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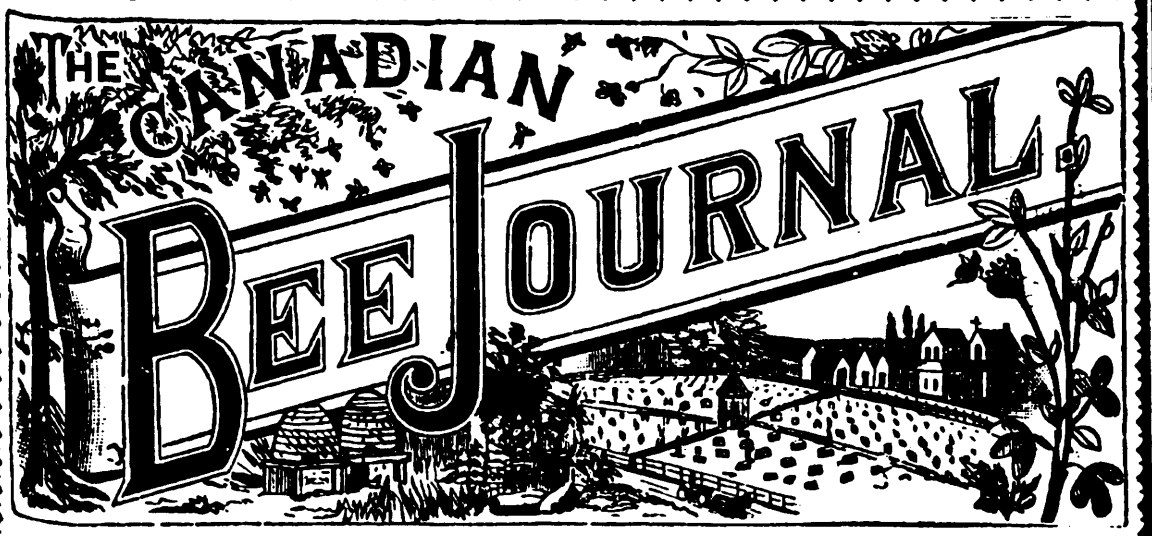

"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. VII, No. 17. BEETON, ONT., DEC. 1, 1891. WHOLE No. 299

THE CANADIAN BEE JOURNAL

Devoted exclusively to the interests of the Honey Producer.

Seventy-five Cents per annum in Advance.

ADVERTISING RATES.

All advertisements will be inserted at the following rates

STANDING ADVERTISEMENTS.

Time.	1 in.	2 in.	3 in.	4 in.	1 col	page
1 month.....	$2.00	$3.00	$4.50	$6.00	$10.00	$16.00
2 months.....	3.00	4.50	6.50	9.00	17.00	27.00
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One-fifth column, $8 per year; $5 for 6 mos. All yearly advertisements payable quarterly in advance.

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Occupying one-half inch space, THREE DOLLARS per annum.

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10 cents per line for the first insertion, and 5 cents per line for each subsequent insertion.

Space measured by a scale of solid nonpareil of which there are twelve lines to the inch, and about nine words to each line.

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Advertisements for this Department will be inserted at the uniform rate of **25 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 it will be inserted in our regular advertising columns. This column is specially intended for those who have poultry, eggs, bees, or other goods for exchange for something else and for the purpose of advertising bees, honey, poultry, etc., for sale. Cash must accompany advt. Five insertions without change, $1.

STRICTLY CASH IN ADVANCE

Contract advertisements may be changed to suit the seasons. Transient advertisements inserted till forbid and charged accordingly. All advertisements received for THE CANADIAN BEE JOURNAL are inserted, without extra charge, in THE CANADIAN POULTRY JOURNAL.

THE D. A. JONES CO., LD., Beeton, Publishers.

PUBLISHERS' NOTES.

We will always be glad to forward sample copies to those desiring such.

THE JOURNAL will be continued to each address until otherwise ordered and all arrears paid.

Subscriptions are always acknowledged on the wrapper label as soon as possible after receipt.

American Currency, stamps, Post Office orders, and New York and Chicago (par) drafts accepted at par in payment of subscription and advertising accounts.

Subscription Price, 75c. per Annum. Postage free for Canada and the United States; to England, Germany, etc, 10 cents per year extra; and to all countries not in the postal Union, 500. extra per annum.

The number on each wrapper or address-label will show the expiring number of your subscription, and by comparing this with the Whole No. on the JOURNAL you can as certain your exact standing.

Communications on any subject of interest to the fraternity are always welcome, and are 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.

ERRORS.—We make them: so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us anyway. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

We do not accept any advertisements of a suspicious or swindling nature, but our readers must not expect us to be responsible should our advertisers not do as they agree. They will find it a good rule to be careful about extraordinary bargains, and in doubtful cases not to pay for goods before delivery.

Clubbing Rates.

THE CANADIAN BEE JOURNAL and THE CANADIAN POULTRY JOURNAL	$1 00
THE CANADIAN BEE JOURNAL and premium queen	1 00
Both JOURNALS and premium queen.....	1 25

Job Printing.

All we ask is the privilege of an opportunity to estimate. Free use of all our cuts given to those who favor us with orders. Specimen sheets furnished on application.

EXCHANGE AND MART

25 CENTS pays for a five line advertisement in this column. Five weeks for one dollar. Try it.

A FEW PAIR of Dark Brahmas, young and old, for sale cheap. also some Light Brahma Cocke els at $1 each. T. COCKBURN, Canada St. Hamilton, Ont.

A GRAND LOT of Silver Laced Wyandotte Chicks for sale. They are good and will be sold cheap as I want to make room. T. COCKBURN, Canada Street, Hamilton, Ont.

WE can handle a few thousand pounds more of honey, principally comb; will pay cash or trade. Let us know quality and state lowest price F. O, B. here, also state quantity. Address E. L. GOULD & CO., Brantford, Ont., Dealers in Bee , Queens and Honey, and Manufacturers of Bee-K epers' Supplies.

WE are now able to ship by first Express, in fact we are shipping every day all the Foundation o derd Knives, Force Pumps; n short, we e deavor to have everything go by first train after the o der is received. D. A. JONES CO.Y, Beeton.

MEYER'S S. L. WYANDOTTES are acknowledged the best grand chicks for sale all bred from the following 2 to 4 year-old hens scored last winter by Mr. Smelt: 94; five 92½ each; 92 (first hen, Toronto, '90), 91½ and pullet 92, mated with cock, 94, cockerel 93. If "like begets like," they must please you. J. E. MEYER, Kossuth. Mention this Journal.

FOR SALE. 3 grand Light Brahma Chicks, a lot of cockerels, hens and pullets, the best I ever raised—certain winners the coming winter. Brown Leghorns old and young. Cock and five hens, Silver Grey Dorking and a quantity of young Pekin Ducks, the best in Canada. JNO. COLE, Hamilton.

I HAVE about 20 Cocks for disposal in Partridge, Black and White Cochins, Light and Dark Brahmas, Langshans, Minorcas and Hamburgs; Silver Wyandotte, Brahma Cochin, Langshan, Minorca and Hamburg Chicks for sale cheap, as I want the room. I will be pleased to answer all enquiries when stamp is enclosed. T. COCKBURN, Canada Street, Hamilton.

APIARY FOR SALE.—54 Colonies of Bees, 31 upper stories for extracted honey and combs, supers, honey boards, extractor, 2 store cans holding 400 pounds each, packing boxes for outside wintering. Everything for the working of it except Foundation Mill. Foundation and beeswax enough for another season **$250** for everything concerned with it. Bees in good condition. SAMUEL STAFFORD, Shedden, Ont.

1891. Don't you want to improve your stock Don't you want large, beautiful yellow Queens, producing bees that will please you fully; the best honey gatherers on earth. Seven years carefully breeding. 650 Queens sold and have heard of only one mismated. Queen, 75c.; 3 for $2. A yellow to the tip, select breeder, by return mail, $1.50. W. H. LAWS' Lavaca, Ark.

NOW OR NEVER. Having had placed in our hands several Incubators to sell for parties who have gone out of the business. They are now put unto the market at a great reduction. We have thoroughly tested them and put in all our latest improvements which makes them equal to our new ones. Remember all these machines have great records. Two 200 egg capacity, $25 each; one 175 egg capacity, $20; two 100 egg capacity, $10 each. For further particulars address THE GERRED INCUBATOR CO. ☞P. S.—See large ad., 90 De Grassi Street Toronto. Send 3 cent stamp for reply.

FOR SALE—1 Partridge Cochin Cock and 3 Cockerels; 6 Light Brahma Cockerels; also a few Pullets each variety which are all first-class; no culls shipped. R. H. Marshall, Sec'y Perfection Fanciers Club, Dunnville, Ont.

FOR SALE.—A lot of Partridge Cochin Cocks at $2 and $3 each; also two pair of Light Brahmas, and a pair of Black Hamburgs. T. COCKBURN, 64 Canada Street, Hamilton, Ont.

FOR SALE.—2 pair Black Java Chicks; 2 pair White Cochin Chicks; also 2 Black Cochin pullets, very large with great toe feathering. All are a 1 birds. T. D. ROBERTSON, box 164 Guelph, Ont.

