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VOL. IV, NO. 31

1888

OCTOBER 24

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$ WEEKLY IN THE WORLD

ONE DOLLAR PER YEAR

THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER

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We can supply Binders for the JOURNAL 55 cents each, post paid, with name printed on the back in Gold letters.

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Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited.

Beginners will find our Query Department of much value. All questions will be answered by thorough practical men. Questions solicited.

When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both may, however be enclosed in the same envelope.

Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL.

TABLE OF CONTENTS.

	PAGE.
Bee-keeping as a Hobby.....	605
Crop and Honey Market, The.....	612
Drone Comb, To Prevent Building.....	613
Foundations in Sections, Placing in.....	612
Larval Food.....	611
N.B.K.A.,.....	605
Best Age for Bees to go into Winter Quarters.....	607
Time to put Bees into Winter Quarters.....	608
Sections open on all Sides.....	608
Safety in Mating Queens.....	608
Chaff Hives, Use of.....	609
Width of Sections.....	610
Experiments in Apiculture.....	610

THE BEE-KEEPERS'

REVIEW.

For September is specially devoted to "Food and its Relation to the Wintering of Bees. If you wish to know the views of such men as Mr. Heddon, J. H. Martin, L. Stachelhausen, Dr. L. C. Whiting, Dr. C. C. Miller, R. L. Taylor and O. O. Poppleton, read this number.

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COLD BLAST SMOKERS

We are making these, with late improvements, and can forward them by mail or with other goods by return post. The prices are as follows:

Each	With goods.	By mail.
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Perfection Cold Blast Smokers, Square Glass Honey Jars, etc. Send ten cents for "Practical Hints to Bee-Keepers." For circulars apply

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Our new book of labels contains nearly 100 specimens of elegant honey labels. Write for prices for any printing required.

THE CANADIAN BEE JOURNAL,

7

BEETON.

EXCHANGE AND MART.

Advertisements for this Department will be inserted at the uniform rate of **55 CENTS** each insertion—not to exceed five lines—and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is **specially** intended for those who have bees or other goods for exchange for something else, and for the purpose of advertising bees, honey, etc. for sale. Cash must accompany advt.

BEEES FOR SALE.—40 good Colonies of Italian Bees for sale at \$6 per colony; for quantity write for discounts. Also a few young Queens at \$1 each. E. HEAL, St. Thomas.

HONEY.—We can take all that offers in exchange for supplies, at prices found in another advertisement in this issue. THE D. A. JONES CO., Beeton, Ont.

BEEES FOR SALE.—25 colonies of good Italian bees for sale in L. frame hives at \$5 per colony, each colony containing no less than twenty pounds of stores. Address W. A. CHRYSLER, Box 450, Chatham, Ont.

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A small but exhaustive and practical treatise on this important subject.

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'Practical Hints to Bee-keepers'

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The Authorised Capital by Government Charter of the D. A. Jones Co is \$40,000, the subscribed and fully paid-up Capital is \$19,000. We yet require

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To assist in the management of our large supply business, who could invest \$2,000 to \$3,000, each of which will be fully secured, and good salaries will be paid. We want those who would remain permanently with the company. Good chance for suitable men. Arrangements can be made to take farm lands in lieu of cash. Principals only dealt with.

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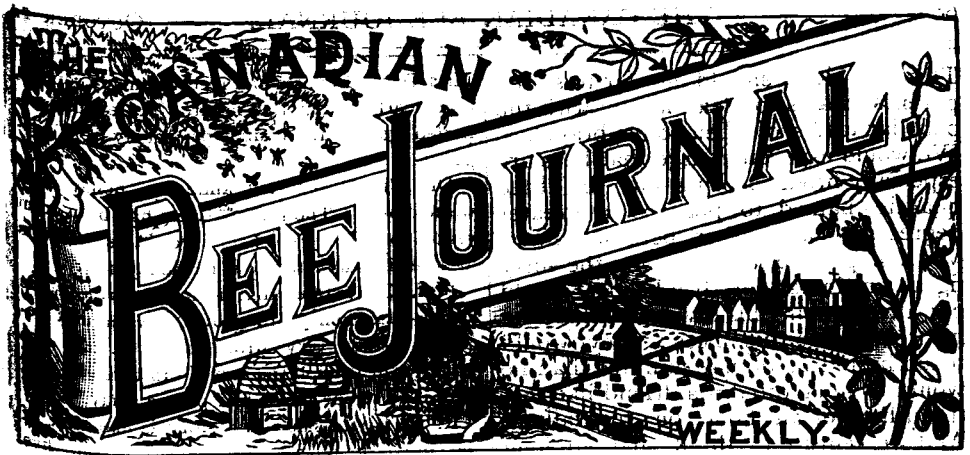
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"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

Vol. IV. No. 31

BEETON, ONT., OCT. 24, 1888.

WHOLE No. 187

EDITORIAL.

THE Dominion government analysts reports for the past year has just reached us. Every article subjected to their scrutiny is detailed and while not a single particle of honey was examined, several samples of the commercial syrups were not found to have a reputation such as was attained by the late Mrs. Cæsar.

* *

Mr. T. B. Blow is now in the States and Canadian bee-keepers who would enjoy a visit from him can send invitations addressed to the care of this journal.

From the British Bee Journal.

BEE-KEEPING AS A HOBBY.

BEES are, in our opinion, one of the best of subjects for "hobbiists," and we claim to have kept nearly everything that can be kept. First, as to the *£ s. d.* question. If judiciously managed, and we can only have sense enough to avoid fads, they will, taking the cost and produce of, say, ten years, show a good balance on the right side of the account, and this to a greater extent than the majority of hobbies. Secondly, as to trouble. No stock can be cared for with as little trouble during a year as our bees. In most summers we should require to do very little to them, and from October to March nothing except watch that the

doorway does not get blocked with snow. As to the interesting problems of bee-life, there is nothing so fascinating and instructive, whether considered only as an evidence of the peculiar manner in which an insect can obtain its living, or if more deeply studied, as an exemplification of a wise and far-seeing Providence, guiding and directing our bees that they shall, while in search of their necessary sustenance, be the means of increasing our food at the same time by fertilization of the fruit-blooms of our gardens and orchards. This fact of the increased crops of fruit, which really does arise from the labors of the bees, should be considered as an item of profit arising from their care and protection. In our opinion, no garden in country districts should be without at least one stock of bees. So far as the supply is concerned, there is nothing to prevent honey of the finest quality being as the typical "blackberries" if we will only keep bees everywhere so that the delicious nectar may be gathered and stored instead of being wasted as at present. Bad seasons like the present must of necessity be encountered, but the good seasons must be borne in mind, when every blossom is a small honey factory, and only our little friends are necessary in order to obtain this sweetness for ourselves.

Hobbies inculcate patience, forbearance, and forethought. Let either of these three qualities be wanting in the "hobbist," and he cannot be successful.

This fact alone should go far to soften parents' hearts to deal kindly with the peculiar tastes of their olive-branches. We would especially urge that bees are especially fitted to bring out the three qualities named to perhaps a greater degree than any other pets we know. We can picture to ourselves the sorry figure an impatient bee-keeper would cut after opening his hive and exhibiting his temper to his bees; they would teach him more in five minutes than he would have credited if a friend had lectured him for an hour on his failing. And we venture to think that ere long they would cause his impatience to be a thing of the past.

For teaching forbearance, bees are pre-eminent. Nothing we have ever seen so soon resents a rebuff, while at the same time docility is their dominant characteristic when properly treated. Forethought must be exercised with bees, for unless the proper action is taken quite by the proper time, disaster will surely follow.

We are firmly convinced in our mind that as a nation we should be more respected among the nations of the world if we could make these three qualities the guiding rule of our fellow-countrymen generally. For this reason we urge upon all, and especially upon our clergymen and schoolmasters, to deeply consider the national good they can secure by so directing the inherent taste for hobbies that even the poorest and most ignorant in the land that they shall, while gratifying their personal pleasure, be imbibing such moral principles as shall make them individually better husbands, neighbors, and citizens.

Condensed from the A.B.J.

NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.

THE North American Bee-Keepers' Society convened its Nineteenth Annual Convention on Oct. 3rd, 1888, in the Representative Hall, at the State House in Columbus, Ohio.

The meeting was called to order at 11 a.m., with President A. B. Mason in the chair. As no program had been prepared, a committee was appointed to prepare one. The members present paid their dues.

The remainder of the forenoon was employed in what might be called an experience meeting.

Miss Dema Bennett had received many reports, and nearly all reported failure. A few had reported getting 100 pounds per colony from popperage.

