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THE



CANADIAN

Honey Producer.

Its Reading Columns for the advancement of Honey Producers exclusively.

Vol. I.

BRANTFORD, DECEMBER, 1887.

No. 10.

The Canadian Honey Producer,

PUBLISHED BY

E. L. GOOLD & Co.,

BRANTFORD, - - - - ONTARIO.

Published Monthly, 40 cents per year.

TO CORRESPONDENTS.

The Subscription price of the Canadian Honey Producer is 40 cents a year. 3 subscriptions at one time, \$1.00 to one or more addresses. For further particulars see our Premium List.

Remittances for fractions of a dollar may be made in Stamps, Canadian or American. The receipt for money sent will be given with the address in the next issue of the paper.

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TO CONTRIBUTORS.

We will always be pleased to forward sample copies to any.

We will thankfully receive for publication items of interest to Bee Keepers, and we would like to have every issue of the paper contain at least one good article bearing directly upon the management of the Apiary for the coming month.

The Canadian Honey Producer one year with the following Books:

Cook's Manual of the Apiary, cloth,	\$1.25	\$1.50
A. B. C. in Bee Culture, by A. I. Root,		
cloth, \$1.25,	1.40

A. B. C. in Bee Culture, A. I. Root, paper,	\$1.00,	1.25
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Single subscriptions are 40 cents per year— Three subscriptions for one year at one time, \$1.00. In addition to the above, any one sending us 15 subscribers will receive one of Alley's Queen Traps; and to any one sending 25 subscribers we will send one of our No. 1 Smokers. Postage or express must be paid by the recipient of premium. All subscriptions must be for one year. Any one subscribing for two years will count as two subscribers. The largest number of subscriptions sent in by any one up to 1st May, '87, will receive in addition one complete Blackburne hive for comb and extracted honey. The number of subscriptions must exceed 35.

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Patented in Canada and United States,

THE CANADIAN HONEY PRODUCER.

Vol. 1. December, 1887. No. 10

Our readers will be pleased to find that this number is taken up with a report of the N. A. B. K. Convention. We have added several pages to this number in order to get the report out early. We have spared no expense to get a report of the Convention. Canada had but one representative. We trust our subscribers will show their appreciation by getting at least one new subscriber each for us.

The 18th Annual Meeting of the North American Bee-Keepers' Association in Union with the Illinois State Association.

The meeting was called to order at the Commercial Hotel, Chicago, 10 a. m. Nov. 16th, '87, by the president, Dr. C. J. Miller. Members were enrolled for the coming year and reports received. Thirty nine reported, which combined are as follows :

Colonies in Spring, 3,761; Colonies in Fall, 4,342 ; Lbs. Comb Honey, 33,290 ; Lbs. Extracted Honey, 28,100 ; Lbs. Wax, 1,136.

10260 lbs. of honey were fed back.

The first essay was by J. A. Green Dayton, Ills., as follows :

Production of Comb and Extracted Honey in the same Apiary.

One of the growing tendencies of the time is to divide up and specialize all departments of labor. That the principle is, in the main, correct, there can be little question. As the field of knowledge is widened or as competition increases and the struggle for success becomes keener, no man can afford to divide his forces and so weaken his powers. It has been truly said that there is such a thing as momentum in mind as well as in physics and that many a man has just missed becoming a great man by splitting into two middling ones.

In Bee-Keeping as in other occupations, the best average success will be gained by

making a specialty of it, even though an occasional season such as the past may bear heavily on some. Yet this principle may be carried too far. We already have Bee-Keeping as a specialty divided into the sub-specialties of honey production and the rearing of queens and bees for sale, while some insist that honey production should be divided and that we should make a specialty of either comb or extracted honey.

Circumstances alter cases. Undoubtedly there are places where comb honey can not be profitably produced and other places where it will not pay to produce much extracted honey. In most cases though, a judicious combination of the two will give the best results. In the first place, study your market. There will be found almost every where, some who will consume large quantities of extracted honey at its lower price when they would hardly touch the more expensive comb. Supply this demand. There are others who will use only a definite amount of honey, whether comb or extracted. It is folly to sell extracted to these. This applies almost as well to the wholesale market as to the retail. The market which pays cash is always to be courted.

Comb honey, we all know, is sold largely by its looks. A poor article that looks well will sell better than a good article that looks badly. If there is any portion of your honey crop that does not look well in sections, secure that portion in the extracted form. With a good market for dark extracted honey, it will probably pay to sell all light honey in the comb and all dark as extracted. You may have some colonies that do not produce nice comb honey. Pinch the heads off their queens as soon as convenient, but in the meantime take their honey with the extractor. Let it be your aim to have every pound of your comb honey first class. Poor extracted honey can be sold for manufacturing purposes, but poor comb honey is hard to sell anywhere and spoils the market for good.

The time may come when honey comes in faster than the bees can build comb to store it in. At this time a few cases of empty combs distributed among your best colonies will pay an enormous profit.

The production of extracted honey may be combined with that of comb so as to get rid

of much annoyance and expense inseparably connected with the sole production of comb and at the same time improve the quality of all the honey produced. To accomplish this result, a large number of extracting combs is needed, at least one set for each colony. When the honey flow begins, give each colony a set of combs. We all know that bees will begin work sooner on empty combs than in empty sections. If you are one of those who never have any trouble inducing bees to start in sections at the very beginning of the honey flow, this part of the programme may be omitted, and with a short and sudden honey flow, it may not be advisable. After the bees are well at work above, remove the extracting combs from as many colonies as you want to run for comb honey and give them sections. Pile up the supers of partly filled combs over other colonies. The honey so piled up will become thoroughly ripened, and a much finer article than that ordinarily produced. Whether for economy or excellence, there is no way of producing extracted honey equal to that of giving the bees plenty of room to store honey and then plenty of time to ripen it.

Along towards the close of the honey flow, instead of putting on more sections which will probably not be finished, take all the sections from a part of your colonies, giving them empty combs instead. Put the partly finished sections on other colonies to be finished.

Let us now recount the advantages of this method. First, getting the bees started in the surplus department without delay. Second, your comb honey is nearly all first grade and your extracted honey the finest that can be produced. Last, but by no means least, you are rid of nearly all the expense and bother of unfinished sections in the fall. It is because of this that your comb honey will be nicer. Section honey stored in combs built out the year before is not equal in quality or appearance to that built new. To carry out this method of course your hives must be so that all parts are easily and quickly removable and interchangeable. Your section cases should hold only one tier of sections and your extracting supers should be shallow, not over six inches deep, and both should be capable of being tied to any desired height. Queen exclud-

ing honey boards are almost indispensable.

In answer to a number of questions Mr. Green stated that he could produce two third pounds of comb honey to 1 lb. of best extracted honey and 1 lb. of comb to 2 lbs. of medium extracted, and 1 lb. of comb to 3 lbs. of average extracted honey.

H. R. Boardman, East Townsend, O., wanted wide section frames, not section cases although at one time he had been strongly in favor of the latter. Mr. Green preferred section frames but only one section deep.

T. S. Bull, Valparaiso, Ind., in reference to the question brought up in Mr. Green's paper, found that the disposition of colonies varied very much, some went into sections very readily and others again could never be made to work for section honey to advantage and by persisting to make them go into sections a loss would result, he had proved this by actual experience to his entire satisfaction.

Mr. A. I. Root, Medina, Ohio, stated he had found bees would store honey in frames when they would not store it in cases, he therefore got on the section frame.

