187 people in distribution and 50,565 in production, or a grand total of 119,752, representing a population of about 600,000 and greater than that of Montreal. The sales last year were \$542,261,320 and the aggregate profit \$60,055,515. The share capital at the close of last year was \$170,679,820. A share in a co-operative society cannot increase in value owing to the fixed rate of interest, and that everyone can take a share whenever he pleases. The movement usually shows a net profit of from 35 per cent. to 40 per cent. on the capital employed. A financial expert some years ago in an article in a British financial paper estimated that if the various undertakings in the movement were put on the stock market they would, at the current prices ruling for similar securities, sell at ten times the amount they stand for in their balance sheets. In other words these highly intelligent British artisans have so far as their domestic necessities are concerned, got from under the heavy load of the useless capitalist and thereby escape having to provide nine-tenths of the profits from labor which usually go to the capitalist, the

difference being enjoyed by the actual producers and consumers, in better wages and conditions of labor for the producers and cheaper and better merchandise for the consumers.

British Co-operators are every year getting more and more self-contained in their industries. In 1864 the English retail societies federated to form a "wholesale" each society subscribing a £1 share for every one of its members, paying 6d. per share on account, the balance accumulating out of profits. The first complete year (1865) the Society did a trade of \$603,770. Last year it did a trade exceeding 130 million dollars. It employs 20,000 workers under relatively ideal conditions. This huge federation of working men societies does all kinds of wholesaling. It is a steamship owner carrying its own produce across the seas. It is the largest flour miller in the United Kingdom, is the banker of the movement doing a turnover in that department of about a billion and a half dollars last year. It produces nearly everything co-operators need to use or wear and much of what they eat and drink. The profits are returned to the retail societies in a similar manner. The miners of Cape Breton, Nova Scotia, through their co-operative societies are receiving back the growers and manufacturers as well as the distributors profits on the tea they drink, the groceries they eat and the clothing, shoes, etc., they wear on such of their purchases as are made from the Co-operative Wholesale Society instead of the same remaining in England for the benefit of wealthy capitalists. Some of you may say, "Yes, but it takes trade out of the country." Canadian co-operators might reply that even from that viewpoint the balance of trade will be for many years on our side because the Co-operative Wholesale Society is the biggest individual buyer of Canadian produce, the British federated societies

having bought no less than \$5,000,000 worth of our commodities last year. We, as co-operators do not, however, worry ourselves on that score. We have no more use for the warfare of commerce than we have for that of arms. When merchandise is produced for use instead of for profit such considerations lose their value. We are inclusive and not exclusive. We are cosmopolitan in our social and economic ambitions. In our international fraternity we eliminate all national, racial, social and religious boundaries. The British co-operator seeks no material or other advantage over his German or other foreign brother. We see in international unselfishness our own material advantage; the most effective manner for the average man of serving his own self-interest.

I have been giving you information as to British Industrial co-operation in which you may consider you are not interested. For that reason possibly I am wearying you. I give you the information not because it directly affects you but to demonstrate the necessity as well as the advantage of our fundamental principle of fraternity in associated industry.

British Agricultural Co-operation

Agricultural co-operation in Britain is in its infancy. I attribute that fact to the feudal atmosphere of the rural districts of England with its consequent distaste for change. Although organized agricultural co-operation in Britain is barely a decade old it is making great strides. Its welfare is looked after by the Agricultural Organisation Society which was incorporated as recently as 1901. It imposes similar conditions as to ethics and methods as the industrial movement and works in perfect harmony therewith, the purpose of the one being to supplement the other on every possible occasion.

(To be concluded.)

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To be concluded.)

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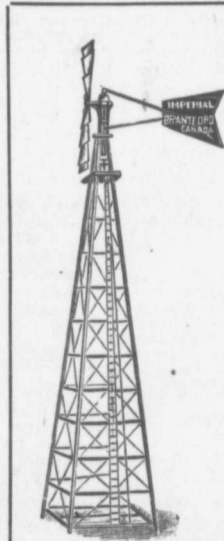
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