FOUR fine W. Rock cockerels bred from pen average score 9.; 1 Cock 92½; 1 White Leghorn Cock imported; 2 White Cockerels and 4 Brown, extra fine—For Sale Cheap. D. L. SOMERVILLE, Esquesing, Ont.

MUST BE SOLD.—A good pair of White Indian Games, colored Indian Game Cockerel, Wyandotte Cockerels, Fancy Pigeons and other stock. Wanted—a few good White Rock Hens. JOHN GRAY, Todmorden, Ont.

FOR SALE at The Canadian Poultry Yards—Dark and Light rahma Cockerels, only $1 each and upwards, bred from pair winning 1st and 2nd at Toronto, 1890. $2 per pair, etc.; 1 White China Gander bred from pair winning 1st and 2nd at Toronto, 1890, only $2, a dandy; 1 Yellow Jacobine Pigeon, only $1. Tou. Geese, B. P. Rocks, Berkshire Pigs, etc. Have pair of Tou. Geese which won 2nd and 3rd at Toronto, 1890. If you want the best of birds at the lowest possible price write to S. K. B. SMITH, Brighton, Ontario.

CHEAP.—A good economical Incubator and brooder combined (400 eggs). It costs less to run than the average 200 egg machine. Record, 90 per cent eggs are turned in it instantly without handling. The brooder part is heated by surplus heat of incubator or may be used independently as an outside spring brooder. It has 3 compartments; 18 ft. floor space; price, $28.00. Also a neat and compact nursery brooder for dividing young chicks into young flocks, holds 150 to 200 and has nine compartments all heated by one small lamp. Only costs 1½ cents for coal oil every 24 hours in cold weather. $12 or both for $35.00 cash. GEO. VANDE VORDE, Weston.

FOR SALE.

The entire business of THE D. A. JONES Co., Beeton, now in Liquidation, en bloc or in departments to suit purchasers. This includes

FACTORY, TIN SHOP AND PRINTING OFFICE

WITH ALL NECESSARY MACHINERY.

Favorable arrangements made with suitable purchasers.

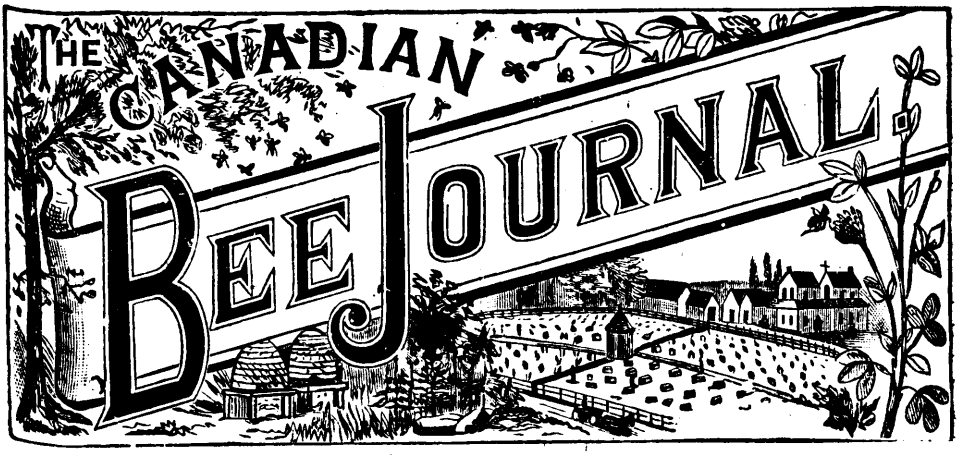
APPLY TO

D. A. JONES,
Liquidator.

BEETON, ONT.

ONE COLONY

Saved from Death the Coming Winter Would Repay the cost of a copy of "ADVANCED BEE CULTURE" ten Times Over. In 5 of its 32 Chapters may be Found the Best That is Known upon Wintering Bees. It costs 50 cents but its Perusal may Make you $50 Richer next Spring. The "REVIEW" and this Book for $1.25. If not Acquainted with the "REVIEW," send for Samples. W. Z. HUTCHINSON, Flint, Michigan.



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

VOL. VII, No. 17. BEETON, ONT., DEC. 1, 1891. WHOLE No. 299

THE CANADIAN BEE JOURNAL.

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. JONES - - - EDITOR.

EDITORIAL.

We have been looking over the programme to the National Convention, and as it will be impossible for us to be present, we should like some points talked over, and some facts brought out. First in connection with foul brood. It does seem as if some scientists have put forth certain theories or statements, that are not borne out in practice in this country. When bees have been properly fasted, has any one ever known the disease to return? What is the simplest, cheapest, surest, and best mode of getting rid of the disease? Would it not be advisable to make it a serious offence to sell honey infected with foul brood, as it is easily seen how the disease may be scattered broadcast throughout our land, by a few packages of foul broody honey left carelessly about for the bees to get at. Some have suggested the propriety of forcing every person who has foul broody honey to boil it before selling. This seems to be a difficulty, as the boiling of honey would necessarily destroy its color, texture and flavor, and reduce it in value very much. The disease would not affect it if sold for baking purposes, and perhaps that would be the best way to dispose of it, or for printers' rollers, curing of meat, or manufactured into confectionery. The only way to accomplish that, would be to prevent those having foul brood from selling any honey until their yard was completely rid of the disease. Another point that we would like brought out at the Convention, is the possibility of carrying out some plan similar to Alpaugh's, by which large quantities of surplus honey could be obtained at the smallest possible expenditure. A system that would enable us to produce as much comb as extracted honey, would perhaps increase our profits, and if the Government at Washington is inclined to send some one to search out new races of bees, and get us further information, we think it due to Mr. Benton that the Convention should express themselves very strongly in his favor, and from our acquaintance with him we are convinced that no other person in the United States is so well suited to carry out that expedition successfully in the interest of bee-keepers. His past sacrifices should be considered in this matter, and if he would consent to accept the duty, we think it would be so well performed that the results would be all that could possibly be attained.

* * *

We have reprinted considerable of the Missouri State Convention from the Missouri Bee-Keeper, in this issue. It contains many valuable hints to bee-keepers. We would like to give our views, but are prevented on account of business.

GENERAL.

For The Canadian Bee Journal.

Something More About Foreign Bees.

MR. EDITOR.—In your issue for July 15, page 589, you refer to a curious bee story and to a most remarkable find of more than a ton and a half of honey hanging to the branches of a giant Eucalyptus tree. It seems to me a most absurdly exaggerated statement. If there had been such a find we would have heard of it here surely. Then imagine a hive of honey weighing one and one half tons, hanging to branches in this climate, where in the shade the temperature reaches 114° fahr. heat in summer as far south as this colony, and in the north very much higher at times, I believe. When we speak of shade it should be borne in mind that the eucalyptus do not give that deep and pleasant shade, we remember in the backwoods of old England, but hang their long narrow leaves point downward and edge outward to the sun.

Imagine this hive of thirty cwt. falling in the hot weather of swarming time, as described, a height of 250 feet, through numerous other branches, knocked this way and that, to meet the ground a streaming, broken mass; then to say, "he found the hut weighing over a ton and one half, of delicious honey, it is absurd! Why, Sir—a drop of ten feet would put such a thing as computing weight out of the range of possibility. It's being there, in a climate like ours, where an unwired L frame is, when heavy, apt to lose its contents, however well ventilated, is absurd to think of its falling 250 feet, and then being weighed is doubly so!

As for the bees, sir, "these bees and their habits" on which you wish for information in your foot note and the only bees out here of any practical use whatever are those you know so well, the imported black and other races of Europe. There are insects about the size of a horse fly, but more slender termed "native bees" about here. They visit us at extracting time and often we find them on the windows, but I have never seen their home. They have no sting, have small abdomens for the size of their heads and thorax, as compared with the common bees. I once saw a swarm of them alight but not cluster, in all, about enough to fill an egg cup if crowded together I should say. They stayed over night on a grass-tree (ysicca) but cleared off next morning. For honey gatherers, under the control and care of man the native bee of Australia has to be found yet. The "wild bees" are escaped swarms of Black and Italian strains. They are a fruitful source of spreading foul-brood as there is no restriction upon any cutting down bee trees even close to an apiary, and leaving foul-brood combs lying scattered around. We need some of the wisdom and energy of the law of Ontario and its working, down in these colonies, which possess a splendid bee pasturage, equal to anything, I should say, that we read of in America. Enterprise in bees is hindered by the ignorance of box-hive men and others who do not know the danger of foul-brood, and often don't care, when we point it out. We keep it out by at once boiling hives and frames on its appearing, and giving the bees a clean start, without starving generally. In this continent we have no winter troubles, and so far, in Victoria, no bee-moth. The bees to take a sample season, breeding all winter slightly, build up in September, and swarming is in full swing in October and November. We get in this apiary a dearth following till January, when the eucalyptus commence to bloom. Last season we had 90 colonies increased to 120, on January 13th began our harvest from eucalyptus rostrata or red-gum, one of the best of the eucalyptus for honey, and timber for rough heavy work out doors. We took each week 20 cwt, 11 cwt, and 25 cwt, till we reached five tons. After this on a slight honey flow till May building up nucleus colonies, rearing queens, etc. After two months of winter we begin this season with 150 good colonies. Besides the eucalyptus we have various acacias, many varieties of epacris and styphetia, (no clover here) and wild flowers all the winter in profusion. The red-gum blooms every alternate year. Some of the eucalyptus bloom every year, one of these eucalyptus oblique, or messmate gum, being a good source of honey.