Dr. Tinker reported almost no honey from white clover. The greatest yield had been from yellow poplar. The honey from this source is dark, and many mistake it for honey dew.

Prof. Cook stated that he had received some heart's-ease honey from Iowa. When first received it was very strong in flavor. No one would want it upon the table. In three or four weeks the strong flavor had passed away.

R. L. Taylor said—My story is like that of the other members. My crop is about five pounds of surplus per colony. My bees are in two apiaries nine miles apart. All the white honey was secured in one locality, and all the fall honey in the other. In the northern part of the county the fall flow was beautiful. If I had moved my bees 20 miles I might have secured from 25,000 to 40,000 pounds of surplus. This honey that was secured in the Northern part of the county was almost as white as my clover honey. I think it came from asters and button ball. The flavor is good; it reminds me of fine maple syrup.

R. F. Holtermann reported that bees wintered poorly in Canada. Clover and linden yielded but lightly. But very little comb honey had been taken, and the extracted would all be off the markets in October. The fall flow had been fair. In localities the flow from thistle had been good.

Mrs. Mary McPherson made her living by keeping bees, poultry, etc. She had learned the business under protest. Her husband had told her that she might sometime be left to support herself and children. His words had proved true. Last season she was left a widow. From 32 colonies she had secured 800 pounds of comb honey. She did all the work, besides caring for her poultry and doing her house-work. She was up in the morning as soon as it was light enough to see, and she said she would like to have a private settlement with the man who said bee-keeping was nice and easy work—just suited to ladies.

J. Y. Detwiler rehearsed the troubles that had befallen the bee-keepers of Florida. The frost of 1886 had injured the mangrove. It had recovered in a measure, and was beginning to yield. This year he had 1,200 pounds from 40 colonies. Large black ants give much trouble. They work at night, and sometimes destroy full colonies. Mr. Detwiler preferred to keep bees in the north, even with the risks of wintering, to keeping them in Florida; but he liked the climate.

of Florida, his home is there, and he should stay.

AFTERNOON SESSION.

The afternoon session was called to order at 2 p.m. by President Mason.

We naturally feel a little pride in the fact that when we need poetry, songs or music it is not necessary to leave our ranks in search of the talent necessary for their manufacture. The afternoon session was opened by singing "The Bee-Keepers' Reunion Song"—the words by Eugene Secor, and music by Dr. C. C. Miller. Many of the members joined in the singing, and all were pleased with the sentiments expressed, as well as with the music.

THE BEST AGE OF BEES TO GO INTO WINTER QUARTERS.

Dr. G. L. Tinker preferred young bees; those that had one flight. He would put the bees in as early as Nov. 10th, as they are then likely to become quiet and remain so. As an experiment he had taken some of the bees out of the cellar, and allowed them to fly, then returned them to the cellar, and as a result they became restless and wintered very poorly.

Dr. C. C. Miller—I suppose that if we should try to find out what class of the human family suffered most in a severe winter, we would learn that it was the old folks and the children. I do not know as I disagree with Dr. Tinker. I am not sure however that I want very young bees. In the fall we have all ages of bees in the hives. Some of them will die within a week, others in two weeks others in a month, and so on. If it were possible, I believe it would be an advantage to have sifted out all the bees that would die before spring.

R. L. Taylor—I would like to ask at what time the Doctor would have the queen stop laying.

Dr. C. C. Miller—We have but little control over this. We might prolong breeding by feeding.

R. L. Taylor—One year I fed the bees in the fall. October was warm, there was brood in the hives early in November, and the young bees certainly did no harm, as the bees wintered unusually well.

A. I. Root—We were once told that we must have young bees for winter—must feed if necessary. We tried taking away the queen in the fall, but the bees wintered well.

Prof. Cook would not care to have the queen lay after Sept. 1.

E. R. Root—In 1886-87 we wintered 200 colonies without loss, and they were almost all

old bees; we had foul brood in the apiary, and but little brood was reared.

Dr. A. B. Mason preferred bees that had done a little work before winter had begun.

Prof. A. J. Cook—I think that we ought to have brood up to September. In 1871 we had no brood in July and August, and the bees wintered poorly. I do not care to have the bees begin to breed before the first of April.

R. L. Taylor—I do not want my bees to breed in the cellar. One year, towards spring, I found a colony in the cellar that had one comb full of brood. I was pleased with it. I kept watch of it. When put out the bees seemed to lose heart. They did not go ahead and prosper. Other colonies that did not breed until taken from the cellar outstripped this one.

There was quite a long discussion as to how early in the spring it was best for bees to begin breeding. Some said two months before the white clover was soon enough, and the other half preferred to have them commence sooner.

The convention next listened to the reading of an essay by Prof. G. W. Webster, of Lake Helen, Fla., upon the honey plants of Florida.

The attention of the meeting was next turned to a discussion of the

LESSONS OF THE SEASON.

Dr. C. C. Miller recounted the failures of the past season. Not only had the honey crop been a light one, but he had been called upon to bear troubles and afflictions, still, he had been happy; he thought that the greatest lesson he had learned was that of being contented under adverse circumstances.

R. F. Holtermann became disgusted with bees the first year he kept them, sold out, and the next year the average honey crop was 200 pounds per colony. He had learned that it was best to "stick to it."

Prof. Cook thought that one lesson of the season was in that it showed the desirability of combining bee-keeping with some other business. He called attention to the amount of honey that Mr. Taylor could have secured by moving his bees. This should teach us what might be done by moving bees to better pastures.

The convention now took a recess of ten minutes.

When called to order the members were once more pleased, set to laughing this time, by Dr. Miller singing a song, entitled "Dot Happy Bee Man," the words being written by Eugene Secor, and music by Dr. Miller.

The next topic taken up for discussion was,

THE TIME FOR PUTTING BEES INTO WINTER QUARTERS.

Dr. Mason had put bees into the cellar on Oct. 19, and others later: and there was no particular difference in regard to the amount of stores consumed, or in the wintering of the bees. The average consumption of stores was six or seven pounds per colony.

E. R. Root said that their colonies consumed, on an average, about 12 pounds per colony.

Prof. Cook had done considerable weighing of bees. Out of doors the consumption of stores per colony averaged about 15 pounds: in the cellar, 8 pounds. He knew that bees could winter well in a light cellar, but as a general thing he did not think they would.

Dr. Mason knew that light was injurious. He had had bees continue to leave their hives on account of the light, until the hives were depopulated.

Dr. Miller had had bees remain quiet in the cellar with the sun shining upon the hives. If the bees are uneasy, the light will disturb them; otherwise it probably will not. He did not advise light in a cellar.

Prof. Cook—This may not be exactly the place to talk of hives, but I have noticed that bees have wintered the best in the "New Heddon Hives," and I have wondered if others have noticed it. I have been at a loss to account for this, as it has been without exception. Sometimes I have thought that it might be because the combs were $1/2$ an inch above the bottom-board: and again, I have been inclined to attribute it to the fact that the upper story was filled with honey, while the lower one was empty.

Frank A. Eaton had never succeeded in wintering bees in the cellar until he began raising the hives from the bottom-boards.

R. L. Taylor—My experience with the Heddon hive has been similar to that of Prof. Cook's; but I do not attribute it to the same cause as he does. I think that it is caused by the space between the upper and lower cases. As cold weather comes on the cluster contracts. With large combs small clusters of bees become isolated and chilled; they may not be killed outright, but their vitality is impaired. With the Heddon hive the centre of the cluster is where break comes in the frames, and all the bees can readily keep in the cluster.

Dr. Tinker—Mr. Taylor may be stating facts when talking of single-walled hives, but with properly constructed chaff hives his views would be untenable.

R. L. Taylor—In breeding up bees in the spring, I have decidedly the best results with the

new Heddon hive, as compared with the Langstroth-Heddon hive.

EVENING SESSION.

The first question brought up for discussion was

SECTIONS OPEN ON ALL SIDES.

Dr. Tinker led the discussion, and spoke in substance as follows: Open side sections afforded better ventilation. If the surplus apartment is divided into too small apartments the ventilation is deficient, and more time is required for ripening the honey; hence not so much honey is secured. The combs are built out square and true to the edges, and the sections filled full. Italian bees, with closed-side sections, often draw in the comb—make it thinner—as they approach the uprights to the sections, connecting the combs to the uprights by merely a narrow ledge. With open-side sections this is avoided.