N. N. Betsinger, Marcellus, N. Y., stated he had used the section frame system very extensively but had discarded it for the case system; 3000 section frames had been thrown away by him for cases.

Mr. Boardman related how he had constructed an entrance block with a cone, the latter somewhat like that constructed for drone excluders, when he wishes to take off supers of honey he places them above and upon the hive, with the entrance block the bees can get out of the hive but not return, they run down to the hive below in from one to three hours.

The thought was suggested that the bees might injure the appearance of the honey by uncapping.

A number objected to the statement that honey placed in old comb was inferior.

Mr. Green gave as his reason for the assertion that honey placed in old comb was inferior as it was capped faster and not ripened as well.

Mr. Wilcox explained why such honey often appeared inferior but was not. When the surplus was placed upon the hive the bees carried frequently early and inferior

honey from below, this was naturally placed in the old comb and the honey in such a comb often was inferior. Mr. Wilcox dwelt upon the necessity of ripening comb honey as well as extracted, it improved the quality and appearance of the honey cells that looked watery on account of the proximity of the honey to the cell capping, by ripening this often disappeared. By actual weight he had found honey to shrink three per cent in such ripening.

Mr. Green thought honey in old combs was often deteriorated as stated but generally from being capped too soon, he agreed with the last speaker upon the question of ripening honey.

Mr. Wilcox thought this ripening after capping was a strong argument in favor of tiering up.

Mr. Green thought this ripening should be done in a warm room, if kept on the hive it would injure the appearance of the combs.

Mr. Boardman claimed that in reference to granulation he found that a glass which had contained granulated honey would even if thoroughly cleaned cause honey ever after to granulate much more quickly in it. Also old combs which had been cleaned of granulated honey would cause new honey to granulate rapidly, it also caused sweating of the combs, He stated that if the atmosphere is kept moving in a comb honey store-house it can stand a far larger degree of moisture than if stagnant.

It was admitted by all that the granulation of honey was a process not yet understood, a piece of granulated honey an inch square thrown into a 600 lb. can would be the means of granulating all within three weeks.

Mr. Wilcox stated he had a sample of comb honey with him last year which was still liquid. He had another sample in the comb (new comb) gathered this season which had already granulated solid.

R. F. Holtermann, Brantford, Ont., asked if the latter had been fed back to the bees. It had not.

AFTERNOON SESSION.

The first topic upon the programme was Legislation for Bee-Keepers, Dr. C. C. Miller.

Dr. Miller stated that he had prepared no essay and the secretary had placed his name upon the programme without his consent. As all knew a committee had been appointed

to see what could be done in the direction of securing the right of a certain portion of land for bee-pasturage. This committee had no formal report but their decision although not unanimous would be in words about as follows: The views of Bee-Keepers at present render it undesirable to do anything in this direction just now. He thought there was a good deal of misconception about the whole matter. He thought in time Bee-Keepers would have a territory to labor in just as the farmer had to graze his stock and farm upon, he had not stated whether Bee-Keepers should steal or buy this right

The opposition arguments were chiefly objections to wrong legislation and evils arising from such, they wanted a scheme for proper legislation and Dr. Miller wished to have it placed on record that legislation was desirable if not feasible.

Dr. A. B. Mason, Auburndale, Ohio, supported Dr. Miller and did not wish to see the matter drop, he did not believe in stealing territory or priority of right.

Mr. Wilcox could only see one way, which was exemption of bees from taxation and to sell a license which would give control of territory within a certain limit. He had three apiaries and was calculating to run six next Spring. He would not like to go to the expense of equipping an apiary and thence someone plant himself alongside of him, he would be willing to pay a sum for the right of territory about him.

Mr. Bull objected to legislation, he stated no one had a right to secure a license to permit his bees to pasture from some other person's Alsike clover-seed and prevent the owner of the field from keeping bees.

Dr. Miller said suppose he sows pasture for his bees shall he by legislation secure sole right to that pasture, if they were to produce honey cheaply it must be the principle if not the sole business of the producer, such a specialist might put up buildings, plant pasturage and then have to divide his territory with another. He might not want a certain strain of bees, foul brood, how should he secure this without legislation. Mr. Bull said he might argue the same as a store keeper in a new country.

Prof. Cook, Agricultural College, Michigan, thought if there were so many specialists and they commenced to seriously interfere with

one another and their rights could not be preserved there might be something in it, but such at present was not the case.

Owing to popular opinion such legislation it would be difficult to procure.

Mr. Wilcox thought bees should go where they like.

Mr. Thos. G. Newman, Chicago, Ills., Editor American Bee Journal, who had been seriously ill during the last six weeks and still quite feeble, read a paper upon "Objects and methods of a thorough organization of the Bee-Keepers of America.

A philosopher once said, "My object is not to make people read, but to make them think." My desire is to cause them to act—for *action gives results!* I would endeavor to inspire you to undertake a "progressive step" in the direction of organization! I intend to merely *outline* the benefits to accrue from united effort, and to state very briefly the probable effects of the plan proposed. Said one of old, "I believe, and therefore have I spoken." I, too, have believed in the exalted possibilities of the North American Bee-Keeper's Society, and have for nearly a dozen years labored zealously for the realization of the fond hopes so long entertained.

The pursuit of modern and progressive apiculture is yet in its infancy. It has grown rapidly, and its development has been accompanied by science, art, and invention at every step; so that to-day (even in its infancy) it is really a *giant!* standing almost without a parallel in the history of industrial pursuits—its devotees in North America to-day numbering 300,000 persons; and its annual product of honey amounting to 100,000,000 of pounds, and its value being about fifteen millions of dollars.

Is it not true that our National government is founded upon the principle that "in Union there is strength?" And after passing the ordeal of the greatest "civil war" of modern times is to-day the strongest and best in the world? Its constitution and laws are "the bulwark" of all our privileges and liberties! It guarantees to us also the full benefit and peaceable enjoyment of our organized labors!

What we need is organized efforts, unity of labor, and concert of action, upon all matters where "our interests are in common!" To accomplish this, we ought to patriotically sink all our minor differences, and organize

to defend our pursuit, watch our interests, and defend our rights. A thorough organization is our only "strong tower of defense," and will command lawful attention and commercial respect.

But some may ask, "What do we desire to accomplish?" To answer this, let us enumerate some of the suggestions during the intervening year, since last we met:

Has not a "Honey-producers' association" been proposed, to control the selling prices of the honey product? A strong but conservative society would best serve that purpose.

Have we not heard about the necessity for obtaining reliable apicultural statistics! What could be better adapted to this purpose than an International Society?

Has not a proposition been made to ask for legislation in favor of granting protection to bee-keepers within a certain territory? What could authoritatively decide whether such legislation is desirable or not, but such an apicultural organization?

Some of our principal wants are a systematic encouragement of Bee and Honey Shows at Fairs; providing bee-tents for such bee-exhibitions; inaugurating a system of education of bee-keepers, and by certificate or otherwise, guaranteeing to those who wish to hire assistants, that they possess a practical knowledge of the business for which they are wanted.

These "wants" could all be provided for, and satisfied in a better manner, by a well-organized society, than in any other way.

Then again, it has often been advised that the Constitution of this Society should be amended so as to make it a Representative Society. In the minutes of a former meeting we find the following:

The committee on revision of the Constitution, find that the North American Bee-Keepers' Society should be composed of delegates from all the local society throughout North America. They would, therefore, recommend and urge that the local societies carry out this feature, and send delegates to the next meeting of this Society.