First examination is generally the first week in August, the last took in May and June, A longer season than yours, is it not?

The yucca mentioned above is a fairly good source of honey. When swept off by fires in the forests, they spring up with flower stalks six feet long, one mass of tiny flowerets round the stalk which is four inches in diameter tapering to nothing at the point. One stalk to each bush or root. Hoping this will be of interest.

Yours faithfully.

T. Bolton

Dunkeld, Victoria.

We are pleased to be able to give the above information to our readers, and trust that our friend will favor us with further communications from that far distant country. Perhaps he would

think it too much trouble to tell us how large and how thick the combs are, how many cell to the inch, and whether there are seasons without any honey, or if there are some flowers yielding enough to keep the bees the year around. We are well aware that in some hot countries at times certain flowers yield abundance of nectar, and at other seasons the bees have to live on their surplus stores for weeks or months.

Carrying in the Bees Without Labor Saving Devices.—Arrangement of the Hives.

MOVING BEES; when to do it and how to do it," seems a simple subject to treat, and may be answered in a few words. Move them into the cellar, or bee house, at the proper time and by the shortest and most convenient way. The proper time cannot be well defined, as it depends upon locality and the condition of the weather. Here in Ontario I consider the proper time is the second week in November if the weather is suitable. They should be dry when put away. I consider five months as the limit that bees should be confined, and this should regulate to some extent the time they are put away.

How to move them is a question that will remain open. The man of devices will contrive something he thinks may aid him in the work (and the devisors amongst bee keepers are legion). The man of good sense and muscle will pick them up and carry them off without fussing much over devices. My method of moving hives is to remove the cover, bend my back, turn the first and second joints of my fingers under the bottom board, then straighten my back and walk off with them. I have frequently an assistant in the work, and then sometimes we used the old fashioned hand barrow. Where there are no abrupt descents to be made I consider the hand barrow the best aid available.

You tell us of people who use hand-carts, slings and neck-yokes as aids in the work. I think we have seen Dr. Miller, Mr. Boardman, Mr. McFarland and others depicted in bee papers, each harnessed to his hobby, and the situation appears to me a trifle silly. That yoke is an old device. I saw it used by butter-milk venders and water carriers forty years ago, but that was where porridge was a staple article of food and wells and pumps few and far between. It was generally on the shoulders of an old woman in those days. Mr. Boardman's horned cart would be a good thing if hives were all cleated at top and bee yards as level and smooth as an asphalted avenue; but they are not. In most yards I fear the jolting of the wheels would create an uncomfortable commotion among the tenants of the impaled hive.

Your method of arranging the hives in a cellar differs somewhat from my practice. Instead of leaving a vacant space between the hives when piling them up, I place mine as close together as I can put them when the first row is completed. I remove the honey boards (there is still a cloth covering on top of the frames). I then spread two or three thickness of old carpet on top of the entire row. Upon this I put two 2x4 scantling, one along the back of the hives and the other along the front. Upon these I place the next tier, and so on to the top. After trying a number of devices I have settled down to the above plan and have practiced it with satisfactory results for six or seven years.

—R. M'KNIGHT.

Owen Sound, Canada, Nov. 9, 1891.

Bee Keepers' Review.

Missouri State Convention.

THE Missouri State Bee-keepers' Association was called to ordr by Vice-President G. P. Morton, at Sedalia, on Oct, 7, at 1 p. m. The Secretary being absent, A. A. Weaver was elected temporary Secretary.

The proceeding of last meeting not being available, a partial report was read from the Missouri *Bee-Keeper*, and approved.

The Secretary's report was read and approved. On roll call. 11 members responded.

The Standing Committee on the World's Fair reported.

The election of officers was deferred to the morning of the second day.

The matter of obtaining an experimental station was considered. It was decided to appoint E. F. Quigley as a committee to investigate and report at the next meeting.

G. P. MORTON'S LECTURE TO BEGINNERS.

Mr. President, Ladies and Gentlemen:

It becomes my pleasant duty on this occasion to lecture the "beginner in bee-keeping."

There is much to be said—so much to be offered—on this subject that I hardly know what to say or what to leave out. In almost every line of business, education peculiar to that business is the first requisite to success.

In pointing out the way to beginners in bee-keeping, I must lay stress on this one point, and insist that they *buy* and *read*, *study* and *practice* at least one of the many good books on bee-

keeping. Become a constant subscriber for one or two good bee periodicals, and read them and keep posted on the progress in our profession.

After you have read bee literature awhile, buy two or three of some one of the many good movable frame hives that are offered for sale; have them filled with large early swarms. See and know that each swarm has a vigorous and prolific queen; then attend to each hive and assist the bees in filling the hive with straight and all-worker combs.

Now you will find something that you do not underetand, and I will not be present to tell you what to do. Refer to your books and periodicals, and practice what they teach. Do not talk about luck in bee-keeping. Do not worry about moths. Do not say that these things cost too much, and that you have not got time to attend to them.

If you once understand the business it is less trouble and less expense to succeed than to fail. It costs less to do anything right than to do it wrong. But if ill omens follow in your wake in bee-keeping, I would advise you to get out of the business or not to commence in it at all.

While you are advancing thus far in bee-keeping, make other subjects a special and careful study. Learn to know when a colony is queenless by the actions of the bees outside of the hive. Study the succession of honey plants in your neighborhood. Know at any time on what your bees are working. Learn to double up weak colonies, and weed out weak and puny queens.

Commence at the close of one season to prepare your bees for the next. Protect them against the cold of winter and the heat of summer, and especially do not expect them to winter on the wind.

Review and condense; become a student of apicultural literature. Use movable frame hives; secure straight combs; keep all colonies strong; study the habits of bees; study the honey flow and its source; become acquainted with all the modern fixtures and supplies in bee-keeping, and buy only those that will pay; know at all times the exact condition of your bees; allow them plenty of winter stores, and protect them from the extremes of cold and heat.

J. Banting wanted to know how to tell when a colony is queenless.

E. F. Quigley replied: Queenless colonies in spring will not carry pollen.

E. R. Garrett said: That is not safe. I have seen them carrying pollen when they were queenless.

John Conser said the best way to detect queenless colonies is to open the hive, and if queenless, the bees will be found running over the frames as if hunting for something, or as if lost.

Mrs. J. M. Null bore testimony to the same.

G. P. Morton said that it might be known by the action of the bees in their flight from the hive. He recommended opening the hive, and ascrtaining beyond a doubt. He said that the pollen theory was not a safe conclusion.

Mr. Conser said that you would find the bees hunting outside the hive, and pulling at dead bees.

E. R. Garrett.—To straighten combs that are crooked, cut the combs and reverse the ends.

LAYING WORKERS.

Mrs. Null wanted to know how to detect laying workers.

G. P. Morton said that a colony with laying workers is one which has been deprived of the queen, and the means of rearing a queen. To detect it you will find a scattered brood having raised caps, or shot heads, containing drone brood; and sometimes butts of queen cells, or even a fully developed queen cell, with a drone larva in it.

E. R. Garrett said to get rid of a laying worker, remove the hive some distance from the old stand, shake the bees off in the grass, and set the empty comb and hive back with a queen in, and when the bees return they will accept her.

G. H. Ashworth recommended to uncap the drone brood and give them a queen.

EVENING SESSION.

The convention was called to order at 7 p. m.

The question box was opened by a committee appointed to answer the questions, viz: G. H. Ashworth, J. S. Atkins, and J. W. Clark.

Will inverting frames cause the bees to tear down queen cells? We think it would.

What encouragement should bee-keepers hold out to farmers to sow honey-producing plants? No inducement unless they are profitable to farmers also.

What are the most certain indications of bees swarming? To see them coming out.

Will bees swarm without drones? Yes.

Has any one tried alfalfa in this country, and with what success? Yes. With varied success.

What is the greatest mistake you have made in bee-keeping tnis season? Making too big calculations on the honey crop; allowing bees to swarm too much; extracted too late in the season.

Are bees ever a nuisance? No. They are useful in fertilizing all kinds of fruit, besides storing honey.

BYRON HAMS PREPARATIONS FOR THE HONEY HARVEST.

"What is the best way to build up colonies to prepare for the honey harvest?"

There is nothing that I can say that will be new to those of you who read the bee-literature of to-day. However, old ideas on the subject will bear repeating.

My time to commence building up colonies for the next season's work, is in September

I would see that all colonies had good, young, prolific queens, and that they had ample room to deposit eggs at that time, to rear plenty of vigorous young bees to keep up the vitality of the colony through Winter and early Spring, and at this time I would see that each colony has heney enough to carry them through not only Winter, but at least until May.

If a colony is populous in bees, I have yet to see that a single ounce of honey is wasted by leaving it with the bees. They want plenty of room for brood, then if there is room for it, 50 pounds of honey will do no harm. I think it was A. D. Ellingwood that said the more honey a colony had the better it wintered, and I agree with him, if other conditions are right.