A. I. Root had noticed this drawing in of the comb as it approached the sides, but did not think that this was always the case. He recounted the experiments of Mr. A. Rice in the house apiary. He placed small sections inside of ordinary brood-frames, hung them the usual distance apart, and the bees filled them most completely. Later he tried the ordinary sections, wide frames and separators. After trying them he was led to exclaim; "I wish that the little scamps would fill out the sections as well as they used to in the old brood-frames!"

R. L. Taylor asked, why not get rid of the Italians, keep such bees as would fill out the sections whether open-sided or not?

Dr. Tinker admitted that black bees and some hybrids would give no trouble in this direction.

Frank A. Eaton—There is one objection to open-side sections, and that is in crating, the corners catch and tear the combs.

Dr. Miller had produced and shipped thousands and thousands of pounds of comb honey, and the sections were well filled, and bore transportation without loss from breakage, and they were close-sided sections.

HOW CAN SAFETY BE SECURED IN THE MATING OF QUEENS.

A. I. Root said that the appearance of hives had much to do with it. King birds sometimes probably catch them. Sometimes queens cannot fly. They leave the hive and cannot get back. To know whether a queen can fly, toss her up in the air.

Prof. Cook had scarcely lost any queens until the present season, when the loss was nearly one-half. Previous to this season the hives had stood in the shade of evergreens. These trees

had been of different sizes, character and appearance. This year they were all cut away.

R. L. Taylor thought that bees and queens were guided in finding their hives by the larger surrounding objects, trees, etc., rather than by the hives themselves.

Dr. Miller did not think that increasing distance between the hives aided the bees very much. He would place the hives in groups.

Following this came a lively little discussion upon

THE USE OF CHAFF HIVES

E. R. Root led in the discussion, very fairly presented the good and bad features. They afforded protection from cold, also from the direct heat of the sun's rays. The bees are always ready for winter, so far as protection is concerned, and the cool nights of the late summer do not drive the bees from the supers. With chaff hives there is no laborious carrying of bees in and out of the cellar. Mr. Root said that by referring to their statistics, they found that cellar wintering of bees predominated in Michigan, Wisconsin, Iowa and Minnesota; as far south as southern Ohio chaff hives and cellars held about equal sway; south of this, chaff hive wintering of bees greatly outnumbered other methods.

Dr. Tinker thought that the saving in stores in the spring would alone pay for the expense of chaff hives.

Frank A. Eaton emphasized the point of leaving the bees in the cellar until the danger from cold is over; then the bees make rapid progress, and chaff hives are not needed.

Dr. Tinker replied that we often have frosts after warm weather has been "on deck" several weeks.

R. L. Taylor admitted that there might be a saving of honey by having the bees protected early in the year, but for actual work in the apiary, producing either comb or extracted honey, he could not endure using a chaff hive, and did not see how any man could. Their capacity is limited—only 50 sections can be used upon one hive, and it is often desirable to put on 100. Only one set of extracting combs can be used, and it is often desirable to use several. The hives are heavy and unwieldy, and if it were desirable to move an apiary to more desirable pasturage, chaff hives would almost prohibit it.

Dr. Mason called attention to the fact that 80 sections can be placed in a chaff hive.

R. L. Taylor—Oh, yes, if you put them in the wide frames; but I can't "play" with my bees

in any such way as that. When I said 50 sections, I meant when they are in cases so that you can work with them.

John Calvert called attention to the single-story chaff hives. It overcame most of the objections urged against the chaff hive.

R. L. Taylor—Yes; but the trouble is, the chaff hives do not do what is claimed for them. They do not winter the bees. A single-walled hive is just as good for wintering bees; with it the sun can warm up the bees; with a chaff hive it does not.

Dr. Mason would prefer to winter the bees in the cellar, but valued protection for them in the spring. If he wintered his bees out-of-doors, he would use chaff hives.

Mr. Chase mentioned that Mr. Shane had two apiaries. In one the bees are protected in the spring by packing; in the other they are not. The packed apiary always comes out ahead, and gives the best results.

Frank A. Eaton did not get in a hurry to take the bees from the cellar. They were left in until chaff hives were not needed.

The following interesting letters were then read:

DAYTON, O., Oct. 2, 1888.

MY DEAR FRIENDS:—I am very sorry to say that I cannot be present at your meeting at Columbus. I have taken such a heavy cold that it will not be safe for me to leave home. It oppresses me so much that I cannot even commit to paper the essay which I have prepared.

I am more disappointed than I can well express, for I was looking forward to a very happy time in seeing again many of my old friends.

Wishing you a pleasant and profitable meeting, and desiring to be kindly remembered to you all, I remain very sincerely your friend,

L. L. LANGSTROTH.

PEORIA, Ills., Oct. 3, 1888,

I regret exceedingly that I am not meeting with you to-day. My poor health would not justify the outlay of strength necessary to travel all night to reach Columbus. I hope that Father Langstroth is there. I imagine I see him now, with his hand upon his cane, with his benignant face beaming upon all.

MRS. L. HARRISON.

FOREST CITY, Iowa, Oct. 1, 1888.

Travel, reading, observation and conversation with bee-keepers in various parts of the State lead me to think that the crop of honey is light in Iowa this year. While the season has been better than last as regards the condition in which the bees will be at the beginning of winter,

and perhaps also as to the quantity of surplus, it is mostly fall honey and off color, though the quality is good.

The severe drouth of 1887 so killed the white clover that it required all this season to regain all its foothold in the pastures. I doubt if it is fully re-established now. So we got no white clover honey worth speaking of. Basswood (linden, if you like the word better,) blossomed very full in 1887. This was its off year, and the yield light. The fall flowers yielded fairly well. Bees seem to be in good condition. I have not heard of any foul brood.

The Chapman honey-plant was tried to some extent. There is no doubt about the fondness of bees for it, but whether it would pay to cultivate for honey, is another question. A fine exhibit of bees, honey and implements was made at our State Fair, and at some of the local fairs. The art of bee-keeping seems to be keeping step to the music of progress in other departments of rural life.

EUGENE SECOR.

SECOND DAY.

MORNING SESSION.

THE WIDTH OF SECTIONS.

J. H. Smith made several widths of sections, but sold ten thousand of the inch and seven-eighths to one thousand of any other width.

E. R. Root said that their experience was that of Mr. Smith.

Frank. A. Eaton said that it all depended upon whether separators were used. One inch and seven-eighths was the proper width with separators; if they are not used the sections must be narrower.

Dr. Tinker preferred that the space between the top bars and between the bottom bars should be three-eighths of an inch instead of the usual one-quarter of an inch.

WHEN SHALL BEES BE PUT OUT OF THE CELLAR ?

Dr. Besse—When there is something for them to do. When they can gather pollen.

Dr. Miller—About two weeks after the right time. [Laughter and cries of "good;" "that's it."] I suspect that we put our bees in too late and take them out too early. I used to take them out at the blossoming of the soft maple, but it has several times fooled me. Freezing weather came after the maples had blossomed.

SECURING MORE COMPLETE ORGANIZATION AMONG BEE-KEEPERS.

Dr. C. C. Miller—We have local societies, State societies, and the North American Society, and the latter is largely local. Unless something is done to make it a more represent-

ative body, we might just as well kill it and have done with it. I would suggest that the State and local societies send delegates and pay their expenses.

Prof. A. J. Cook—The State and local societies will not do this, and I do not believe that this society is yet ready to die. Suppose that we do have a large local attendance, we also have a scattering attendance from abroad. We could have the different States represented by essays from the best men.

A. I. Root mentioned that religious bodies send delegates to meetings and conventions and pay their expenses. Apicultural societies might do the same. He would give more to see a man and hear him talk than he would to have an essay from him.

Upon motion it was voted that all State and local societies be invited to send delegates to the North American Society's conventions. Next came an interesting talk by Prof. A. J. Cook, upon

EXPERIMENTS IN APICULTURE.

With one or two exceptions, the Michigan Agricultural college is the only one that has experimented in apiculture. Until lately there has been a lack of time in conducting the College apiary. At last an able assistant has been secured, and the passage of the Hatch bill has provided the funds, and the prospects are that much more will be done. One line of work will be that of crossing different varieties of bees; another, that of determining the value of special planting for honey; and the third will be in regard to the adulteration of honey. Rocky Mountain bee-plant, Chapman honey-plant, pleurisy root, and perhaps others will be tried. Considerable is hoped for the Rocky Mountain bee-plant, as it flourishes in a drouthy climate. At present the bees at the college are a cross between the Syrians and the Carniolans and they seem to possess the good qualities of both.