At another very important meeting of this Society, the chairman of "the committee on the best means of promoting and advancing the interests of the National Society, and to increase its usefulness," reported, making the following recommendations:

1. That the Society be made a representa-

tive body, and that delegates from local societies be sent to the National Society with instructions as to the needs of apiculture at large.

2. That it should encourage a local State exhibition once a year, having public manipulations with bees.

3. That the National Society award suitable medals for the best exhibit of honey in the most marketable shape, and a diploma for the most expert public handling of bees

This Convention also recommended that a Vice-President be elected in every State and Territory, to co-operate with the Society in awarding prizes at these Bee and Honey Shows. It also recommended that a representative of this Society attend these Bee and Honey Shows, and that his traveling expenses be borne by this Society, and that a committee be appointed to procure medals and diplomas.

To make this a Representative body is not a difficult task. The Constitution can be revised and amended, and when this meeting adjourns, it can direct that at the next annual meeting, representatives from auxiliary societies, and members of the parent society only will be allowed to vote, hold office, etc. Of course all apiarists will be admitted, as heretofore, and be entitled to take part in the deliberations by purchasing an annual ticket of the Secretary, the proceeds to be used in defraying the necessary expenses of holding the annual convention.

It is a self-evident proposition that apiarists, like every other professional or industrial class, have the right to organize for their own interests and advantage, and to select such forms of organization as may best suit their purpose. And it is likewise *the duty* of every apiarist in North America to sustain that organization by every means in their power, and to "stand shoulder to shoulder" in creating and upholding it, as well as in making it one of permanent interest. That organization must enlist the highest intelligence, as well as possess the strictest integrity in order to make it of permanent value to the industry.

It is generally known that the "Bee-Keepers' Union" has been formed, and for three years has made its power felt in defending the rights of its members. It is now a power in the land, and asks no assistance from any other organization; but is it not worthy of consideration, however, to ascertain if it would not be advisable to have it

as an "auxiliary" under the protection and patronage of this Society?" If desired it *might* be induced to become an integral part of an organized body.

In London, England, they have a "Honey Company" which receives and sells at the highest market prices the honey belonging to its members, either by sample or in bulk, and such a company may also be deemed desirable in America, and some arrangement may be made, perhaps, whereby the company could make advances on consignments, and thus help producers in more ways than one. This might also be made a feature of the proposed organization, if deemed desirable by the members of this convention of American apiarists.

To accomplish the latter it would be necessary to incorporate the society and sell sufficient capital stock to give ready funds to make advances and control the honey product. This suggestion I leave for the consideration of the Convention, or a committee of its creation. But to facilitate matters, I will here submit for your approval or rejection the draft of a new Constitution and By-Laws to include all of the suggestions made; your committee can easily exclude, revise or make new provisions to suit their own views.

Let us all remember that in the strength of its *deposits* "the Bank of Human Friendship" is invincible! and the *assets* are greatly augmented when "good men and true" invest largely in its capital stock! Were mankind to cease to aid each other, the race would soon perish. From the moment of our advent into this world until some kind hand wipes the death-damp from our brow, we need assistance and friendly help—and none can be guiltless who refuse.

"Do you ask for the name
Of this Genius whose fame
Through the civilized world doth abound?
It is Friendship pure.
Whose works will endure
Until the last trumpet shall sound."

I trust that I have made plain the *outline* of the organization suggested—the *advantages* offered—the *duties* devolving upon its members, and the *responsibilities* resting on its executive officers; and now, in conclusion, let me ask, may we not hopefully look to the future, expecting to see Apiculture prosper, and its votaries intelligent, successful and happy, enjoying the full fruition of the grand

organization which may result—from the labors of this day? In the language of Webster, when laying the corner stone of the Bunker Hill Monument, I will say of this proposed organization: "Let it rise! Let it rise, till it meet the Sun in its coming; let the earliest light of morning gild it, and the parting day linger and play on its summit!"

Mr. Newman submitted a new constitution and by-laws which will be published. These would necessitate a very great change and a committee of Prof. A. J. Cook, W. Z. Hutchinson and A. J. Root were appointed to report. This committee reported before the close of the convention. In effect the report was as follows: In so brief a time they could come to no conclusion, the changes were very sweeping and they would ask Mr. Newman to print the new constitution and by-laws in his *Journal* and have a full discussion during the coming year. Mr. Newman was praised for the great care and the time he had devoted to the work especially as he had poor health.

Next subject was, Foul Brood, how shall we treat it? by A. I. Root, Medina, Ohio. Mr. Root spoke upon the question and then left the subject open for a general discussion. In opening, he said at one time he had stated that foul brood was the worst thing that could happen a Bee-Keeper; he would take that back, he thought great and continuous success which had the effect of making the recipient thereof worldly, proud, and took him away from the feeling of dependence upon God was worse. The scriptures said, "Whom He loveth He chasteneth." Mr. Root thought this year the worst year he had ever known for Bee-Keepers. They had cleaned everything out and were now ready for a new crop. They had at first destroyed 40 or 50 colonies when first traces of foul brood were found. They found wherever such a colony had been taken away the hives about the old stand became affected, he thought owing to a few bees that got into them from this hive. So they treated with carbolic acid; it required to be of such a strength as to be effectual, yet, not kill the bees. They examined cells with tooth picks but were careful not to use them a second time but destroy them. When treating a colony they break the capping of the cells with a wire hair brush, in this way the good brood will often be saved. Carbolic

acid also prevented the spread of the disease.

To disinfect the hives, place them in boiling water for about forty seconds. Mr. Cowan had stated this was enough. Mr. Root suspected that his bees got the disease from honey they had purchased and which was leaking through the barrels, he felt doubtful if people should sell honey procured from foul brood colonies. All the queens and bees he had shipped were not from their own yard but his brother-in-law's. No bees or queens would be shipped from his apiary until the disease had been cured.

Mr. Betsinger stated he had a very extensive and long experience with foul brood and he felt confident that no apiary with 50 colonies but had more or less foul brood. He could cause foul brood and cure it in 10 days. He treated the bees with salt mixed with water not strong enough to prevent the bees taking it up; he mixed this with saw-dust.

Dr. Mason stated that he knew of many who had tried salt and had never cured it, he would in such cases never handle bees until late at night or early morning and then he shut up the hive entrances about the affected colony, and after he got through manipulating he would kill every bee outside of the closed entrances.

Prof. Cook said in French, English and German Bee-papers, salt had been reported as being of good and not of good, mostly the latter. He knew of fresh cases having developed this dry year, he considered the roapy consistency of the matter in the cell ample proof. He did not think it was necessary to destroy the colonies. Many had cured the disease. Mr. Betsinger had claimed that the germs of the disease was gathered in the pollen from the flowers, he (Prof. Cook) thought this was a rather rash assertion. A case in Iowa had come to his notice lately, it answered the description of *bacillus minor* as described in the B. B. Journal.

B. T. Davenport, Auroraville, Wis., found by changing the queen he had cured this disease, they called it dry foul brood, sometimes quite a number of cells were affected. The dark and hybrid bees had the disease the worst.

Mr. Leach stated he had succeeded partially with salt, expected next spring to cure it entirely.