Now, we are ready for Winter, and here is how I winter my bees: I winter them on the summer stands, and run my bees for extracted honey. I use the simplicity hive with hanging frames. I mention the above so that you will the better understand details.

First, I raise the rear end of the hive two inches higher than the front. Now take off the cover; take out the extracting frames, or combs, and four inches from the back end of the hive place a lath or strip of any kind across the frames on top; now take shingles (or boards of any kind will do), and fit closely over the brood-frames, having them fit up close in front. If there should be two or three inches of open space left at the back end of the hive, it will be all right; in fact, I prefer it that way.

Over the shingles and the open space at the back end of the hive spread an old burlap sack or old castoff clothing, chaff cushion, or anything that will be warm; cover the boards enough to keep the moisture arising from the bees from freezing on them. Herein lies the success of the plan. The moisture accumulating on the boards, finds its way down and out at the front end of the hive, leaving the bees dry and warm, and consequently healthy.

The opening or space at the back end allows a little ventilation, all that will be needed.

So much for Fall and Winter. Now we come to Spring management, and if the above has been done right, the bees will almost do the res themselves.

Messrs. Doolittle, Hutchison, and others recommend an outer case for Spring. Perhaps in their latitude it would be best, but south of latitude 40° I do not think it would pay to use them. What does the convention say about it?

I would leave the top covering on until the latter part of April, or, if cool, until the middle of May. We have too many warm sunshiny days to allow our bees to be shut up in a double-walled hive. The direct rays of the sun on the single-walled hive in our sunny State, warms our bees up, and warns them to be up and doing ere the fields are white with clover; in other words, it makes them "hustle."

The all-important item in Spring management, is plenty of good, wholesome food for brood-rearing. This they must have, or our flowers will bloom in vain, and when a brother bee-keeper asks us about our honey crop, we will only greet him with a shake of the head and a sickly smile.

Just as soon as the weather will permit, every colony should be examined, and combs of sealed honey given to those that need it. Weak colonies and those that are queenless should be united.

How to feed bees that are out of stores, is an unsettled question. A great many believe in daily stimulative feeding, but where one has 100 or 200 colonies, oh, my! It would be too much of a job for me.

Mr. Doolittle says a frame of honey hung outside of the division-board; and the bees allowed to carry it around, is best. We do not all have division-boards, or a hive so constructed that we could use them; then what? I say it is best to see that enough honey is given in the Fall to last to the middle of May.

If some colonies should run out of honey before there is any to gather, by all means feed them. Give them honey if you have it; if not, give sugar syrup. I prefer to fill combs with either honey or syrup, and hang them in the hive. Do this late in the evening to prevent robbing.

A great many bee-keepers object to spreading the brood. In the hands of an experienced apiarist it is only second in importance to feeding, but I would say to beginners, "go slow," I know whereof I speak. I would spread it if the weather is favorable. Just as soon as I found from four to six frames of brood I

would move two frames of brood to the outside of the brood-nest, placing two empty combs next; then the rest of the brood, and the remaining empty combs to the other side.

In from four to eight days, according to the weather, and the condition of the bees, we can spread the brood again, and here we must exercise caution, or we may spread it too much. If the weather is fine, and the colony is an average one, I would devide the combs having brood, placing those with hatching bees out to the side of the hive, and the empty combs in the center. The above is for a 10-frame hive.

If we use a smaller hive, commence sooner—that is, with a less number of combs filled with brood. If there are no cracks in the hives, the entrances are contracted to the right size, and packed warm and snug on top. I do not know of anything more to be done.

I know it pays to draw a frame of brood from a strong colony to help build up a weaker one. Perhaps those of you who have all the colonies you want, could unite weak colonies to better advantage.—BYRON HAMS.

MRS. J. M. NULL—A SUCCESSFUL BEE-KEEPER.

No doubt the powers that be feel highly amused at the very ridiculous predicament in which they have placed me. But as they wield the whip of authority, when they bring the long lash cracking around my head I know full well enough they expect me to respond, and that too in my very best manner. I may as well confess right here that I feel the utter hopelessness of me, a woman, and so thoroughly imbued with "Millerism" as to not know that she knows anything, ever indicating to these practical, intelligent and successful veteran bee-keepers the essential elements of success.

At the same time, I feel sure that if I have to beat an inglorious retreat, there are those present with large hearts and yet larger intellects who will bravely come to my rescue.

"What are the essential qualities for making a successful bee-keeper?" There a number of things to be considered outside of the man. A good location, a good season, a good strain of bees, with a plentiful secretion of nectar.

Then the man must possess every quality that would make him successful in mercantile or professional life. He needs the qualities that would carry him to the front in any other business. First of all, a love for the pursuit which will beget enthusiasm, of which will be naturally born all other necessary qualities.

The first born I should christen courage—physical and moral.

Physical courage that will banish all fears of stings, or any disastrous results therefrom. Imagine, if you can, the successful jockey who is afraid to handle his own horse, or the teamster who through fear would attempt to harness his frisky mules from the end of a ten foot pole. And should the milkmaid stand in fear and trembling, and shrink and cower at each movement of the cow, how long would it be before old brindle would be mistress of the situation? Had man been a slave to that old tyrant fear, think you the grand powers of steam and electricity would ever have been discovered, controlled and utilized?

Moral courage is in demand to enable us to stand by our rights when they or our pets are assailed and maligned. Were it not for the indomitable moral courage of the persecuted and that noble band of defenders, the managers of our National Bee-Keepers Union, where would the business of bee-keeping be to-day?

Patience should come next to courage. Patience to endure the attacks of our little pets, always remembering that they are endowed alone with instinct, while we are supposed to possess reason; also, that this very propensity to sting is more of a protection to our calling than any tariff bill ever formulated by man. We should be armed with patience to handle them humanely, never jarring them unnecessarily, or cruelly crushing them, thereby invoking their just wrath on our hands. Patience over the ignorance of those who insist that bees soil the clean washed linen at all times of the year, or that they destroy sound fruit by stinging it and causing it to rot, or that they interfere with the grazing of stock, etc. Patience when the different parts of the hive refuse to adjust themselves automatically. Patience when the help seems entirely oblivious to our interests. Patience when robbers utterly refuse to be controlled. Patience over the long days in June, when instead of the eight or ten hour system we are compelled to adopt a fourteen hour system, and that too with the mercury hovering around 100. Patience when anywhere from five to ten swarms issue at one and the same time, thickening and blackening the air with the flying hosts. Fortunately, we are promised relief right here through the swarm catcher.

A few years ago I happened to have a very energetic uncle and aunt visiting me during the swarming season who had kept bees in the long ago, and notwithstanding all my protestations to the contrary, every time a swarm issued they were on hand with all the force they could command, drawing for that purpose even from the streets, and equipped with tin pans, buckets, etc., created the most unearthly, distracting confu-

sion imaginable. One of our tinners remarked he never could divine how we managed to wear out so many stew-pan bottoms until then and there revealed. All this was very trying at the time, but as memory paints those days, I invariably laugh, at least to myself, when good aunt Mary's face presents itself, and I can almost hear her say as I did then: "You *must* do something to save your bees."

Women bee-keepers especially need patience to brook the gibes and jeers of their own sex, because they are bee-keepers.

Then our endurance is put to crucial test on the arrival of the nigh-flying, fashionable caller, with a multitude of fine airs, and dressed in the very latest of styles, while, we perchance, are bedaubed from head to foot, with wax, honey or all, but under these conditions do we not ourselves feel considerably "stuck up?"

Again, custom denies woman the privilege of giving vent to her pent-up feelings through profanity, which seems to be a source of great relief to many of the "lords of creation."

Dadant has said ours is a business of details, thus implying the necessity of patience. We need patience over a short crop or no crop at all, severe winter losses, foul brood, etc., but the patience that will endure many defeats and even hardships will secure success at last. Adversity, not prosperity, develops and brings to the front all there is in a man. Some may aver that many of our best bee-keepers are devoid of patience, but I should advise, unless you have a surplus stock of it, do not embark in the business of bee-keeping.

On the other hand patience must not develop inactivity. Laziness travels so slowly that poverty soon overtakes him. The young man who thinks of little but fast horses and stylish turn-outs or the young lady whose mind is mostly engrossed with dress and beaux, would most probably prove failures as bee-keepers.

Our watchword should be: "Eternal vigilence is the price of success. An apiary neglected or mismanaged is worse than a farm overgrown with weeds or exhausted by ignorant tillage. Yet many, both old and young, will read a book on bee culture, and then waltz right into the business, just as sure of a golden success as though the book was equal to the lamp of Aladdin, and all they had to do was to rub the leaves and take in the treasure.

Heddon says that if there is any business in this world that demands skill, and tact to insure success, it is this business of ours. He also says. "The earnest desire of succeeding is almost always a prognostic of success." But I do not exactly like to quote from him, for as you are aware he is not in favor of the gentler sex as bee-keepers. Let me warn you that if any of you are disciples of his in this respect don't make things disagreeable by so expressing yourselves. If an earnest desire of succeeding is a prognostic of success allow me to ask, as a sex which of the two, women or men, are the most devoted to a cherished cause or the most ambitious to excel? But as he has done so much to make the business available to women through the divisible brood chamber principle, we can readily forgive him and look forward to the time when our sex, by their works, shall demonstrate to him and the world that he is laboring under a mistake.