Prof. Cook feels sure that bee-keepers do not adulterate honey, neither does he believe that it is done by grocers. He considers them no more honest than many other classes, but adulteration does not pay. He does not believe that the chemist can tell positively in regard to adulteration, and experiments are to be made to determine, if possible, whether adulteration can be detected.

A. I. Root asked how Prof. Cook knew that their bees were a cross between the Syrians and Carniolans.

Prof. Cook—We do not know positively. There are no bees nearer than three miles. Besides, I have studied the characteristics of each race, and I cannot fail to recognize them.

Mr. Thomas G. Newman then addressed the

convention upon the importance of experiments in apiculture.

One of the cardinal points is that of providing pasturage for the bees. Prof. Cook proposes to plant ten acres of the Rocky Mountain bee-plant—to plant broadcast, and let it take care of and perpetuate itself. This matter of planting for honey has been a pet theory for years, with me, and I hail the day for an experiment on a large scale, feeling assured that it is one of the "winning cards."

Those depending on the wild pastures for bee-orage should not fail to plant for honey, and thus secure a good crop every season, as the years come and go. If drouth comes and finds them depending on streams which dry up, they are then the sufferers.

They should have pastures for the bees, with plants having deep roots to go and seek the moisture below, or else have pastures that can be watered from convenient wells or ponds, and thus aid Nature to secrete the nectar in the dry times.

Every season teaches some new and useful lesson. Those who heed these lessons are on the rise. Those who do not are on the down grade. Will apiarists be content to repeat each year the mistakes of the former one? If they are wise, No. If they are heedless and unprogressive, Yes.

It has been asked here and elsewhere if extracted honey is now being adulterated? I answer, No. It will not pay to adulterate honey at its present very low price, and hence it is not practised, for even the thieves and adulterators will not ply their defarious business when it is unprofitable to do so.

As to the adulteration of comb honey, the truth about that is out at last. Wiley, Evans & Co., have been driven to the wall in two ways; first by their having been forced to confess that there was nothing upon which they could build their "bogus comb honey" story, except the wild imagination of a diseased brain; and the fun of perpetrating a very un-scientific pleasure.

And, in the second place, immediate sale of the small crop of honey had made bare the great marts of trade, and while the demand was urgent, and the prices high, not a single pound of the bogus comb honey could be found! More than anything else, this shows the falsity of the claim, and exposes the lie about "combs being made of paraffine, filled with glucose and sealed by machinery!"

Not a crate—not a section—not a pound—not a cell of the bogus "comb honey" can be found on the markets! Not even the advanced prices can bring it to the front! If it were in existence, how the manufacturers of the bogus stuff would jump at the chance to sell it! How they would run the machinery night and day to fill the demand!

A. I. Root mentioned that Dr. Miller had secured large quantities of honey from 200 acres of cucumbers raised near him. This showed that honey could be secured from that plant.

Dr. Miller—I think that no one person, unless it is Mr. Root, has done so much planting for honey as I have. Because Prof. Cook finds some plant valuable for honey, it does not follow that we shall all find it valuable: still, we are

glad he is doing something in this line. Does the Profession expect to cultivate the Rocky Mountain honey-plant?

Prof. Cook—No; we cannot do much in the line of cultivation. A plant to be of value must be able to take care of itself, a sort of a "root hog or die" plant.

A. I. Root—What better does Prof. Cook expect to find the Rocky Mountain honey-plant than is buckwheat?

Prof. Cook—It will stand drouth. It is brought up on dry weather. A dry locality is its home.

Dr. Mason said that he had been in attendance at the Ohio Centennial for the past five weeks, and it was astonishing to see the amount of belief there is in the adulteration of honey.

R. F. Holterman then gave an address on the value of united experiments in apiculture, and the convention then adjourned until 2 p.m.

Druggists' Circular.

LARVAL FOOD

THE QUANTITY AND QUALITY OF THE FOOD OF LARVAL BEES.

THE bee has proved a sufficiently interesting study to engage the attention of many able observers, among the keenest of whom are Leuckart and Schonfeld, whose observations concerning the food of larval bees agree in the main, and are according to A. V. Planta (*Zeit. Physiol. Chem.*) substantially as follows:

1. The food of the queen-bee-larvæ is the same during the whole of the larval period; it is free from pollen grains, which have been reduced to a thickish but homogeneous juice by the digestive action of the stomach of the bee.

2. The food of the larval drones is also, during the first four days of the larval period, free from pollen, and appears to have been completely digested previously. After four days their food is rich in pollen grains, which have, however, undergone a certain amount of digestion. The food stuff of the larvæ is probably formed from bee-bread. The composition of the food of the queen-bee larvæ was water, 69.38; total solids, 30.62. In the solids the proportions were, nitrogenous material, 45.14; fat, 13.55; glucose, 20.39; ash, 4.06.

The composition of the food of the drone-larvæ and those of the working bees both differed from each other and from that of the queen-bees. All kinds are rich in nitrogen; all were of a grayish white color; that of the queen-bee was the stickiest, that of the workers the most fluid. Peptone appeared to be absent; the greater part of the nitrogenous material present was proteid. The ethereal extract was in all cases acid, but formic acid was absent. The sugar present was, in all cases, invert sugar, whereas the sugar in pollen-grains is invariably cane-sugar.

There are certain differences in the composition of the different kinds of larval food, more especially in the composition of the solids present. Its composition is, moreover, quite different from that of the bee's saliva, which contains

no sugar. The difference between the proportional amount of the different solids present in the different forms of larval food is a constant one and no doubt this variation has in view the particular requirements of the larvæ in question. Certain small but constant differences were also observed in the chemical composition of the food of the larval drones during the first four days, and at subsequent periods. Not only is there a difference in the quality, but there is also one in the quantity of the food supplied.

The juice from 100 queen-bee cells yielded 3.628 grams of dry substance; that from 100 drones' cells, 0.2612 gram; that from 100 workers' cells, 0.0474 gram. The substance investigated was the juice of pap, the whitish, sticky substance which the working bees store in the cells of the larvæ of the queens, drones and workers.

Leuckart regarded it as the product of the true stomach of the working bees, which they vomit into the cells, in the same way that honey is vomited from the honey-stomach. Fischer and others regarded it as the product of the salivary glands of the bees. Schonfeld, in numerous papers, has recently shown that Leuckart's original view is the correct one. He showed that the saliva can be easily obtained from the salivary glands of the head and thorax, and that it is very different from the food juice deposited in the cells of the bees; and that, moreover, the juice is similar, both chemically and microscopically, to the contents of the bee's true stomach; he showed also from the consideration of certain anatomical and physiological peculiarities of the bee, such as the position of the mouth, the inability of the bee to spit, etc., and in view of this substance being saliva, is quite untenable.

Certain observers have replied that a bee cannot vomit the contents of its true stomach, because of a valve which intervenes between it and the honey stomach; but Schonfeld has shown that the structure, mistaken by these observers for a valve, does not act as one, but is in reality an internal mouth, over which the animal has voluntary control; and by no means of which it is able to eat and drink the contents of the honey-stomach when necessity or inclination arises. By light pressure on the stomach, and stretching out the animal's neck, the contents of the stomach can be easily passed out. Planta's investigations entirely confirm Schonfeld's view, that this substance comes from the bee's stomach.

From the San Francisco Chronicle.

The Crop and Honey Market.

REPORTS from all over the State are to the effect that the honey crop is so short that it is no exaggeration to say that it is a total failure. There is hardly an apiary in any of the hitherto most prominent bee-keeping counties of the States which has this year produced surplus honey enough to pay interest on the capital invested therein. The same reports come from the east, and never since the care of bees attained the proportions of a regular industry has the honey yield of the

United States been so limited as in the season now closing. In conjunction with the limited output, however, has come a marked rise in prices, but these comparatively high figures are after all of little value to the bee-keeper, for what use would it be to him were honey to be quoted at even a dollar a pound if his bees produced no surplus for sale? The experience of the present season is, after all, only a repetition, on a more extended scale, of what has been the uniform history of the industry ever since the first colonies of bees were brought around by the isthmus and sold here for \$300 a piece. First there has come a succession of good seasons; and the stock of bees has largely increased; the price of honey has gradually lowered and finally many have gone out of the business in disgust. Then a bad season has come, or a succession of them; there have been no wild flowers, or the natural bloom has not contained the usual amount of nectar; the honey crop has been short; prices have risen, and a few, who were located in exceptionally favored regions, have made large profits. This has stimulated others to go into the business, and the result has been another period of heavy production, low prices and small profits. For those who are able to secure anything like a fair crop, the present season will be a bonanza. And those who have been sufficiently far-sighted to provide their bees with an abundance of forage, without placing any dependence upon the natural bloom, will this season reap a good reward for their enterprise. Those who have taken this precaution are few enough by the side of the many who "trust to luck," but this lends emphasis to the general proposition that the bee-keeper who treats his colonies precisely as he would any other kind of animals upon which he placed dependence for an income, and sees that provision is made for a bad season, will come out ahead in the long run, while the one who trusts to nature will run behind.