Prof. McLean, Hinsdale, Ill., stated he had

cured many colonies with salt, and had known of but little failure when followed as directed. Mr. Botsinger's method was good and his theory as to pollen was correct. He stated:

To 3 pints of soft water add 1 pint of dairy salt. Use an earthen vessel. Raise the temperature to 90° i. Stir till the salt is thoroughly dissolved. Add 1 pint of soft water boiling hot, in which has been dissolved 4 tablespoonfuls bicarbonate of soda. Stir thoroughly while adding to the mixture sufficient honey or syrup to make it quite sweet, but not enough to perceptibly thicken. To $\frac{1}{2}$ of an ounce of pure salicylic acid (the crystal) add alcohol sufficient to thoroughly cut it (about 1 ounce), and add this to the mixture while still warm, and when thoroughly stirred leave standing for 2 or 3 hours, when it becomes settled and clear.

Treatment.—Shake the bees from the combs and extract the honey as clearly as possible. Then thoroughly atomize the combs, blowing a spray of the mixture over and into the cells, using a large atomizer throwing a copious spray; then return the combs to the bees. Combs having considerable quantities of pollen should be melted into wax and refuse burned. If there is no honey to be obtained in the fields, feed syrup or the honey which has just been extracted. If syrup is used, add 1 ounce of the remedy to each quart of the syrup fed. If the honey is used, add 2½ ounces of the remedy to each quart of honey fed. The honey and syrup should be fed warm and the remedy thoroughly stirred in, and no more should be furnished than is consumed.

Give all the colonies in the apiary one copious application of the remedy, simply setting the frames apart so that they may be freely exposed to the spray. This treatment frequently reveals the presence of disease where it was not before possible to detect it. The quantity prescribed, applied by means of a large atomizer, is sufficient to treat one hundred and fifty colonies. Continue the treatment by thoroughly setting the frames apart so as to direct the spray entirely over the combs and bees. In order to keep the bees from bringing in fresh pollen, burn old dry bones to an ash and pulverize in a mortar and sift through a fine wire-cloth sieve, and make a mixture of rye flour and bone flour, using three parts of rye flour to one of bone

flour, adding enough of the syrup or medicated honey to make a thick paste. Spread this paste over part of one side of a disinfected comb, pressing it into the cells with a stiff brush or a thin honey-knife, and hang this in the hive next to the brood. Continue this treatment until a cure is effected. Keep sweetened brine at all times accessible to the bees, and continue the use of the rye and bone flour paste while the colonies are recuperating.

One man whose bees he had treated and cured, had melted up 4000 combs before he consulted him.

Bare headed bees were caused by bees lacking the essential elements for breeding, a long discussion here followed as to cause and results of bare headed bees, that is the larvæ not being thoroughly capped. Some said they would hatch, others they would not, generally however they hatched. The Hybrid and Black bees appeared to be troubled more than the Italian. Change of queen was found generally to cure the disease. A few stated they were commencing to think the disease might become serious.

It was decided to leave the question drawer open to the committee not to a committee.

The question was asked does boneset give a dark or light honey.

Answer—Five yeas to one no.

At the close of the session the topic was Prof. McLean's experiments with foul brood. Very many thought there had been a mistake made and the experiments had been erroneous.

A very strange demand was made from Prof. McLean, it being that he should give the names of those whose apiaries he had treated, the object being safety to Bee-Keepers. Prof. McLean stated the understanding had been that the names should not be revealed and he as a government official had treated them and could not reveal the names; there was no danger to others. Even after this one or two persisted in having the names revealed but without avail.

EVENING SESSION.

Question Box.—Is the cell sealed hermetically or does the honey evaporate after being capped?

Doctor Miller said Frank Cheshire's book threw light upon this question. It was generally conceded that they were not hermetically. Mr. Boardman thought they were, and the

weeping of comb honey due to checking of the cell caps from cold.

Mr. Wilcox gave as proof of its not being air tight, the shrinkage of his comb honey in weight after being sealed.

Mr. Holtermann stated he had a year ago a lot of honey, about 1000 lbs. purchased, he knew it had lost in weight, but could not give exact figures like Mr. Wilcox.

Mr. Bull held it was sealed air tight.

C. P. Dadant then read the following essay :

Comb Foundation, its manufacture and use.

The first requisite for a good article of comb foundation, is to get pure beeswax. The manufacture of foundation with wax mixed with paraffine, or with ceresine, has been tried several times, and has resulted in a loss to the manufacturer, as the bees detect the imposition more readily than men can. Besides these artificial compounds melt at a lower degree than pure beeswax and endanger the safety of the colony when put in use. In this country, where the extremes of heat and cold are so marked, even pure beeswax, in naturally built combs, sometimes give way under the heat and weight combined.

It is by the lighter specific gravity that paraffine and ceresine are most readily detected. Happily these adulterations are scarce. The most frequent adulteration of beeswax, that with tallow, is easily noticed by the dull and greasy appearance of the cakes. This should be carefully rejected.

After selecting the beeswax, we melt it in a large boiler, and keep it liquid, for 24 hours or more, to give all the impurities time to settle to the bottom. These impurities are afterwards melted over to separate what there may remain in them.

The wax is then dipped into sheets, by the use of thin pine boards which have been kept dampened in water to prevent sticking. We formerly used glass and finally rejected it as too expensive. The sheets are made thick enough to 'stretch' : the rolls when they are moulded. It is in this way all the inequalities of their surface are laminated out, and the foundation turns out of the rolls uniform and dry, or nearly so ; all the moisture being forced out with the pressure. It is in this particular that resides one of the many advantages of the roller mill over the press. In the press the lubricating material, whatever it is, is left on the sheets and is very objectionable to the bees.

There are many points in the manufacture of comb foundation that are worthy of attention, but it is impossible to call attention to all of them in this short essay. In this, as in all other branches of industry, practice is neces-

sary, to acquire skill and speed, in manipulations.

Of the use of comb foundation it is not necessary to speak, for there is certainly not a bee-keeper present at this meeting who does not know of its advantages.

Some of our bee-papers, "two of them," have lately published an article, from my pen which appeared in the *Western Agriculturist*, several years ago, when comb foundation machines were yet in their infancy. In this article I advised the use of narrow strips in the frames, for we did not then know how to make foundation that would hold in full sheets, in the hive when used for natural swarms,

But every body now uses comb foundation in full sheets, in living swarms, and, we have done so ourselves for years with entire success.

Let me here close in making the remark, that, of all nations, the American is the most progressive, as far as practical or material progress is concerned. America leads the world in practical bee-culture and although many are the scientific discoveries that we owe to our brothers across the Atlantic, they readily acknowledge that in the practical production of honey, they only follow in the footsteps of the Bee-Keepers of the new world.

An objection was made to the statement that everybody used full sheets.

Mr. Holtermann stated they had used lye but rejected it for starch as a lubricator.

Mr. Root used starch.

Mr. Heddon used lye and found no injury arose from it.

Mr. Holtermann stated he did not find it injured the comb foundation, but if not spread out to dry thoroughly after making, it sometimes gave the foundation a whitish mouldy appearance, this substance was caused by the action of the lye upon the wax, customers receiving this would give trouble if they did not know the cause, and starch was just as good.

Mr. Bull used flour paste.

Several here testified that comb foundation in sections was ahead of the natural comb.

The question was asked will bees fill a section with full foundation or a starter most rapidly?

Mr. Wilcox said in a very good season he noticed no difference, he did not use full combs.

Dr. Miller used full sheets of foundation in sections always.

Another member had used both and found no difference.