The successful bee-keeper must possess an elastic temperament. There are always two sides to everything, and should we feel disposed to repine we should leave the discouraging page and give the leaf a turn and read the other side. If, after reading to the bottom of the page we feel no better, we might borrow from one of our more favored city friends their book of Life's Thoughts and Experiences, and read from that the discouragements and trials, the close financial grip oftimes given them by the fickle God of Fortune, and the many discomforts of city life, hemmed in from the pure air of the country, away from the green fields and forests, compelled to breathe the hot, vitiated, smoke stained air of the crowded city. Think you not we might find solace in the comparison?

The successful bee-keeper must be quick and observant. Scientific knowledge is useful, but practical knowledge is indispensible. He must understand the flora of his locality, and have his colonies booming at the right time. He must be rigidly economical without being penurious; must be ingenious and adapt himself to circumstances.

Where is the bee-keeper who feels himself or herself overburdened with sagacity when in the disposition of his product he has to meet the stratagem of the commercial world with all of its distrusts, jealousies and rivalries, chief among which is adulterations.

Once more, to be successful we must be progressive. A man who knows all about bees and does not believe that any more can be gained by reading bee periodicals, new books, attending conventions, etc., will soon be far behind the age. Let us each one see to it that we belong not to this class. Deliver us from being fossilzed. Missouri has within herself all the elements necessary to enable her to rank with any of her sister States. Shall she take a back seat? Fellow bee-keepers, it remains with ourselves. Let us look upon our calling as dealing with one of

God's wonders, and try to emulate their persistency, constancy and patience, and in this way, and in no other, shall we merit and gain success.—MRS. J. M. NULL.

—*Missouri Bee-Keeper.*

For THE CANADIAN BEE JOURNAL

Foul Brood.--The McEvoy Method not a Success.

NOW that the honey season is over, and the bees safely housed for winter, the bee-keeper will be at liberty to write to the Bee Journal. I do not think itwould be out of place to have a little discussion on the above subject. I would like if all bee-keepers who have had this disease in their apiaries would give us their experience through the columns of the C. B. J., particularly those who have been visited by the Inspector, and let us know if his method of treating the disease has been a success or a failure.

Now that we have an Inspector, I would like to see more of his doings published in the bee journals. Of what use is an Inspectors unless his work which is being done is laid before them once in a while. I am led to believe that foul brood is still quite prevalent in Ontario. I think it would be well to have the law more strictly carried out and endeavor to stamp this much dreaded disease out of existence as soon as possible. A great many small and inexperienced bee-keepers are not aware that they have the disease Such bee-keepers are a great annoyance to the apiarist who has from fifty to several hundred colonies.

There is not the slightest doubt but what Mr. McEvoy has endeavored to fulfill his duties to the best of his knowledge during the season just closed. However, I am sorry to say his method has been a complete failure with me. Last June Mr. McEvoy called and examined my bees; he found the most of them more or less affected with foul brood—85 colonies in all. So he laid down his instructions to me, and said I would have no trouble in curing the disease. I did according to instructions, and was very particular in all my work, nevertheless it proved useless. Mr. McEvoy was so crowded with orders that he could not stay with me but a short time. He promised to call around in September, but has not turned up yet. Out of 85 colonies treated as laid down by the Inspector, not over 20 have been cured. I have lost the whole honey season over the transaction; also a great number of colonies, and still have foul brood to the good. Now if other bee-keepers have shared the same fate and to the same extent as I have, is it not time we were trying some other method. What do you think, brother bee-keepers?

A. FYFE.

Harriston, Nov. 26th, 1891.

Will friend Fyfe give us a full description of the manner in which he treated his colonies, and tell us if the hives were thoroughly scalded before he put the colonies into them the second time. We would like all particulars in reference to the way the bees were handled, and whether under a tent in the absence of the honey flow. During honey flow if bees will not rob, it is not necessary to use a tent; also how the combs were treated, how close the clean bees were to the foul ones, and how long after he shook the bees out of the foul brood hive did he keep them on combs, or without combs, until he placed them in a clean hive to remain. Now, it is important that the most minute particulars in reference to these matters should be fully understood; because it is the finer points in bee-keeping and in management that seem to determine the difference between success and failure; but we must say that Mr. Fyfe while here as a student, was most intelligent, painstaking and thoroughly reliable, and we are sorry, indeed, that he should not have had success. This being a bad fall for robbing, if any foul brood honey was used about the locality, there is a possibility that many bees may have got the disease a second time from such a source; and then the scalding of the hives is one of the principal points in the cure. We know of some who have cured their bees without scalding, but it is an exception to the rule.

Distinguished Visitors.

PROFESSOR A. J. COOK, of the Michigan State University, well-known as author of a valuable work on bee-keeping, entitled "Manual of the Apiary," and A. I. Root, of Medina, Ohio, widely known as a veteran bee-keeper and publisher of Gleanings on Bee Culture, have arranged to come to California together and may be looked for in Los Angeles about the first week in January. We trust their visit may prove pleasant and profitable to them. We understand that they propose to make an extended trip and visit points of interest on this coast.—Rural Californian.

Half-Story Supers for Extracted Honey.

F. A. GEMMILL.

AS promised, I will attempt a short article on the advantages of using a super or half-story (in other words, a case containing drawn combs half the depth of those used in the brood-chamber) for the production of the best extracted honey, and as an assistant in securing a first class crop of comb-honey such as no one need be ashamed to place on any market.

I know there are objections to a practical apiarist having different sizes and styles of hives and combs in his apiary; still experience teaches me at least that the advantages outnumber the disadvantages, especially if the outside dimensions of the hives and supers are alike.

1. I would ask, why object to a half-story containing combs, such as described, any more than the use of supers containing sections for comb-honey, so long as the complete tiering up of all is not interfered with.

2. Why should bees be allowed to cling to the brood chamber in the forepart of the season, depositing honey therein, only to crowd out the space which should be occupied by the queen.

Simply because there is not sufficient inducement to entice them and deposite it above.

Now, we all know that the giving of a full story in most localities, at the time when more room is needed, is rather more space than is necessary, and consumes too much of the heat required in the brood chamber, unless the hives are chaff packed; and again, the giving of a super containing sections, especially if they are not nearly all drawn out the previous season, does not always succeed in gaining the desired end. There is, however, no trouble if a half-story of drawn combs is first given, as such can compose a part of the brood-chamber proper, sufficiently-long to secure the point sought for.

The market requiring choice grades of honey is yearly becoming more marked; particularly is this the case in regard to variety and quality; therefore, I venture the opinion that, while honey may alway be honey in the proper sense of that word, still all kinds of this article are not alike to a consumer, any more than are all kinds of butter, or, in fact, any delicacy usually found for sale, and no one knows this better than bee-keepers generally.

Now, in order to secure the different varieties by themselves as nearely as possible, no other system offers better facilities than the half-story system. There are localities and hives where it is not only advisable, but necessary to extract from brood-combs in order to secure the honey of poor quality and flavor from being deposited in the sections (a place, by the way, in which the very finest honey only should be stored), or placed in combs of full depth, when added above the brood-chamber; thus completely destroying the appearance and flavor of a large quantity of what ought to have been a first-class article of clover honey. While my own locality does not differ materially from the one quoted, still my method of procedure is somewhat different; not, however, that it is by any means new, but because I am not an advocate of extracting from combs containing brood, especially unsealed larvæ, as I believe brood in broodcombs and honey in store combs to be the proper place for both—in other words, the queen in one apartment, and the honey in another, at all times, except, of course, during Winter.

I trust you will pardon the digression, when I state that incalculable damage is done yearly from such work, independent of the risk of encouraging, if not propagating, the great curse of our pursuit, viz.: foul-brood.

The method adopted by myself is as follows: About the first of June, or a little earlier in some instances, as soon as the queen requires more room (I use the 8-frame Langstroth and New Heddon hives), the hive is opened, and the face of every capped cell of honey is brushed by simply drawing a knife flatwise across the comb, first driving the bees away with smoke; or, if necessary, shaking them from the combs altogether, when a half-story of drawn combs, as described, is placed over the brood-chamber, and the cover to the hive replaced for two or three days, when it is again opened and a queen-exluding honey-board placed between the two, as egg-depositing in supers is not encouraged, although the presence of a few eggs will do no harm at this juncture, providing the bees are not allowed to build queen-cells, and a young queen is reared and destroys the one below. It is, of course, presumed, when the excluder is inserted, that the old queen is in the lower portion of the hive.

Reversible frames are said to accomplish this end, if the reversing is done at the proper time, without the necessity of brushing the face of the comb; but not having had an extended experience with such, I can give no decided opinion, although I do not see why such a course would not work. This, however, I do know; the dividing of the Heddon hive, viz.: placing

the top half below, and the bottom part above, will effect the same purpose.