QUERIES AND REPLIES.

UNDER THIS HEAD will appear Questions which have been asked, and replied to, by prominent and practical bee-keepers—also by the Editor. Only questions of importance should be asked in this Department, and such questions are requested from everyone. As these questions have to be put into type, sent out for answers, and the replies all awaited for, it will take some time in each case to have the answers appear.

Placing Foundation in Sections.

QUERY No. 214.—I have a neighbor who places a strip on the bottom of his sections, about two rows of cells, then lays foundation over top to fill the sides closely and come down within about

one-eighth of an inch of the bottom foundation. He then cuts a bee-notch out of top sheet of foundation just above bottom strip in the centre, leaving one bee passage, which, he says, the bees will plug up just before they seal and make his sections firm. Has any one ever tried this plan? I have always used starters until this season, and I now use full sheets, which I like best.

Prof. Cook, Lansing, Mich.—I have not.

J. K. DARLING, Almonte, Ont.—Never tried it.

G. M. DOOLITTLE, Borodino, N. Y.—Have not tried it.

MARTIN EMIGH, Holbrook, Ont.—I have not tried this plan.

A. B. MASON, Auburndale, O.—None but your neighbor, I guess.

JAMES HEDDON, Dowagiac, Mich.—I have never tried the plan. Much would depend upon the nature of the foundation used.

DR. MILLER, Marengo, Illinois.—Yes, I use foundation at top and bottom, but cut no bee-notches. I hardly think it necessary.

WM. McEVoy, Woodburn, Ont.—I have never tried this plan. It is too much work, and I don't believe that it will pay for the trouble.

H. D. CUTTING, Clinton, Mich.—The plan you mention has been tried and proved successful by many persons. I am told it is a common practice in Canada.

ALLEN PRINGLE, Selby, Ont.—That neighbor of yours has evidently tried the plan. As to whether anybody else ever tried it, I cannot say. I never did. Life is too short.

J. E. POND, North Attleboro', Vt.—Never heard of it before, and don't think well of the idea. A true test can only be made of any plan by working it a number of years, for we all find that bees are curious "critters" and do many strange things.

EUGENE SECOR, Forest City, Iowa.—I have never tried this plan. I think it would secure well-filled sections, but there is too much "monkeying" about it to suit me. We must learn to handle our bees without too much fussing. Your plan is good enough for me.

G. W. DEMARRE, Christiansburg, Ky.—Too much fuss entirely, and no corresponding results. I would rather have a starter cut from a bit of natural comb one inch square and a half-inch thick, pure and white; than anything else, if it was possible to procure a sufficient quantity of such comb at reasonable cost. When I used to

produce but a few hundred sections I used such starters all the time. A hot tin platter was employed, the bits of comb were pressed to the hot tin, and then with a quick motion was placed in position in the section, where it would stick securely fast. But since so many sections are produced, the full sheets of foundation or starters made of the same material, used plain and simple, is decidedly the most economical.

It has been tried, and succeeds very well, but it takes too much time and is too much trouble. Full sheets are the best.

To Prevent Building of Drone Comb.

QUERY No. 215.—My bees are building too much drone comb when given starters. How must I prevent it?

A. B. MASON, Auburndale, O.—Give full sheets of foundation.

DR. MILLER, Marengo, Illinois.—Give them full sheets of foundation.

MARTIN EMIGH, Holbrook, Ont.—The surest way would be to use full sheets of foundation.

G. M. DOOLITTLE, Borodino, N. Y.—Give more surplus room above, and bee room below.

WM. McEVoy, Woodburn, Ont.—Crowd the bees on less frames and don't keep any old queens.

Prof. Cook, Lansing, Mich.—You must either use foundation or replace the queen with a younger one. Colonies with fewer bees accomplish the same result.

H. D. CUTTING, Clinton, Mich.—I presume you mean in brood chamber. If so, use young queens and full cases of sections well under way over the brood chamber.

JAMES HEDDON, Dowagiac, Mich.—Give full sheets of foundation. Read Hutchinson's excellent book to learn how to prevent the drone comb-building in another way.

ALLEN PRINGLE, Selby, Ont.—The preventives are young, prolific queens, contracted brood nest, lots of room for storing above brood nest, and comb there, that is, above, if possible.

EUGENE SECOR, Forest City, Iowa.—Have young queens that will keep the combs full of brood as fast as built, and there will be no trouble. Give the bees plenty of storing room above so that they will not need the combs below for that purpose.

J. E. POND, North Attleboro', Vt.—Cut it out and give full sheets of foundation. This is the surest and quickest method. You may accomplish it in various other ways, but ordinarily

they will be found very unsatisfactory, or they will require time and patience to make them succeed.

J. K. DARLING, Almonte, Ont.—Use full sheets. I had the same trouble, and now use sheets that reach within an inch or two of the bottom, and more than half of them are finished out with drone comb. The bees are bound to have drone comb somewhere, and I would rather there than elsewhere.

G. W. DEMAREE, Christiansburg, Ky.—Give them full sheets of foundation. When foundation first began to come into use I used it for starters altogether. I found that second swarms with virgin queens would build mostly drone or store combs. All swarms with old (or for other causes slow) queens would build an excess of drone or store comb, while all colonies with young prolific queens would build nearly all worker combs. With these facts before us we can see the difficulties in the way of adopting the plan of using starters only. If we could always know the condition of the swarm we are about to *hive* we could act intelligently when choosing the plan to be followed. But as this is not practicable in a general way it is the safest way to use full sheets of foundation, or empty combs if we have had the forethought to have had them drawn out in the upper storeys the season before.

Contract the brood chamber by division board, or place on supers. We place frames with starters between two full combs of brood and have no such difficulty as you speak of.

Mr. Wm. McEvoy answered all the queries sent him, but by some mishap they did not reach us in time to appear in regular order. Here they are:

209. "Sun wax extractor and foul brood":—Yes, if the wax was daubed with the diseased honey, which it would be most likely to be. Bring the wax to a boiling heat. Half an hour is too long; it would be injurious to the wax.

210. "Using queens from diseased colonies":—Yes, safe every time, and that I know from experience. Don't destroy the queens. Anyone that has such can mail them to me in the honey season for twenty-five cents each if they are Italian queens.

211. "Heat for ripening honey":—About 80 will do for both the extracted and comb honey. The extracted honey *will always* have a much better flavor when ripened by the bees, and for that reason it should never be extracted until *dead ripe*. Comb honey should be kept in a warm place for two months after it is taken from the bees.

212. "Cause of loss of mating queens":—If the honey season had been a good one and everything booming you would not have lost so many queens. The greatest cause of all was the poor season. The bees did more killing than

you think they did. You will be all right next season, as we are going to have one of the very best.

213. "Space alongside section foundation":—A sixteenth at each side and nearly an eighth at the bottom.

SUNDRY SELECTIONS.

A LAKE HURON REPORT.

WM. WILSON.—I see by the JOURNAL that the season has been poor; I cannot complain, however. I started the season with seven colonies, divided to fifteen—all good strong swarms—and took 200 lbs. extracted and 20 lbs. comb honey. My home is on the shore of Lake Huron.

Johnson's Mills, October 2, 1888.

THE PORTABLE SUPER "ABOUT RIGHT."

JAMES C. ROBERTSON.—I write to advise you of the arrival, in good shape, of the last bill of supplies; in fact everything I got from you is first-class. The season was so poor this year that I did not get a chance to try the portable super, as I would like, but I think they are about right.

Morrisburg, October 9, 1888.

W. J. BROWN.—I commenced the season of '88 with 30 hives, sold one, increased to 70. Took 100 lbs. comb and 300 extracted. Fore part of season was very cold and windy, middle too dry and latter too wet—altogether a very unfavorable season. I may here say that I congratulate friend Black, of Barrie, on his good success, but I think the majority of bee men will agree with me when I say I think that his report is too good to be all gospel. Am glad to see friend Cumming doing so well at the Provincial. The C. B. J. is a most welcome visitor.

Chard, Ont.

A. W. BROWN.—Will you please tell me in next issue of C. B. J. how you should proceed to unite at this time of year a small colony having a laying queen with a larger colony having fertile workers, without danger of losing queen?