Mr. Heddon had experimented extensively in this line. He wanted only foundation not even sections which had been drawn out the previous season, such sections were always melted down again. If honey came in part, the bees would fill the cells and then it took longer to ripen than if it was filled as the bees drew out the foundation and built the comb.

Dr. Miller stated he had supers by the hundred and in each one, one section filled with old comb, this latter in every instance was filled and capped first.

Mr. Bingham wanted to get all the combs he could if they were white and clean.

The point came up and it was decided that thin sections would be capped more quickly if they were narrow.

This led to some big comb stories. One had a comb $4\frac{1}{2}$ in. thick. Mr. Heddon came off victorious with a comb $7\frac{1}{2}$ in. thick, one cell $4\frac{1}{2}$ in. deep the opposite cell 3 in. deep.

Thursday, 9 a. m., Nov. 17th, 1887.

The first subject—Production of extracted honey for table use. T. F. Bingham, Abronja, Mich.

The paper will be given later.

Mr. Green thought in reference to the keeping of honey he did not want to have it kept in barrels, he preferred having it in tin cans.

Mr. Holtermann objected to barrels strongly, and explained the 60 lb. can with screw top and wooden case, was now generally used in Canada. Honey in this can could be liquified without the trouble occasioned with honey in kegs.

Dr. Mason said he liked wood and used a spade to cut honey granulated.

Mr. Root used a child's spade, he preferred tins, when honey is liquified he has it sealed in Mason's jars when hot. He found a glass having contained candied honey unless well cleaned would candy again.

Mrs. L. Harrison Peoria, Ills., did not want kegs.

Mr. Hill advised the use of lard cans, they could be secured from butchers after being emptied at a low figure.

Dr. Miller thought the idea of a square wooden box tight fitting and poured in when the honey was granulating a good one, he got the idea from G. M. Doolittle.

Mr. Heddon stated he had tried this 16 yrs. ago, it was of no use to him he wanted his honey in tins and he had an arrangement

whereby he could liquify 1400 lbs. a day; he does it by means of a steam coil.

The question was asked why a vessel that would hold water would not hold honey. It was found that honey would absorb water from the wood and then escape. The only way to get a barrel or wooden vessel tight is to dry it in the sun and drive hoops as it dries.

Prof. Cook wanted tin.

Here followed quite a discussion as to the merits of coke and charcoal tin, most thought there was no difference, some said it would rust more easily, cans when empty should be cleaned and dried.

Thirteen were in favor of tin, only five preferred wood. Forty rose when asked if they would ship both tin and wood as the market demanded.

Prof. Cook now stated that American Bee-Keepers as they all knew owed Mr. Cowan a debt of gratitude for his visit to them. It was astonishing the vast fund of information which Mr. Cowan possessed about the bee-keeping all over the world; he had taken about with him a heavy microscope on his visits, for the instruction and pleasure of Bee-Keepers and had sometimes gone hundreds of miles to visit an apiary, he therefore moved a resolution expressive of thanks for Mr. Cowan's kind visit to our country, regretting that he was not present and making him an honorary member of the Association.

This was seconded by Dr. Mason and carried by a standing vote.

Prof. Cook next gave an interesting lecture upon The Legs of the Bee—This was a very interesting lecture and reference was constantly made to diagrams.

The antennae he stated were organs of touch and smell, and were made use of in the dark hive where the minutest work had to be done constantly.

The polon was gathered on the body and antennae this was cleaned off by combs made for the purpose on the legs, and passed from leg to leg until deposited in the comb baskets. Prof. Cook advised all to read more about the *evolution theory*. It was a grand thing, and instead of conflicting with the Bible and God, only opened out to us the grandeur and wisdom of God and the truth of Scripture. In his lecture he mentioned the secretion which was made by a gland in the foot, and if the bee was permitted to walk on the under side of a clear piece of glass she would leave her footmarks, this was left by the section spoken of.

Mr. Root mentioned how this helped to disfigure honey comb if left in the hive.

A resolution thanking Prof. Cook was passed unanimously.

AFTERNOON SESSION.

Mr. T. G. Newman's paper upon, "What is the best name for extracted honey" was given by Mr. Newman.

Mr. Newman was in favor of retaining the old name "Extracted," and desired to put it to a final vote, which when put decided upon making no change. Next came a paper from J. H. Martin, Hartford, N. Y., on, Cost of the Production of Honey; which was followed by a paper upon the same subject by G. M. Doolittle.

These papers will be given in next issue.

R. L. Taylor thought there was a large risk in wintering, not taken notice of, the average loss was at least 25 per cent, there was also risk from disease. He thought Mr. Doolittle's price too low.

Dr. Miller said in reference to average yields it was over-rated, he was surprised at the lowness of his average yield, but figures went to prove it was lower than he estimated.

Mr. Green said his honey this year cost him \$3.00 per lb.

Mr. Wilcox said he was satisfied his honey did not cost him as much as Mr. Doolittle's did; he used the tiering up system.

This was followed by a paper from M. M. Baldrige, St. Charles, Ills., upon controlling the Price of Honey. This subject and paper will receive future attention. At the close of the reading, an animated discussion followed, it was evident that the supply and crop did not regulate the price, potatoes had increased three and four fold in price on account of short crop, not so with honey.

Mr. Root thought a little explanation to customers as to short crop would give better prices.

Mr. Newman stated what was required was a more even distribution of honey and cultivation of home markets, as long as people rushed their honey to the large cities and glutted the market, prices must come down.

He had sold honey this year more easily at 10 cts. than last year at 15 cts. They wanted to increase the consumption of honey more.

Mr. Holtermann read the editorial in the November number of the CANADIAN HONEY PRODUCER in reference to getting honey in hotels.

Mr. Betsinger stated in Syracuse, N. Y., honey could be procured in temperance houses but groceries with a back room had a class of customers that did not ask for honey.

Geo. Esher, was in favor of advertising honey more at county Fairs.

Dr. Mason stated he could sell all his honey at home.

R. A. Burnett, Chicago, Ills., gave a paper upon commission men and the Honey Market. Mr. Burnett very ably defended commission merchants, in Canada, honey is rarely sold through commission men.

A. S. Harkin, Lawrence, Mich., stated what would be beneficial to bee-keepers was a report of the seasons crop at its close and then bee-keepers could ship to points where honey was scarce, as it was at present the very opposite was sometimes done.

Prof. Cook thought this was a very important point; Bee-Keepers were behind in statistics. He would suggest that the government be requested to give statistics of bee-keeping as well as other branches of agriculture. After some discussion every Bee-Keeper promised to write to the Hon. Commissioner of Agriculture, Washington, asking that questions be added to those sent but which would result in statistics for Bee-Keepers.

A committee of Prof. Cook, Dr. Mason and another gentleman were appointed to see the government. Prof Cook also suggested that four men from four different parts of each State be secured to send in a report as to honey crops and these reports be published in bee-papers.

EVENING SESSION.

Mr. Root spoke of the necessity of regulating freight rates more justly, and Mr. T. G. Newman was appointed to interview the railway manager which would sit shortly in Chicago.

Toledo was chosen as the next place of meeting.

The Election of Officers resulted as follows: Dr. A. B. Mason, Anburndale, Ohio, Pres. W. Z. Hutchinson, Flint, Mich., Sec'y. Mrs. L. Harrison, Peoria, Ills., Treas. Geo. E. Hilton, H. W. Funk and J. A. Green were chosen as a committee to select vice-Presidents. They reported as follows:

Dr. C. C. Miller, Marengo, Ills.

Miss Denna Bennett, Bedford, Ohio.