There will now be no difficulty in securing the honey in its proper place, after it has been carried above, from this time henceforth. You will please observe there is no difference up to this point, whether working for comb or extracted-honey, as that can be determined afterwards, for the strength of the colony and the strain or race of bees are factors that ought to be considered, especially in producing the former article.

We will suppose extracted-honey is desired. If so, all that is required is to raise up the first half-story or super containing the dark honey stored from the brood-chamber, and any that may have accumulated before the flow from clover commenced, and add a second, which will, of course, now be filled with clover, while a third or fourth may contain basswood or thistle, as the case may be, and yet all can be thoroughly ripened on the hive, as it should be, for many reasons, too numerous to mention here.

If, however, for want of sufficient combs, you prefer extracting the different kinds before thoroughly ripened on the hives, it is an easy matter to place one of the several bee-escape boards (preferably, the Porter spring contrivance, which by the way, are only beginning to be half appreciated as they ought to be) under each top story, and free the supers from bees in a few hours. They can now be extracted and again returned to the hives.

This way of managing, to one who has never before tried the escape system, will, I fancy, become permanent with them, as the pleasure of removing shallow supers, containing nothing but honey has only to be tried once to be appreciated.

In the event of your being a producer of comb-honey, all that is necessary is to tier up as for the extracted article. With this advantage, only one case of section need be given any colony, unless considered advisable to do so; and this is not given until the honey is coming in rapidly, and the bees are ready and willing to fill and seal the cells in short order, and thus present you with an article as white as snow, instead of travel-stained, propolized sections, sufficient to disgust any one from purchasing even at a low figure.

Again, I find I can get more and better comb-honey with less unfilled sections than by any other process; in fact, it is not at all desirable to carry over any party-drawn sections from the previous year, for, in my own experience, they are not filled and sealed any sooner than a new case of sections containing full sheets of thin foundation, when added under a half-story as described.

The only valid excuse against using these half-stories is the expense and the time consumed in handling the double number of frames As to the first reason, I am free to admit, the cost is a trifle greater; still, if protected by outside cases until clover commences to bloom, the material comprising them need not be any thicker than $\frac{7}{8}$ inch.

As to the second reason, I find it easier and more expeditious to uncap and extract two sets of half-depth frames than one of the full size, as one sweep of the knife cleans the face of every comb in an instant; and if your frames are wired as they ought to be, even in half-stories (notwithstanding what other may say to the contrary), and your extractor is capable of taking a full set of eight frames, no time need be uselessly sacrificed.

Now, friends, try them. There is, however no necessity of going into the experiment in a wholesale manner; a few at first, and more afterwards if you need them, will be a wise plan to follow. I know they are gaining ground yearly, and this fact alone should be a guarantee that they are not a useless appendage in the apiary; and, as I am about concluding, let me add: At all times have plenty of store or surplus combs, no matter of what style or depth, as they are good capital at any time, especially in a poor season, like the past, as bees stored in such did well, while those in sections or on frames of foundation did little or nothing.

Lastly, do not be afraid to put your name on all honey offered for sale, at the same time stating the source from which it is secured, and thus prevent confusion and suspicion. Too much need not be on the lable, but it should be in large print, and easily understood.—Read at the Brant, Ont., Convention.

Remedy for Sore Eyes.

HONEY boiled with ants is a remedy for ulcers of the eyes. A poultice, made of honey, flour, and onions, is good for stye in the eyes. Honey dissolved with wax and oil is good for wounds and ulcers (fistula). Honey dissolved in turpentine and oil of laurel cures chaps. Honey and water, taken during an epidemic, prevents contagion.—M. Ensbrunner, in *Le Rucher*.

Giant Indian Bees.

THE Department of Agriculture is about to send an expedition to India for the purpose of procuring certain giant bees which are wild in that country. They are the biggest species known in the world, and they build combs in the forest as large as ordinary house-doors. These huge combs, says the Washington *Star*, hanging from the limbs of lofty trees or from projecting ledges of rock at a high altitude, give enormous quantities of wax. Bee hunting is a profession in India.

The bee hunters wear no clothing save breech-clouts. They have a superstitious fear of insects. Though dreading to encounter them on fair terms they are very skillful in attacking their nests by stratagem. Their usual method is to climb the tree from a high limb of which the comb depends, swinging below the hive a long stick with a bunch of ignited leaves on the end of it, until the bees are driven out, many of them falling with singed wings to the ground, but the majority ascending into the air above the comb and hovering into a cloud. This opportunity is taken by the seeker after spoil, to cut away the great comb, which he quickly lowers by means of a rope to the ground below. One gets a notion of the vast quantities of honey and wax collected in this manner from the stores of the latter material to be seen in the warehouses and shops of the cities, tons upon tons of it together. It is an article of extensive export from India.

The proposition is to fetch these bees to this country and domesticate them here if possible, If they could spread their charms in the semi-tropical forests of the United States they might be made to supply considerable crops of the finest and most valuable wax.

THE DRONES ARE OF ORDINARY SIZE.

Curiously enough, the drones of this species are no larger than the ordinary bees, and this fact affords reason for hoping that they will mate with the females of stock already acclimated here. These wonderful insects from India have longer tongues than are possessed by other bees, and the belief is entertained that they could secure from many kinds of flowers honey which now goes to waste. Dreadful stories are told in the country where they belong of their extraordinary ferocity and of attacks which they have made upon whole villages of people with fatal results, but the fact has been demonstrated that capable bee keepers can handle them easily and safely.

Considerable numbers of bumble bees have recently been imported from Europe in to Australia and New Zealand. Hitherto growers of red clover in those countries have been obliged to obtain seed for planting each year from England, because this crop produces no seed, for lack of bumble bees to fertilize the blossoms. Bumble bees find in red clover their favorite diet, and without their aid in distributing pollen this plant would perish off the face of the earth. Finding it very expensive to import their red clover seed annually, the farmers of the countries mentioned decided to procure bumble bees for themselves. Accordingly a lot were taken while in the hibernating stage, during cold weather, packed in moss and carried over the ocean in the refrigerator compartment of a ship. They were set loose on arrival and already they have multiplied so numerously in that part of the world that it is feared that they will become a nuisance by consuming all the flower juices which the honey bees require for their own purposes. It seems to be the same way with every sort of animal that is introduced to Australia. Invariably the beast, bird or insect proceeds at once to flourish to such an extent as to upset the normal balance of creation.

BUMBLE BEES ARE ACTIVE WORKERS.

Bumble bees are generally supposed to be of no particular use in the world. It is not their fault. They are active and industrious honey gatherers, but there are never enough of them in one colony to make a store that is worth taking. When winter comes the queen bumble bee seeks a place in the ground for hiding safely during the cold months. She finds a spot beneath moss, or perhaps in a heap of leaves. There she hibernates comfortably, remaining fast asleep until spring arrives. The warm sun of approaching summer awakens her and she crawls out. Immediately she looks about her for a nest suitable to breed in. An old nest vacated by field mice serves her purpose admirably. Having settled upon quarters, she begins collecting pollen from flowers, storing it away in two pockets which she carries on her hind legs. Into the nest chosen she puts the pollen and goes for more, fetching load after load until she has formed a ball of pollen perhaps as much as an inch in diameter. In the ball of pollen she lays her eggs, and after a few days they are hatched, and bring forth little worm-like larvae.

The larvae hatched in the mass of pollen feed upon the nutritious material, consuming the portions nearest at hand, until each one has cleared a little room. Then it proceeds to spin a cocoon around itself, and after a little while it comes out of this chrysalis a full-fledged worker bee. Almost immediately these new fledged bees begin gathering pollen, which they

continually add to the original lump, making it bigger and bigger, while the queen goes on laying eggs in it as long as warm weather lasts. Perhaps before winter arrives the mass will have grown to the size of one's two fists. It is literally honeycombed with cells from which the young bees have made their escape, and these empty chambers are used for the storing of honey. Most of the honey gathered by bumble bees is obtained from red clover.

ONLY QUEENS SURVIVE COLD WEATHER.

Up to nearly the end of the summer the queen lays only worker eggs—That is to say, eggs which produce females which are undeveloped sexually. They are the honey-gathering and comb-building class. When autumn is coming on, however, she produces males—called drones. At the same period also she lays eggs which give birth to fully developed females, all of which are destined to be queens the following year. These females mate with drones and thus are rendered able to reproduce their species in the next season. From 6 to 12 of the future queens are turned out by each hive. When cold weather arrives they crawl into snug places, where they hibernate during the winter, gathering pollen in the spring and laying their eggs in it. Thus is completed the cycle of their species. Only the queens survive, all the workers and drones dying.

Thus it may be said that every bumble-bee hive is wiped out each autumn. Here is one of the reasons why this genus of apidae is not useful to mankind. They do not gather in numbers sufficient to accumulate large stores of honey, notwithstanding their industry. Ordinarily a single colony will not number more than 30 or 40 individuals. Another cause of their worthlessness is that their cells, being formed in the manner described, are huddled together without order, so that the honey cannot well be obtained from the combs in a clear state.

DIFFERENT VARIETIES SCATTERED ABOUT.