Port Rowan, Ont.

Take all the combs away from the colony with fertile workers in the morning, leaving them in this condition until after dark, then shake the other colony in with them, giving several good smart shakes so as to mix them thoroughly. Give them full combs from colonies not troubled with fertile workers. A little sweetened water sprayed over them will render the work easier.

Read the grand array of premiums offered on page 615 of this issue.

A FINE POINT.

G. M. T. BEAULY in *Bee-Keepers' Record*—
 Recently at an exhibition the sting of the honey
 bee was shown under the power of the micro-
 scope and the point of the sting could hardly
 be distinguished. The finest of fine needles was
 exhibited under the same power of the micro-
 scope and the point appeared nearly one inch
 across. A bystander asked, how could that
 great difference be? The exhibitor replied:
 "God can make a fine point but man cannot."

BUSINESS DEPARTMENT.

Some splendid queens of Carniolan extraction
 sent post paid two at once for \$2.

In return for the names of ten bee-keepers sent
 us on a postal, we will send the "Bee-Keepers'
 Dictionary" value 25 cents.

No matter what kind of printing you want, it
 can be done at this office. Visiting cards, bill
 heads, envelopes, pamphlets, note-heads, any-
 thing. Write for figures.

PREMIUM LIST.

The following premiums are now offered to
 readers of the CANADIAN BEE JOURNAL. We
 have made special arrangements for the purchase
 of these articles, and are in a position to make
 the offer we do. One dollar must be sent with
 every name that is sent in, though they do not
 need to be sent all at one time, nor from one
 post office. The subscribers may be either new
 or old. If working for any of these premiums,
 the person so doing must advise us of the facts
 when they send in the first names. All articles
 which have to be sent by freight or express, will
 be sent, charges to be paid by recipient :

TWO NAMES WITH \$2—	
One copy Heddon's Success in bee culture	50
" " Hutchinson's Review, one year	50
THREE NAMES WITH \$3—	
One copy Miller's, Year among the Bees.	75
" " Automatic Fountain Pen.....	75
FOUR NAMES WITH \$4—	
One copy Cook's Manual.....	\$ 1 25
" " A.B.C.—Root.....	1 25
" " W'kly Globe to 31st Dec. 1889.	1 00
" " " Mail " " " " " " " "	1 00
" " " Empire " " " " " " " "	1 00
" " " Western Advertiser	1 00
" " " Witness, Montreal.....	1 00
" " " Gleanings, one year.....	1 00
One year's subscription to any \$1 weekly or monthly published in either Can- ada or the United States.....	1 00
One Smoker, No. 2, plain.....	1 25
" " Honey Knife, ebony handle.....	1 15
Two best Canadian Feeders, made up..	1 00
One Mitchell Frame Nailer.....	1 25

SIX NAMES WITH \$6—	
One Force Pump with Sprayer.....	2 00
" " pair Rubber Gloves, post paid.....	2 00
" " Comb Carrying Bucket.....	1 50

EIGHT NAMES WITH \$8—	
One set Anatomical Charts, with key....	2 50
" " Queen Nursery (20 cages).....	2 50
" " Uncapping Arrangement.....	2 25

TEN NAMES WITH \$10—	
One No. 1 Wax Extractor.....	4 00
" " Heddon H. (made up) complete,ptd.	3 25

TWELVE NAMES WITH \$12—	
1000 Sections—one piece—any size.....	4 50
One Copying Press, Simplex.....	4 50
Individual right, Heddon Hive.....	5 00
One Ripening Can.....	4 50
" " Bee Tent—netting cover.....	4 00

FIFTEEN NAMES WITH \$15—	
Seven Combination Hives, fitted up for extracted honey, with second story..	6 80
One Extractor—any size frame—old style gearing.....	7 00
One Lawn Mower, best make, 12 in....	6 50

EIGHTEEN NAMES WITH \$18—	
One Farmers' Union or Family Scale, ½ oz. to 240 lbs.....	8 00
One Extractor—best made—to take any size frame.....	8 00

TWENTY NAMES WITH \$20—	
10 Combination Hives, for comb honey.	9 00
10 S. W. Jones Hives and Frames.....	8 30

TWENTY-FIVE NAMES \$25—	
One Union or Family Scale, 240 lbs. with tin scoop.....	10 45

THIRTY NAMES WITH \$30—	
3000 Sections—one piece—any size.....	13 00

THIRTY-FIVE NAMES WITH \$35—	
Two Colonies Bees with good queens....	16 00

FORTY NAMES WITH \$40—	
5000 Sections—one piece—any size.....	20 00
One Portable Platform (19 x 14) Scale, 500 lbs. with wheels.....	18 00

FIFTY NAMES WITH \$50—	
Three Colonies Bees, good queens.....	24 00

SIXTY NAMES WITH \$60—	
One Farmers' Platform Scale, with wheels 1,200 lbs., steel bearings.....	26 00

SEVENTY-FIVE NAMES WITH \$75—	
50 Combination Hives, for comb honey..	31 50

ONE HUNDRED NAMES WITH \$100—	
50 Langstroth Hives.....	37 50
ONE HUNDRED AND FIFTY NAMES WITH \$150—	

One Combined Barnes' Foot Power Machine.....	60 00
---	-------

TWO HUNDRED NAMES WITH \$200—	
10 Colonies Bees in Combination Hives, with good laying queens.....	80 00

THE D. E. JONES CO., LD.
 BEETON, ONT.

PRICES CURRENT

BEESWAX

Beeton Oct. 24, 1888.

We pay 35c in trade for good pure Beeswax, delivered at Beeton, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 25 per cent. on Wax coming into Canada.

FOUNDATION

Brood Foundation, cut to any size per pound.....50c
 over 50 lbs. " " " ".....48c
 Section " in sheets per pound.....35c
 Section Foundation cut to fit 3x4 and 4x4 per lb. 6c
 Brood Foundation, starters, being wide enough for
 Frames but only three to ten inches deep.....48c

BEES

BY THE POUND!

We have quite a large lot of Bees which we will dispose of by the pound, at very low rates, as follows:

6 lb Bees and 6 good mated Queens, \$10.00
 10 " " 10 " " " " " " 15.00

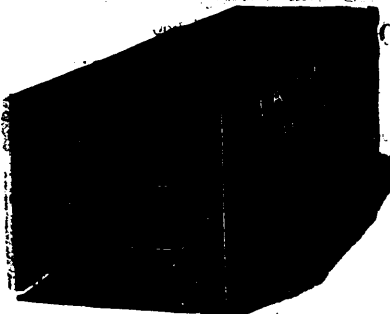
This forms a good opportunity to build up weak colonies or to repopulate spare combs.

Orders booked and filled in rotation.

THE D. A. JONES CO., LD.
 t.f. BEETON.

A TEMPERATE YOUNG MAN of unquestionable character can invest in a profitable business, yielding good profits. Salary. Address BOX 50c, BEETON.

FEEDERS.



FOR PRICES SEE OUR CATALOGUE, WHICH WILL BE SENT FREE TO ANY ADDRESS.

THE D. A. JONES CO., LD.
 BEETON, ONT.

1-LB. GLASS JARS.

SCREW TOP.



We are just advised of shipment from the factory of the first instalment of 50 gross of the above. They are put up in barrels and hogsheads, (the latter for our own local use), and to save breaking bulk when shipping, we append below a table, of the qualities of which the shipment consists, together with the prices per barrel. In estimating the price, we have calculated the same as for full gross lots, an allowance of 20 cents being made for each barrel and packing (they cost us 35 cents).

No. of Barrels.	No. of Doz.	Prices.
1	8 1/2	\$ 6 25
1	8 1/2	6 45
4	9 1/2	6 75
5	9 1/2	6 95
4	9 1/2	7 15
3	10	7 35
3	10 1/2	7 55
2	10 1/2	7 75
1	11 1/2	8 45

The D. A. Jones Co.,
 BEETON, ONT.

ADVANCE IN NAILS.

Owing to a rise in the prices of nails, we are forced to advance our prices somewhat, as will be seen by the following list. All orders will be filled only at these prices.

PRICES OF WIRE NAILS.

Length of Nails.	No. in Pound	Size Wire	Price of 1 Pound	Price of 10 lbs.
1/4 & 1/2 inch	7200	21	22	2 00
3/4 inch...	5000	20	17	1 60
1 inch...	3880	10	17	1 60
1 1/2 inch...	2069	18	12	1 05
1 3/4 inch...	1247	17	11	1 00
2 inch...	761	16	10	90
2 1/2 inch...	350	14	9	80
3 inch...	214	13	9	75
3 1/2 inch...	137	12	8	70

PRICES OF BOX OR HIVE NAILS.