T. R. Good, Napanee, Ind.

G. W. Webster, Lake Helon, Flor.

Eugene Secor, Forest City, Iowa.

Wm. E. Gould, Tremont, Mich.

G. M. Doolittle, Borodino, N. Y.

R. F. Holtermann, Brantford, Ont.

H. F. Hunt, Seaton, Quebec.

F. Wilcox, Manston, Wis.

A standing vote of thanks was tendered T. G. Newman for the kind services he had rendered the Association for and during the annual meeting at Chicago and regretting his inability to be present owing to illness.

Mr. Burnett was now interrogated. He said honey should always be sent by freight as there was less danger of breakage than by express as there was no time to handle it at stations. Sections should be wedged in cases so as not to shake. Single tiers of sections were best. He sold ten small cases to one large. If honey was sent by the car load it should be barred down in the car.

MORNING SESSION, Friday 13th.

The Production of Comb Honey—W. Z. Hutchinson, Flint, Michigan.

Mr. Hutchinson did not give a paper, but stated that bees should be strong and ready for harvest. In order to do this they must have food and warmth. He packed his and kept them thus from the time of setting out until the time for putting on surplus. He wanted a hive large enough to raise sufficient

bees; an 8 frame Langstroth was large enough. When the honey harvest came he wanted to contract. He did not think it would answer to make the colony queenless but less brood might be raised. There was no use raising a lot of brood only to come out and feed on stores. He wanted one tier of sections on at a time. Straight combs could generally be got without separators; he preferred raising comb honey in that way.

James Heddon, Dowagiac, Mich., then spoke on Bee Hives and Fixtures. This proved to be an explanation of the merits and parts of his hive, and proved the only source of unpleasantness during the entire convention. Others persisted in their right to explain their hive and with justice, although as the matter had gone so far it might have shown better taste to have let Mr. Heddon go on and then dropped the question. Dr. Miller stated perhaps a mistake had been made in introducing the subject. At the close of Mr. Heddon's remarks the question came up, How many were in favor of metal queen excluders between brood chamber and supers. Twenty-five were for, three were against.

Bee-keeping alone or with other pursuits; if the latter in connection with what? by Eugene Secor, Forest City, Iowa, followed:

Bee-keeping alone, or with other pursuits.

In the choice of a vocation there are certain questions which rightfully claim the consideration of every man or woman. The instinct of self preservation implanted within us, naturally makes the leading one, whether most important or not, this. Will it command sufficient returns in dollars and cents to afford a comfortable support for self and family? Another is: Is it congenial? In a country where everyone may choose his occupation from the degrading curse of caste, no one should follow a pursuit, that is not in harmony with his inborn predilections.

Another question is, or ought to be, will it properly cultivate the intellectual and moral nature, so that the worker will develop and grow in all his faculties; while striving to earn a comfortable subsistence "It is not all of life to live" according to the common acceptance of the term.

Now unless these questions can all be answered in the affirmative, there is something lacking in the employment, or in the make up of the person. As to bee-keeping, there can hardly be a question as to its intellectual and moral tendency. For proof, I have only to cite the shining examples, both living and

dead, who are, or have been engaged in the pursuit. Who ever heard of a bee-master being charged with a crime?

It will be congenial to those fitted by nature to follow it, just as a natural mechanic feels at home with his tools with which he cheerfully earns a living. There is no use saying that every man will make a successful Bee-Keeper, any more than it is to say, every man is by nature an artist and every woman a musician. Unless a person possesses certain natural qualifications, or can acquire them by cultivation, he would very likely make a failure of bee-keeping.

Among the necessary qualifications are, perseverance, industry, continuity of purpose, love of home more than of riches, a talent for looking after details, promptness, and at least tolerable health, if he possesses all these coupled with a love for natural history and botany and is as enthusiastic and untiring as as most one-idea men are, he may conclude to make bee-keeping a life business provided always he has, or can obtain a favorable location. It would be folly for a person to expect the fullest success as a honey producer on a bleak Dakota prairie, under the present state of the art. Talk as we please of the desirability or practicability of raising artificial pasture for bees, it has not yet been successfully and economically done.

Therefore, in my judgement, unless in addition to all the required qualifications, there is a natural honey flora in abundance, it will be wise to couple bee-keeping with some other pursuit. If the locality is favorable, and the establishment of out apiaries is practicable, the business may be made fairly remunerative.

As a rule however, I believe that bees should form a part of the surroundings of every ideal rural home, not only because it adds to the beauty of the landscape picture, but, because in the economy of nature, bees are necessary to the perfect fertilization and fructification of the vegetable kingdom, and that object can best be attained by the proper distribution of the means to accomplish the end sought. If bee-keeping were in the hands of specialists only, it is quite reasonable to suppose that some location would be over stocked, while others would be destitute of bees.

Why does every cottager persist in keeping his pig, instead of leaving the matter of pork

raising to the specialist? Because the pig is a scavenger, utilizing many little scraps that would otherwise go to waste. Bees are gleaners, also, bringing many golden drops from the waste places of our imperfect agriculture. I believe in specialists to this extent. Every person ought to know how to do some one thing thoroughly, and if his capacity is limited to an acquisition of the knowledge necessary to master that, he ought to stick to it. But the man who only knows one thing is a one-idea man. His capacity for enjoyment in this world is also limited. His horizon is the narrow bound of a single thought, when just beyond lies the limitless fields of culture awaiting the polished lowshare of investigation and progress.

It broadens and develops a man to know more than one thing, and it seems to me to reflect on the intelligence of our race, to think man is not capable of mastering more than one branch of learning. I see no better reason why bee-keeping should be confined to specialists than hog-raising. All would have given the subject thought, although the latter business can only be enlarged to certain limits. The massing together of large numbers of either animals or men, soon develops disease and death--nature's remedy for restoring the proper equilibrium of life.

Who shall say that foul brood is not nature's punishment for overstocking, and a gentle hint to more widely distribute the bees which she intended to act as marriage priests to all the plants in her flower kingdom? In my judgment 100 colonies on one yard comes very near the limit of profitable increase if then, it is not desirable to confine the production of honey to specialists, and if when one's immediate locality is sufficiently stocked, and he does not care to establish out apiaries enough to occupy his whole time, or to afford him an ample income, what occupation will best fit bee-keeping? If only a few colonies are kept it makes but little difference, if the person is at home morning or evening it need not consume more than five minutes per colony each day to properly look after them. If a larger number are kept, the employment should be such as would give work when not required in the apiary. I see no reason why dairying or stock raising, or both combined will not be in perfect harmony with bee-keeping. This branch of farming employs one at

home, keeps him busy in winter occupies his time chiefly morning and evening, and gives ample scope to his ability and capital. The increase of bee pastorage will not increase his available food for stock and vice versa.

If near a good town the raising of fruits (if we except strawberries which ripen at the wrong time in the North, and yield no nectar) is well adopted to go with bee-keeping. Raspberries, blackberries and gooseberries are especially good honey plants and neither ripen with us till the swarming season is about over. Apples, plums, and such other tree fruits as can be successfully grown are excellent honey producers. Our season's success in the apiary often hinges on the impetus given the bees and the abundance of bloom on these fruits.

The keeping of poultry in connection with bees has already been mentioned and no doubt could be successfully managed.

It appears to me that with any of the professions if we except physicians in active practice, bee-keeping could be carried on simultaneously.