The bumble bee and the honey-making bee proper are cousins. Scientifically speaking they are families belonging to the same order. Four species of honey bees are known. Three of them are indigenous to India and are found nowhere save in that part of the world. The fourth known as "Mellifica.,' is distributed all over the globe. It includes a number of varieties, all of which were very likely derived from one stock at the beginning. Bees, like rats, have spread with man, though from a different cause. They have accompanied the human race as servants, not as scavengers. It is well known that the ancients kept bees. They are frequently represented on the monuments of Egypt, and in that country, centuries before Cleopatra reigned, they were cultivated on a very large scale. Thousands of barges freighted with hives were floated up and down the Nile in order to afford the insects pleasure on the flowers along the banks.

There were no bees in America until the seventeenth century, when the common black variety was brought over from Germany. It is that kind which swarm all over the United States to day. But within recent years bee-keeping has been reduced to scientific principles, and so it has been sought to procure from them abroad finer breeds. Important among these is the Italian, which was fetched to this country first in 1859. Italian bees have many advantages from the industrial point of view. They are docile and easily handled, they are very prolific and they protect their hives better than the black ones do from the ravages of the wax moth. These moths lay their eggs in combs, and the larvae feed upon the wax and pollen, destroying the cells. In 1881 Mr. Benton, a well known expert, went abroad and brought hither other choice breeds from Cyprus, Syria, and Palestine. These, particularly the Cyprian, ara all very handsome and thoroughly business bees, possessing extraordinary energy in honey gathering. They are irritable and for that reason difficult to handle, unless one knows how.

STOCKS MUST BE CAREFULLY SELECTED.

Nowadays bee-keepers select their stock as carefully as farmers do cattle. Hundreds of people all over the country made a profitable business of raising pure-bred Italians or other queens for market. In each hive are engendered from 12 to 300 queen bees. depending upon the race. If left alone they would nearly all be killed by being stung to death in their cells, because a bee household can never have more than one mistress; but the breeder removes the portion of the comb which contains these queen cells before their occupants are ready to emerge, and he puts one of them, with a bit of comb and honey, into each of a number of minature hives made for the purpose, with a few handfuls of bees in each. Thus many thousands of queen bees may be produced in a season, and, inasmuch as well bred ones sell for from $3 to $5 each, the business is lucrative. For some so-called Punic queens, of an alleged new stock, as much as $80 apiece has recently been asked. In fact, however, these are merely of the Tunisian variety from Africa, figuring under a fresh name. When the young queens are ready to mate the breeders shut up the drones in all the hives save those containing the best stock, thus

Cyprus; Bees and Bee-keeping.

(*Coutinued from last week.*)

THE way led us through badly paved and narrow streets until at length we arrived at the house, which was in a miserable condition. Through a low gateway he led us to his garden where a profusion of lemon trees, orange trees, pomegranates, and others were planted in a disorderly way. In the midst of the garden he had arranged his hives in a pyramidal shape above each other, with stone slabs closing up both ends of the two or three foot cylinders. A big entrance-hole (big enough to let the death-head moths and hornets fall upon unprotected hives) was in the lower part of the slab. The bees were working actively on cucumber, vegetable marrow, and other flowers of the *cucurbitacoe*, especially the "squirting cucumber" (*Ecballium elaterium*) which yields bitter honey. This plant grows wild all over the East but seems to prefer ruined places. Ashes and crumbled building material seem to be just the right thing to make them thrive. The plant very much resembles the cucumber at a distance, with its small yellow flowers; but coming nearer you find the leaves very prickly, much rougher than garden cucumbers, and the fruit a tiny cucumber growing at an angle of 45 degrees on an upright stalk. When we boys used to run about the ruins of Zion and Jerusalem we used to have great fun touching one of the ripe fruits, and off they go on the next person, sending out the juice and seeds right into the face or some part near the direction the fruit points. This is one of nature's curious ways of propagating its kind by sending off the seed to a great distance. The cactus was also yielding some honey; but as too few hedges grow around Larnaca, and the cactus yields honey very sparingly, this source is equally a poor one. Thistles also, of the carduus tribe, grow round the town; and the best of all honey plants for summer was just beginning to come into bloom—the thyme—of which we met four donkey-loads being brought to town from the mountains for the oven. I felt very fidgety about it, although not living in the place; still, in Palestine they are doing the same thing, and robbing bees of their pasturage in the near future. Plenty of carob-trees grow all over Cyprus, and these carobs form an important article of export, while the flowers yield honey of a dark brown color. In places where cotton and hemp are cultivated, the bees also get a chance to gather some surplus; but cultivation or agriculture is carried on in the most primitive way. The island having been chosen as an abode for the gods by the ancients, Jupiter named the mountains Olympus, and

Sweet Venus, born of ocean's creamy foam,
Chooses the sea-kissed Paphos as her home.

In fact, a temple dedicated to Venus was dug up near Paphos, and is supposed by archæologists to be one of the oldest temples in the world —at least the Greek world.

Old Neptune calls up from their ocean bed
His favorite Nereids to the mountain's head;
Shows them the sacred land, and bids each say
Where on the thirsty soil her streams shall play.

But the beauty and fruitfulness of this island have gone, partly by the carelessness of its inhabitants, by the past government, and the teeth of 250,000 goats roaming about the island. The British Government has done a good deal to make the island in some distant future what it was

When Ceres, bounteous giver of the store,
With lavish horn gave ever more and more.

But the heavy taxes which the British government levies on the poor inhabitants weigh so much on them that it will take a generation before the island will begin to show, before better methods to cultivate the soil, and manuring, will have come into vogue, so that every farmer will have found the usefulness of the plowman's toil,

Wrestling from the fruitful womb of mother Earth,
Heaping the garners and dispelling dearth.

Here, as in Malta, I could find no statistics about bees or honey. Although the government levies two pence on each hive, nothing could be found out positively. Only approximately could we find a few numbers.

Bee-keepers here depend on wild honey-plants. No clover or such plants grow here. As we have very long and dry summers, the scattering of honey-plant seeds would avail little or nothing on hard, uncultivated sun-scorched grounds. And, again, neither Cypriote nor Syrian nor Palestinian would trouble himself or move a finger in such work. Cyprus would yield just as nice and as much honey if some intelligent bee-keeper would go ahead and put up his apiary in such places as afford pasture enough; but, to be sure, I would not change another locality to live among a dedraded race, such as the Cyprians, so long as there are a good deal better places to live in.

Going round the town, a candle manufacturer was busy manufacturing pure wax candles (mixed with 50 per cent. of ceresin) for the churches, with which the island is well provided,

belonging mostly to the Greek orthodox. The man had a big kettle on the fire, in which he put his wax to melt. A sieve, simply put inside the fluid mass, kept all the filth out; and with a ladle he was taking out hot wax and pouring it over foot-long cotton threads hanging over the kettle by hundreds. As soon as the wax was cooled, another ladelful was poured over, till every thread had received some. The first was again cooled enough, and patiently he slowly went over his lot, every time thickening the candles. He had some weighing several pounds. while the greater part weigh 12 or more to a pound. The beautiful yellow candles go fast into the churches as offerings. For sick persons, or any other vow, candles are offered. The whole island may porsess between 10,000 and 30,000 bee-hives, which rise and fall in number, according to the season, and these average about three pounds of honey and one-quarter of wax per hive, which is almost all sold on the island itself. Government taxes are two pence a hive.

As in our other Mediterannean countries, the bees swarm out in April and May, and drones are killed soon after. The honey is taken after the 24th of June (equal to our 7th of July), St. John's day. Taken before this the honey must taste bitter—not because it is mixed with the bitter flower of the squirting cucumber, but because St. John's blessing must fully come down on the hives and take away every bitterness! The honey is cut up into small chunks, and put into baskets away from robbers, to allow the honey to drip out. The wax is melted in a kettle and in a sack, and is squeezed out with the simplest machinery possible. Mr. Derwishian tried another day to open his nuclei; but after having got the first sting on his forehead in his life, he put on a veil and took me to his "lamblike" Cyprians, and gave them a few tablespoonfuls of syrup to quiet them down; but even this sweet inducement would not do. They went for us, all for the sake of Louis G.'s rough handling three days ago. I could hardly look at them, and we decided to have a turn about the town, but we were soon done. Mr. D. took me to a silkworm raisers. He indulges in this branch, and believes he gets a better living from this than by buying bee-fixtures from England and comb-foundation machines from A.I. Root, on which he got along nicely making foundation, but ultimately he found it to be like the friend and bee-keeper I met last year in Malta, a "nice thing to put his money in, and have the pleasure of raising bees." He was told, years ago, of 20 to 50 lbs. average surplus per hive, but believes he was humbugged. He is almost too cautious, suspicious, and mistrusting, of his fellow-creatures. What would he say if he could read reports like friend Osborn's from Cuba, or friend King's from Phoenix, Arizona? I wonder, too, why American bee-keepers have not established themselves long before in such a paradise. Why! we over here have none of the advantages of Arizona nor what Mr. King calls Cuba's disadvantages, excepting the great heat. With us the thermometer ranges only from 20° to 33° Celesius in the summer months. But here, besides the duty on bees and honey, the poor help we have to put up with, and the poor market which we have to seek in Europe and Africa we have no forests to give us shade, but plenty of unhealthy districts The grip, malaria, intermittent fevers, etc., have been hard on me for the past two years, and yet I have found time to work bees and make them pay; and I freely indorse Dr. C. C. Miller's answer to question 192, Sept. 1 Gleanings, concerning health. I think I should not have stood all these; but outdoor occupation, and a trip over the sea once in a while, have kept me up.