	Per lb.	Per 10 lbs.	Per 100 lbs.
1 1/2 inch.....	7	65	6 00
2 inch.....	6 1/2	60	5 50
2 1/2 inch.....	6	55	5 25
3 inch.....	6	55	5 25

THE D. A. JONES CO., LD.

USEFUL GOODS.

The following is a partial list of small wares, tools and stationery, which we carry in stock. Additions are constantly being made. We buy in very large quantities, and are therefore able to quote rock bottom prices. There is always something in these lines you want and they can be enclosed with other goods or sent by mail. The amount of postage is marked opposite each article, except those excluded from the mail.

5 CENT ARTICLES.

Postage.	Per 10 lots.	Per 25 lots.
1 Awls, brad, three assorted without handles.....		
1 Blotting paper, 10 sheets note size.....	40	88
3 Bag for school books.....	45	1 05
2 Brush, round, for paint, paste or varnish.....	40	95
1 Chisel handle.....	45	1 10
8 Crayons, colored drawing.....	45	1 00
1 Eraser combined ink and pencil	45	
1 Letter openers, nickle plated, very handy.....	40	
1 Memo books, 32 pages, stiff cover.....	40	90
2 Note paper, 1 quire, extra quality, ruled or plain.....	40	80
1 Pad 100 sheets scribbling paper	45	
1 Pass books 3 "Railroad" 16 p. paper cover.....	45	1 00
1 Pass books, 2 Steamboat 32 p.p.	45	1 00
1 Penholders 2, cherry, swell....	40	
1 Ruler, hardwood, flat, graduated to $\frac{1}{8}$, bevelled.....	45	1 05
1 Ruler, for school children, three for 5c.....		
2 Scribbling books, 200 pages....	40	90
2 Tacks, cut, 2 papers 1, 2 or 3 oz.	45	
8 CENT ARTICLES.		
Butter stamps 3 or 4 inches....	75	\$1 75
File, 3 corner, 3 or 4 inches....	75	1 75
Ink-well, glass, safety, cannot spill.....	65	
Mucilage, good sized bottle....	70	
Oil cans, zinc.....	65	
1 Pencil, automatic indelible....	75	1 75
1 doz. Lead Pencils, No. 852, very good.....	75	
1 Time books for week or month.	75	
10 CENT GOODS.		
2 Bill fyles, harpshaps.....	90	2 10
2 Book of 50 blank receipts with stub.....	85	2 00
2 Book of 50 blank notes.....	85	2 00
3 Brush, flat, for paint, paste or varnish.....	80	1 90
3 Butter spades 9c. each.....	80	1 90
2 Boxwood pocket 1 foot rule....	90	2 10
Chisel, firmer $\frac{1}{4}$ inch.....	90	

Postage.	Per 10 lots.	Per 25 lots.
2 Clips for holding letters, etc...	90	2 00
Due bills, 100 in book with stub	85	1 80
2 Envelopes, 3 packages, white, good, business.....	95	
2 Files, 3 cornered, 5 inch.....	90	2 10
3 Lead pencils, 1 doz. plain cedar Fabers 581.....	90	
2 Lead pencils 3 red and blue....	90	
2 Note heads, pads of 100 sheets..	90	
Paint brush, No. 7.....		
2 Pocket note book, 3x5 in., 125 pages, stiff cover with band grand value.....	90	
1 Rubber bands, five, large.....	80	
1 Ruler, brass edged, flat, hardwood, bevelled, graduated to $\frac{1}{8}$ inch.....	95	2 25
4 School bag, medium size.....	90	2 10
Tacks, cut, 3 packages, 4 oz.....	90	

13 CENT ARTICLES.

2 Belt punches, Nos. 2, 3, 4, and 5	1 25	\$3 00
File, 6 inches long, flat.....	1 25	2 90
" 5 " " round.....	1 25	2 90
Shce knives, 4 inch blade.....	1 20	2 75

15 CENT ARTICLES.

Chisel, firmer, $\frac{1}{4}$ and $\frac{1}{2}$ in.....	1 45	
12 Dextrine, $\frac{1}{4}$ lb. pkge. for pasting	1 30	
Glue, 1 lb. ordinary.....	1 45	
Hammer, iron, adze eye.....	1 45	
3 Lead pencils, 1 doz., good quality, Faber's 971.....		
5 Note paper, 5 quires, 3 lbs., extra value.....	1 40	3 35
Paint brush, No. 5.....		
6 Rubber bands in gross boxes. For queen nursery.....	1 30	
4 Rule, 2 foot, a splendid line....	1 40	3 40
Screw driver, 5 inch, round bit, hardwood handle.....	1 40	
2 Statement heads in pads of 100	1 20	
Tack hammers, magnetic.....	1 40	3 30
12 Papeterie, 24 sheets fine note paper and 24 square envelopes in neat box.....	1 40	3 35

18 CENT ARTICLES.

Bit, best make, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	1 65	4 00
Glue, LePage's liquid, with brush	1 65	
Oilers, automatic.....	1	

20 CENT ARTICLES.

Postage.	Per 10 lots.	Per 25 lots.
Bit, best make, $\frac{3}{8}$, 7/16, $\frac{1}{2}$, 9/16..	1 90	4 50
Brass traps.....	1 85	4 50
Brushes, flat, 2nd quality, 1 $\frac{1}{2}$ in. paste or varnish.....	1 80	4 25
Chisel, firmer, inch.....	1 90	
Ebony ruler, bevelled for book-keeper.....	1 90	4 50
File, 8 inch, flat, round or 3 corner.....	1 90	
Glue, 1 lb. light, broken.....	1 75	
3 Lead pencils, 1 doz. 201 good value, rubber tipped.....	1 80	
Paint brush, No. 3.....		
12 Papeterie, "Jubilee" containing 24 sheets, ivory notes, 24 square envelopes.....	1 80	
6 Pens, gross box "292 school"....	1 80	
1 Pocket memo book, indexed....	1 90	
Screw-driver, steel, 6 inch rd bit	1 90	
Square, iron, grad. to $\frac{1}{4}$ one side	1 90	
Thermometer.....		

25 CENT ARTICLES.

6 Cards, 50, ladies' or gents' visiting. Piries' super ivory...	2 00	4 50
2 Duplicate order books, with black leaf.....	2 00	4 50
File, 10 inch, flat.....	2 25	
3 Lead pencils, 1 doz. Faber's H, H. B., B. or B. B.....	2 30	
Paint brush No 1.....		
Rule, 2 foot, boxwood.....	2 30	
Tape Lines, "Universal," 3 ft..	2 30	

30 CENT ARTICLES.

3 Bills payable and receivable....	2 85	6 90
Bits, best make, 10/16, $\frac{3}{8}$, $\frac{1}{2}$	2 85	6 90
250 Envelopes, Ladies', square.		
5 Foolscap, 2 quires, extra quality	2 80	
4 " legal, in pads of 100 sheets.....	2 75	6.00
Inkwell, square, glass, bevelled edges.....	2 75	

35 CENT ARTICLES.

Bit, best make, inch.....	3 40	8 120
Hammer, steel face, for light work.....	3 30	
Square, grad. to 1/16 both sides	3 30	

40 CENT ARTICLES.

Foolscap, 5 quires, good quality	3 75	
Hammer, No. 50, $\frac{1}{2}$ steel head, adze eye.....	3 60	
Pens, gross box, 'Bank of Eng.'	3 80	
" " Blackstone or J.	3 80	
Ruler, 2 foot, boxwood, brass bound.....	3 60	

50 CENT ARTICLES.

Binders, CANADIAN BEE JOURNAL	4 80	
Blank books.....		
Day book, 200 p. p. good paper, well bound.....	4 25	
Cash " " ".....	4 25	

Postage.	Per 10 lots.	Per 25 lots.
Ledger " " ".....	4 25	
Minute " " ".....	4 25	
Complete set, Cash, Day and Ledger, \$1.25.....		
200 page Day Book, canvas cover good paper, exceptionally low		
Carpenter's brace, pat. grip, 8 in	4 85	12 00
Envelopes, good, business size, 250 in box.....	4 00	
250 Envelopes, Ladies' square, very goods.....		
Hand saws, 18 and 20 in., best make.....	4 50	
Hammer, No. 51, steel head, adze eye.....	4 50	
Hammer, smaller, frame nail g	4 50	

SUNDRIES.