Ministers, lawyers, and teachers need recreation in the open air to counteract the bad effects arising from sedentary habits, and when these are located in rural districts, what reason is there why these may not combine pleasure and profit in a well managed apiary; croquet lawn tennis, and baseball might be neglected by the ardent student of bee-culture, but perhaps the country would survive. The habits of study of professional men are a guarantee that they would master the science of bee-keeping and therefore likely to succeed.

We note with pleasure that some of the brightest lights in apiculture have been clergymen, they have done as much to advance the art as any other class of men not excepting specialists; some of the best Bee-Keepers of to-day are Ministers, Lawyers, Doctors and Teachers. But why multiply examples to prove the harmony existing between the various rural pursuits, after all it depends upon the man whether he shall devote himself to this or that. Whether he shall combine two or more or whether he shall in sleepful inactivity allow all the grand opportunities for culture and profit to pass by unobserved or unheeded.

AFTERNOON SESSION.

Friday 18th.

R. L. Taylor, Lapeer, Mich., next gave the following paper:

Wintering Bees in the Northern States.

The only thing necessary to bees in order to secure their perfect wintering can be expressed in one word—comfort. In a climate warmer than that which reigns during winter in our Northern States, much dependence can be placed upon frequent flights to secure that happy condition, but in this latitude such flights can no longer be safely relied upon to furnish immunity from the causes of uneasiness and disease.

The catalogue of things liable to produce discomfort among the bees might be almost indefinitely extended, but after eliminating everything that seems to me of little importance I find it is contracted to six items viz, 1st, untimely manipulation; 2nd, moisture; 3rd, improper ventilation; 4th, improper temperature; 5th, scattered and scant stores; 6th, improper food. I shall touch upon these in the order of their arrangement not in the order of their importance.

1st, It is evident that any manipulation after the season when the bees begin to assume the semi torpid state tends to dissipate that disposition, and is also liable to leave crevices between the hive and its cover, which made earlier in the season would be closed by the bees, but being left open will often cause an injurious circulation of air through the hive.

2nd, When moisture invades the cluster in such amounts that the bees are unable to expel it by their natural warmth they are compelled to arouse themselves from their slumbers and to attempt to rid themselves of the moisture by gathering it into their stomachs. Besides other evident evils resulting, the bees will gather with the water more or less of impurities which will go to help load their intestines. And no doubt the excessive amount of moisture taken up will have a greater or less tendency to impair digestion.

3rd, As to ventilation I fear too much rather than too little, *i. e.* I fear draught much more than the want of any change of air at all. A cold draught causes discomfort to most kinds of animal nature but I have seen no indications that for breathing purposes the bees get too little change of air by any of the ordinary methods of wintering. Out of doors I give a full entrance, in-doors I remove the bottom board entirely, not for ventilation proper but

that the bees may the more readily expel moisture.

4th, On account of the facts I shall mention below I do not attach great importance to a nice adjustment of temperature. An improper temperature is to be dreaded chiefly on account of the increased consumptions of stores thereby induced and the consequent increased accumulation of fecal matter in case the stores are impure. For these reasons, viz.: the saving in stores and the lessened risk of disease I hold that it pays in this climate to winter in the cellar. I cannot find any grounds for choice between a temperature of 35° F. and any of the intervening points up to 50°. I do not find a high temperature an antidote to poor stores.

5th, Scant stores cause the bees anxiety and scattered stores, activity, and the two together make peace for all the other untoward consequences I have mentioned. But we all agree here.

All the above mentioned conditions caused discomfort in the way, and for the reasons intimated, and I mention them not because I think them ordinarily fatal or even in themselves greatly injurious, but because they cause undue exertion and consumption of food with a result more or less detrimental owing to the quality of the food. If successful wintering turned on any or all of these the problem would have been solved long ago.

There is no such uncertainty attached to the securing the conditions desired in these things as to make their operation long a matter of doubt.

No brethren, the thing that causes uncertainty in results is the uncertainty existing as to the quality of the winter stores, which brings me to the 6th and last item to be considered.

From my experience of ten years with an apiary ranging in numbers from two colonies at the beginning to 500 colonies now, I am forced to the conclusion that the great cause of our wintering troubles is a poor quality of stores. Some apiaries are no doubt placed where the natural stores obtained are always of a quality to be relied on, but mine I have no doubt are not thus fortunate. The reasons for my conclusion that improper food is the prime cause of our winter losses I draw from the following facts which are within my own experience and knowledge:

In the autumn of '79 I had 15 colonies and as that was a year of great scarcity I fed each colony largely of sugar syrup and wintered on the summer stands. In the spring a pint cup would have held all the dead bees from all the colonies. Having purchased a few colonies in the spring of 1880 I went into the disastrous winter of '80-'81 with 60 colonies, to 30 of these I fed a limited amount of sugar syrup, of these 16 survived, of the 30 not fed 3 survived. For the present I pass over the next three winters to the still more disastrous winter of '84-'85 only saying that during the fall of '83 as an experiment I supplied a few colonies with sugar stores and those thus prepared wintered so very much better than those having honey stores that in the autumn of '84 I gave all my 200 colonies empty combs and fed them syrup. The result was that while all other bees with but few exceptions in that part of Michigan perished, there was not a colony of mine in normal condition but, so far as I could judge, wintered perfectly. These bees were wintered in a cellar. During the following winter my loss was about 12 per cent of bees managed in every way precisely the same except that their stores were partly honey and partly syrup, and this though the winter was much more favorable for the successful wintering of bees.

During the next winter, that of '86-'87 I had in two cellars at home nearly 400 colonies. Of these about two thirds had honey stores exclusively but the other third being in single sections of Heddon's new hive were almost destitute of honey and consequently were supplied with stores of sugar syrup. Each kind was divided between the two cellars. The temperature of one cellar was kept at 50 ° F. almost without variation while that of the other varied from 35 ° to 45 ° but this difference in the temperature seemed to have little effect on the condition of the bees—if there was any difference it was in favor of the lower temperature. But what a marked difference was there in each cellar between the colonies with sugar stores and those with natural stores! Of the former the bees were the picture of comfort and contentment—quiet, closely clustered and not easily disturbed, not a diarrhetic sign and only now and then a bee dropping from the cluster dead. Of the latter the bees were uneasy not closely clustered, easily disturbed, dying by the thousand,

and many of the hives bearing the unmistakable signs of disease and as I have said if there was any difference those in the cellar with the rather high even temperature suffered the more.

One fact more—during the three winters from '81 to '84 which I passed over above, I wintered my bees in the same cellar on natural stores under precisely the same external conditions so far as it was possible for me to judge, yet the first winter they wintered perfectly while the other two winters they wintered ill and with considerable loss. I cannot account for this unless there was a difference in the quality of the stores.

Outside of my own experience there is one thing I do not fail to remember and that is that there is little agreement and apparently little prospect of agreement among Bee-Keepers as to the necessity or the methods of securing ventilation, a high temperature a dry atmosphere, late brood rearing or even as to the necessity of cellar wintering, but they are in practical accord in affirming the necessity of supplying bees for winter with stores of a good quality. This is a significant fact. Stick a pin wire and bend a hook on the point of it.

And again why is it that bees in the cellar suffer most severely during winters when they suffer most out of doors?

Without stating my deductions at length let me only say in conclusion that I have found among my own bees that colonies with plenty of good stores, known to be such always winter well while those with stores of a doubtful character winter more or less disastrously.