Cyprus being a little out of the way, steamers only occasionally touch here; and having no time to spare, and still no steamer here, I got into a sailing-vessel about to leave for Syria; but the wind being calm we lay in the road till night. After 24 hours of slow sailing we were still in sight of Mt. Troodos, and could dream of the "the beautiful Cyprus," and think

What dreams of Old-World tales flit o'er thy brow, O Troodos, in thy calm rest to-day?
Vain visions of the future of the isle thou guardest in thy loft majesty?

But next morning, 36 hours after we left, ou vessel was being idly thrown about by the waves, without proceeding, from morning till night. The loose masts were squeaking as if to tease us and try our patience. The next morning a fine breeze filled the sails and speedily drove us forward. Just before night we could distinguish, many miles away, Mt. Lebanon.

I close my article on Cyprus with the words of an Englishman who says:

And now that all the ancient gods are flown,
Do ye who've made the island all your own
Bless your ever civilizing care
The woful wreck the Turk has left you there!

How glad I was to leave the poor little vessel in which my "first-class berth" was bare planks, after having been tossed about three days and three nights. I fancied the town of Beyrouth could not stand still.—PH. J. BALDENSPERGER, in Gleanings.

Jaffa, Syria, Oct. 1.

securing the most desirable off-spring. A queen to fetch a good price, must have already produced satisfactory progeny, so that the mating shall have been proved all right.

We are inclined to think that the Punic queens or bees, and their so-called wonderful advantages will explode when they are thoroughly known. Advice from those not interested in the sale of them, leave us little hope of satisfaction in introducing them. We are inclined to think that the person who pays $8o, or even $8, for a stock of these bees, and mixes them with his Italians, will find that he has made a great mistake. We are determined not to mix them, and hope that no bee-keeper in our locality will get them.

We Are Accused of Plagiarism.

ONE of the most contemptable acts of which an editor can be guilty of, is to appropriate from his contempories, meritorious articles and palm them off as original by failing to credit them to the journals from which they were filched. This has occurred several times with articles which have appeared in the BEE-KEEPER, and for which we have paid a good price. The last offender is the *Canadian Bee Journal*, who reprinted from our October number the address on "New Uses of Perforated Zinc Excluding Boards," by F. H. Cyrenius and fails to give us credit for it. If this had been the *Journal's* first offence we could have overlooked it, but it was not.

The BEE KEEPER is rather hard on us, we think, as we can assure our cotem that we had no desire to misappropriate any of the BEE-KEEPER's articles, and if we have failed to give due credit it has been an oversight on our part, which we will try and guard against in future.

More About Foul Brood.

THE following in reference to the question "Are queens from foul broody stocks diseased?" appears in Gleanings:

I have always been under the impression that the foul-brood bacilli were to be, and have been, found in the reproductive organs, etc., of some queens taken from diseased stocks; but the following from a letter of Dr. Lortet's, in the May number of the Revue Internationale, shows me that this is not his opinion:

"During the latter months of the past year and this spring I have received from some of your courteous subscribers six queens taken from undoubtedly foul-broody hives. I have been able, on these females, to verify that which I have already stated before; viz., that the eggs are healthy, neither the ovaries nor ovules contain bacilli. I believe, then, to be able to state once more, that foul brood is not transmitted by inheritance, but only by direct contact with the infected animial, or by injecting nutritive substances containing foul brood bacteria."—Dr. Lortet.

I think your opinion on the above, which is of so much importance in the treatment of foul brood, would be of interest to bee-keepers.—T. D. Schofield, Alderly Edge.

The editors of the British Bee Journal reply:

"The quotation our correspondent gives has not escaped our observation, but we have not thought it necessary to notice it, because we do not think it is conclusive that queens do not sometimes become diseased. It only shows that the six queens examimed by Dr. Lortet were healthy. Although it is believed that queens may be diseased, it by no means follows that every queen is so. Hilbert found, out of twenty.five queens, only three diseased. He also found that such queens given to healthy stocks produced the disease in these stocks, and that it was very difficult and almost impossible to cure the disease while such queens were present. Just as every bee does not become diseased in a foul-broody hive, and as every human being does not contract cholera altheugh exposed to its influence, so, we take it, there is immunity from the disease with some queens. Strictly speaking, we cannot say that every queen of a foul-broody hive is necessarily diseased, nor can we say that every queen is exempt from the disease. The great hope of stamping out foul brood exists in the fact that it is not heriditary, and, in cases where foul brood is difficult to cure, the queen may reasonably be suspected to be diseased, and should be destroyed, as it is hopeless to effect a perfect cure while such a queen is present.—British Bee Journal.

[Of the 75 or 80 cases of foul brood that we had in our apiary some three or four years ago, nearly all of which were treated on the starvation plan, and in all which the queen was retained the disease never reappeared, where we had observed due caution, putting the bees into clean hives, on frames of foundation. On about a dozen, for the sake of experiment we put the bees back into old hives, on frames of foundation, but did not scald them. In all of these the disease reappeared, showing that the spores of foul brood must have resided in the old hive, and hence the reappearance of the dreaded malady. Now, the singular point here is, that, in all of these foul-brood cases, where treated right, not one of the queens had the disease, or, at least, her colony long after treatment was perfectly healthy. In the United States we would conclude that, if the fatal germs were ever present in the ovary of the queen, the cases where this may occur are very rare indeed.

Queries and Replies

UNDER THIS HEAD will appear Questions which have been asked, and replied to, by prominent and practica 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 repies all awaited for, it will take some time in each case to have the answers appear.

Best way to Learn Bee-Keeping.

QUERY No. 321.—What is the best way to learn bee-keeping, if I intend to combine small fruits which I undertand with bee-keeping; capital being about $1,500. Fruit-growing will be the main business probably?—F. A.

J. E. POND, NORTH ATTLEBORO, MASS.—See See Answer the query 319.

G. A. DEADMAN, BRUSSELS.—See reply to 319.

PROF. A. J. COOK, LANSING, MICH.—Buy a few bees, get a good bee book and commence in a small way and work up to your desire.

J. K. DARLING, ALMONTE,—Get a few colonies and see how you get along with them. Of course you must read or you might better let the bees alone.

EUGENE SECOR, FOREST CITY, IOWA.—If fruit growing is to be the principal business, get a few colonies and learn by reading, observation and experience. Visit some good bee-keeper and get points.

G. M. DOOLITTLE, BORODINO, N. Y.—Buy two colonies and the leading books and papers on bees. Read, and put in practice what you read. Then your bees will increase with your knowledge so that when you have 100 colonies, you will be master of the situation.

JAS. HEDDON, DOWAGIAC, MICH.—My advice is, either let bee-keeping alone, or understand it, before you embark in it. The cheapest and best way to get apicultural knowledge, is to spend one season in the large apiary of some well known successful honey producer, who markets honey by the ton. The small apiery is not in it.

ALLEN PRINGLE, SELBY, ONT.—Go to some good bee-keeper who does not know much about small fruits, but wants to learn. Then you teach him small fruits and he will teach you bees. If you cannot find a man of that kind go anyway and either work your way or pay your way and learn. If you cannot do either, begin with one or two colonies and lear by experience and study. These are the only ways I think of just now.

J. F. DUNN, RIDGEWAY, ONT.—The best way to learn bee-keeping would be to "serve your time" with some practical apiarist, but in your case it would undoubtedly suit you better to buy a few neuclei early in spring and build them up to full colonies. If you make fruit raising your main business, I think you would do well to run your bees for extracted honey, tier up the top stories. Extracting the honey when you have leisure. If you understand small fruits, you probably know that you can make more clean cash out of strawberries than anything you could plant.

R. F. HOLTERMAN, BRANTFORD, ONT.—If you want to commence without experience and with more than three to five colonies, you make a mistake unless you have some one in the vicinity to whom you can go for advise at all times. Take at least two good bee-papers, and a standard work on bees.

G. W. DEMAREE, CHRISTIANBURG.—If bee-keeping is to be a second hand interest in your pursuit, first get a few colonies of bees in well adjusted hives, and learn the business by study and practice. You can gain a great deal by visiting some well managed apiary when you can see how things are manipulated. I guess that you will not progress very fast when interested in some other business, more than in your bee interest. To succeed in bee culture it requires all of ones thought to keep up with the times.

D. A. JONES, BEETON, ONT.—Subscribe for several bee journals, and secure some good works on bees, such as—Cooks Manual, and A. B. C. in Bee Culture. Do not fail to spend about $10.00 in bee literature, and be sure, in order that you do not waste your money, to read it so frequently and thoroughly, that you understand it beyond question. Then get a few colonies of bees and commence on a small scale, and in one season, you no doubt will be able to manage bees fairly well. If you wish to go on a larger scale, get some experienced bee-keeper to assist you for one season with your bees and fruit, and after that we think you could manage yourself.

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