Automatic Fountain Pen, the finest thing out; holds enough ink to last a week; always ready; can use any style of pen that suits you, and can change it as often as you wish—a marvel of cheapness—by mail, post paid, each..... 75



Barnes' Foot Power Machinery—We are agents for these in Canada, and can furnish the Combined Machine delivered in Toronto, freight and duty paid for..... 60 00
We will gladly forward descriptive Catalogue & price list on application.

Copying press, "The Simplex," the most rapid and the easiest handled. Folds like a book and weighs but 10 lbs. With lock, \$5, without....	\$4 50
Hammer, No. 47, steel head, adze eye a most substantial implement.....	60
Hand saw, 26 inch, finest quality....	55
Hatchet, steel, with hammer and nail puller.....	65
Lawn Mowers—The new Philadelphia pattern, as made by the Gowdy Mfg. Co., Guelph, at prices as follows:—	
10 inch cut.....	5 75
12 ".....	6 25
14 ".....	6 50
16 ".....	7 25

We ship these direct from the factory at above figures.

Letter books, with index, bound in canvas, 500 pages.....	1 10
Letter books, with index, bound in canvass, 1000 pages.....	2 00
Plane, iron block.....	75
" wood smoothing.....	80
Post cards printed to order, 50 \$1, 100	1 40
Square, steel, grad. both sides, usual price, \$1.75.....	1 35
Soldering outfit, consisting of soldering iron, scraper, bar of powdered resin.....	75

D. A. JONES, Pres.

F. H. MACPHERSON, Sec.-Treas.

THE D. A. JONES CO., LD.

BEHNTON, MONT.

Manufacturers of and Dealers in Apiarian Supplies

OUR CIRCULAR SENT FREE ON APPLICATION.

Publishers Canadian Bee Journal.

Fine Book and Job Printers.

QUEENS.



Our trade in queens grows greater each succeeding year, and we seem to be giving better satisfaction as well. We endeavor to raise queens which will produce good honey-gatherers irrespective of breed or race.

We pay much attention to the class of drones with which our queens come in contact.

The annexed table shows the prices at different seasons, of different varieties. These are, of course, subject to change depending upon the supply and demand. All changes will be noted in the CANADIAN BEE JOURNAL :

MONTH.	Untested	Tested	Selected	Virgin
May	1 50	2 50	3 00	
June	1 00	2 00	3 00	0 60
July	1 00	2 00	2 50	50
August	1 00	2 00	2 50	50
September	1 50	2 00	2 75	
October		2 50	3 00	

Three at one time, deduct 10 per cent ; six at one time, deduct 20 per cent.

EXPLANATIONS.

We are not, owing to our high latitude, able to sell queens before May, nor later than October.

Untested queens will be ready for sale as soon as mated, and before they have had a chance to prove themselves.

Tested queens are those which have been proven as to race and honey-gathering qualities.

Selected queens are chosen because of color, size and honey-gathering qualities.

Queens cannot be shipped unless the weather is warm enough, except at risk of purchaser—otherwise safe delivery is guaranteed.

We replace all queens lost in transit, but not those lost in introducing.

BEEES. I

Bees should always go by express, unless they are personally cared for *en route*.

We do not hold ourselves responsible for breakage or delay in transit of colonies of bees they always leave our hands in good shape. We will send out only such colonies as we are sure will give satisfaction. Our bees will be such as the queens we offer will produce.

MONTH.	Italian	Italian Crosses	Carolean Crosses
May	\$8.00	\$ 8.00	\$ 9.00
June	7.00	7.00	8.00
July	7.00	7.00	8.00
August	6.50	6.50	7.00
September	6.00	6.00	6.50
October	6.50	6.50	7.00

The above prices are for up to four colonies ; five colonies up to nine, take off 3 per cent. ; ten colonies up to twenty-four, 5 per cent. ; twenty-five colonies and over, 10 per cent—*always cash*. Bees at these prices will always be sent out in the Combination Hive, and each colony will contain a good queen, some honey, and brood according to the season.

BEEES BY THE POUND.

Just as soon as we can raise them in the spring, we will have for sale, bees by the pound at the following prices :—Up to July 1st, \$1.25 per pound ; after that date, 90c. per pound. Orders must be accompanied by the cash, and they will be entered and filled in rotation as received. We are booking orders now. Do not delay in ordering if you want prompt shipment.

NUCLEI.

A two-frame nucleus will consist of one-pound of bees, two frames partly filled with brood and honey, and an extra good queen, price \$4. Two at one time, \$3.75 each—up to July 1st.

After that date the prices will be \$3 singly ; two at one time, \$2.75 each.

We can send frames that will suit either the Jones or Combination hive. Please specify which you wish. Should you prefer the nucleus in either Jones or Combination hive, add price of the hive, made up, to the cost of nucleus.

Bees by the pound and nuclei must always be sent by express. Orders for nuclei filled in rotation the same as bees by the pound.

APIARIAN SUPPLIES

MANUFACTURED BY

W. T. Falconer, - Jamestown, N.Y.

Are unsurpassed for **Quality** and fine **Workmanship**. A specialty made of all sizes of the **Simplicity Hive**. The **Falcon Chaff Hive**, with movable upper story continues to receive the highest recommendations as regards its superior advantages for **wintering** and **handling bees** at all seasons. Also manufacturer of **FALCON BRAND FOUNDATION**. Dealer in a full line of **Bee-Keepers' Supplies**.

Send for Illustrated Catalogue for 1888. Free.

W. T. FALCONER.

Bee-Keepers Guide

—OR—

MANUAL OF THE APIARY.

This fiftieth thousand much enlarged and more richly illustrated than previous editions. It has been fully revised, and contains the very latest in respect to bee-keeping. Price by mail \$1.50. Liberal discount to dealers and for clubs.

A. J. COOK, Author & Publisher,
STATE AGRICULTURAL COLLEGE,
LANSING, MICH.

250 ENVELOPES

—AND—

250 NOTE HEADS

FOR \$1.

On good paper, printed with name and address, post paid.

CANADIAN BEE JOURNAL OFFICE,
BEETON ONT.

SEND US \$2.50

And we will send you a good serviceable man or boy

Nickle Keyless Watch,

And FOREST AND FARM for one year.

The livliest and Best Weekly Paper published in the Dominion. Send your address for sample copy and full particulars. Special terms to bona fide canvassers.

FOREST AND FARM,
CHAS. STARK, Publisher, 50 Church St., Toronto.

COMB * FOUNDATION I

At hard pan prices.

WILL. HELLIS,
ST. DAVIDS, ONT.

BEEES FOR SALE CHEAP.

30 COLONIES OF ITALIAN BEEES FOR SALE. In lots of 3 or more \$6.00 each. Now is the time to send in orders for spring delivery. Bees second to none.

Address

LEWIS JONES,
DEXTER P.O. ONT.

THE CANADIAN

POULTRY REVIEW

IS THE ONLY PAPER PUBLISHED IN CANADA IN THE INTERESTS OF THE

Poultry, Pigeon and Pet Stock Fraternity.

Circulation always on the increase. Subscription only \$1.00 a year. Address,

H. B. DONOVAN,
20 Front St. East, Toronto.

FRIENDS. IF YOU ARE IN ANY WAY INTERESTED IN

BEEES AND HONEY

We will with pleasure send you a sample copy of our **SEMI-MONTHLY GLEANINGS IN BEE-CULTURE**, with a descriptive Price-list of the latest improvements in Hives, Honey Extractors, Com Foundation, Section Honey Boxes, all books and journals and everything pertaining to bee-culture. Nothing patented. Simply send your address on a postal card, written p. incl
A. I. ROOT, Medina, Ohio

BEEES AND HONEY.

TO ALL that are interested in Bees and Honey, send for our **Free** and Illustrated Catalogue of Apianian Supplies. Address

M. RICHARDSON & SON,
Port Colborne, Ont

BARNES' FOOT-POWER MACHINERY



Read what J. J. PARENT, of Charlton, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 inch cap. 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the number of bee-hives, etc. to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. F. & JOHN BARNES, 544 Ruby St., Rockford, Ill. 21

SECTIONS FOR THE MILLION.

We are turning out sections at the rate of 10,000 per day right along, in addition to our regular hive and supply trade, and we are prepared to furnish them in any regular size and style in large quantities at very low rates.

Our prices are as follows:—

1000	\$ 4 50
3000	13 00
5000	20 00
10,000	37 50

All orders entered as received, and shipped with promptness. Order early to avoid the rush. These prices are spot cash.

THE D. A. JONES Co., LD.,
BEETON, ONT.