I am satisfied I cannot winter a colony well on stores that are decidedly poor in quality by any method with which I am acquainted. Who can inform me how to do it? I am confident I can winter any fair colony well on stores which are certainly good by any of the approved methods. Who doubts his ability to do the same?

Of course it is not to be denied that a low temperature, moisture, &c., seriously aggravate the ill effects of poor stores but I seriously question whether unless present in an extraordinary degree they would seriously effect the welfare of a colony well supplied with pure stores.

Prof. McLean stated we must first consider

where the bee had its natural home, it was not a native of this country and because honey for winter food was best in its native country was no reason why syrup might not be the best in America. He advocated feeding sugar if honey could not be secured free of pollen. A quite animated discussion followed as to the advisability of this owing to the impression the public would receive, those in favor of letting the public know for what purpose they fed sugar got rather the best of it.

Prof. McLean then by request gave a short account of what he was doing in experimental work, artificial bee pasture, wintering, and other questions which had already been discussed, he was investigating. He had studied the diseases of bees. He had treated hundreds of colonies with salt for foul brood and all but a few colonies had been cured, and these he expected would yield early next year.

A resolution was carried as follows: The thanks of the Association are due and hereby tendered to the Hon. Commissioner of Agriculture for his efforts to assist Bee-Keepers of the country by having established an apicultural experimental station in accomplishing the best results in their speciality.

The meeting adjourned until 1888, to meet at Toledo.

Ontario Bee-Keepers' Association.

Woodstock, Nov 19th, 1887.

PROGRAMME.—Committee of O. B. K. A. in the O'Neil House. Members present. President, S. T. Pettit; J. B. Hall, Vice President; F. Malcolm, W. Couse, Sec. Treas.

Programme, for 10th and 11th Jan, 1888, in Woodstock:

(1) Paper, by Mr. C. C. Millen, Maringo, Ills.: "Can Honey be produced more cheaply and in better shape by the specialist than by others; if so why?"

(2) Paper, by Mr. P. C. Dempsey, Trenton: "Is Bee-Keeping beneficial or injurious to other Industries?"

(3) Paper, by James Hedden, "On overstocking localities."

(4) Francis Malcolm, Paper, "On best method of producing extracted honey"

(5) J. B. Hall, Paper, "On the best method of producing Comb Honey."

(6) Mr Pringle, Paper, he to choose his subject.

(7) Mr. McKnight, Paper, he to choose his subject.

Question Drawer.—Messrs, Emigh, Alpaugh J. Dunn, and Will. Ellis.

Time of Election of Officers will be decided by the meeting.

Hours of meeting, on 10th, 1. p. m. and 7 p. m. And on the 11th, at 9. a. m. and 1 p. m.

Room to hold the meeting in will be named at an early date:

We have secured reduced rates from Mr. O'Neil, Prop. of the O'Neil house at the following rates: Two persons occupying one bed at the rate of one dollar per day, and if one person occupies a bed at the rate of \$1.25 per day.

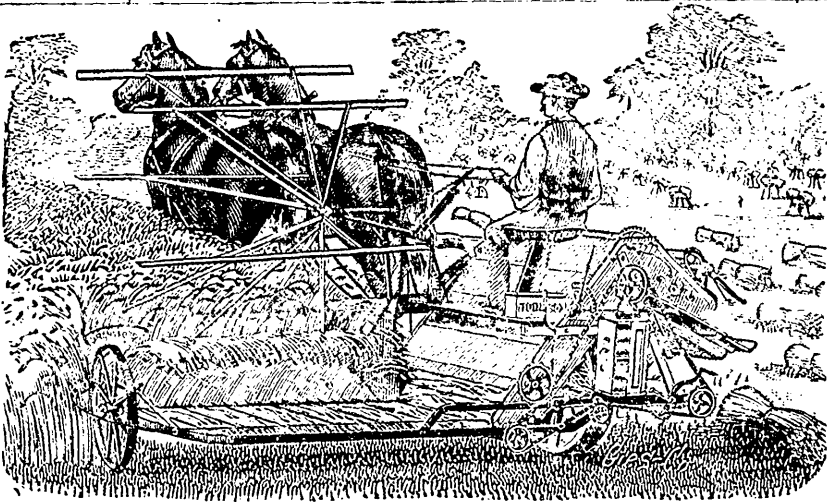
Mr. Corneil and D. Chalmers are asked to form a code, of by-laws to submit to the meeting.

Persons desiring a R. R. certificate to entitle them to secure reduced rates to attend the meeting apply to the Sec., W. Couse, Streetville.

W. COUSE, Sec.-Treas.

REMOVING SECTIONS.—Even where unfinished we are removing section cases. Our plan of operation is as follows:—On a fine day, between ten o'clock and four, while the bees are in full work, the section case is uncovered and a cloth steeped in carbolic solution and squeezed dry, is spread over it. The entire case is then slightly and gently raised by the leverage of a couple of chisels, allowed to fall back into its place, and slowly screwed round to thoroughly separate all attachment. It is then carried to the honey-rooms and the sections are removed one by one, the few adhering bees, being brushed off with a feather, quickly return to the hive. The finished sections are stored, and those uncapped are returned to the hive for a few days for the bees to finish. Care is taken to spread a carbolised cloth over the hive while the sections are under manipulation. A weak solution (one part of the acid to twenty parts of water) only, must be used, or all the bees will be driven out of the hive. *B. B. Jou.*

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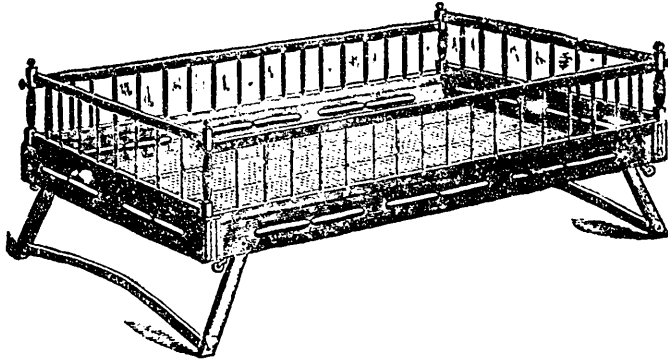
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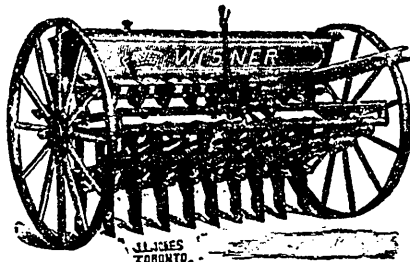
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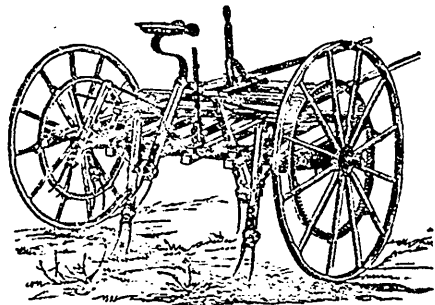
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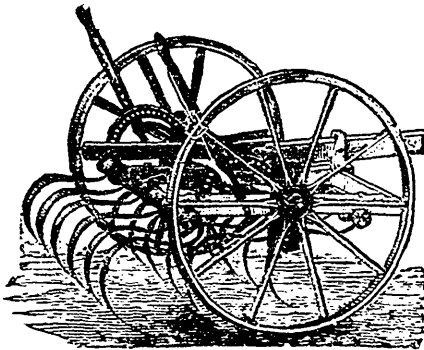
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