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# THE CANADIAN BEE JOURNAL

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

VOL. VII, No. 8. BEETON, ONT., JULY 15, 1891. WHOLE No. 292

## 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	\$3.50	\$4.50	\$6.00	\$10.00
3 months.....	3 00	4 50	5 50	6 50	11 00	17 00
6 months.....	4 00	5 50	7 00	9 00	15 00	25 00
9 months.....	6 00	9 00	12 00	15 00	20 00	40 00
12 months.....	10 00	15 00	20 00	25 00	40 00	75 00

#### Breeders' Illustrated Directory.

One-fifth column, \$8 per year; \$5 for 6 mos. All yearly advertisements payable quarterly in advance.

#### Condensed Directory.

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

#### Transient Advertisements.

Five cents per line the first insertion, and 3 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.

#### Exchange and Mart.

Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion—two to record 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 especially 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 charge, \$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, 50c. 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 ascertain 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.

ADVERTISEMENTS.

# The Wide Awake Bee-Keeper

Who reads the BEE-KEEPERS'S REVIEW one year, or even a few months, is almost certain to become a regular subscriber. As an incentive to non-subscribers who have become acquainted with the REVIEW, I will send during the three succeeding months for 30 cents in stamps, and I will also send three back numbers, selecting those of which I happen to have the most, but

of different issues. A list of all the special topics that have been discussed, the numbers in which they may be found, and the price of each will also be sent. Remember the Review has been enlarged, a beautiful cover added, and the price raised to \$1.00. W. E. HUTCHISON, Flint, Michigan.

## Muth's Honey Extractor.

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

CHAS. F. MUTH & SON.  
or, Freeman & Central Avenues, Cincinnati



## BEEES AND HONEY

The Doretalled Strongest, Best and Cheapest BEE-HIVE for all purposes. Please everybody. Send your address to the Largest Bee-Hive Factory in the World for sample copy of Cleanings in Bee Culture (a 31 illustrated semi-monthly), and a 44 p. illustrated catalogue of Bee-Keepers' Supplies. Our A B C of Bee Culture is a cyclopaedia of 400 pp., 6x10, and 300 cuts. Price in cloth, \$1.25. Mention this paper. A. I. ROOT, Medina, O.

## ALLEY'S IMPROVED AUTOMATIC

## SWARM HIVER

Thoroughly tested and guaranteed to SELF HIVE every swarm that issues. Sample by mail for \$1.00. American Apiculturist one year and swarmer by mail \$1.50. Sample Apiculturist giving full illustrated description of Swarmer free

H. ALLEY, Wenham, Mass.

## Michigan Lands For Sale!

12,000 ACRES  
GOOD FARMING LAND

—TITLE PERFECT—

On Michigan Central and, Detroit & Alpena and Loun Lake Railroads, at prices from \$2 to \$5 per acre. These lands are close to outstanding new towns, churches, schools, etc., and will be sold on most favorable terms. Apply to R. M. PIERCE, West Bay City, or to J. W. CURTIS, Whittemore, Michigan

## 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 suve with 7 inc cap, 100 honey racks, 600 broad frames, 9000 honey boxes, and a great deal 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, 5 Ruby st. Rockford, Ill.

BARNES, 5



## Wilson's Nurseries!

—ESTABLISHED 1876—

CHATHAM. - - ONT.

Largest variety, Best Quality, Lowest prices. All the worthy old and promising new Fruit, Nut and Ornamental Trees, Bushes, Vines; Roses, Plants, Bulbs, etc. Best improved Pumps for spraying trees, bu hes, walks, floors, bees, etc. and washing buggies, windows, etc. Galvanized Iron, \$3.50, Brass, \$4.00. Wilson's improved Woven Wire Tree Guards, for hind, ring and bits Mice, etc., 50 cts. per doz. \$4 per 100. Great Dan and St. Bernard Dogs, 8 weeks old, \$20 to \$25 each. smooth-coated Fox Terrier, 8 weeks old, \$5 to \$10 each. Above dogs are from the best blood of Europe and America and won the best kennel prizes in Toronto. Greatest Bench shows in '89 and '90, where there were hundreds of competitors.

### TERMS:

CASH—small but sure profits. Send your address now for my large catalogue and Guide to Fruit Growers, which will be issued about March—free to intending purchasers.

F. W. WILSON,

Nurseryman

Chatham, Ont.

MENTION THIS JOURNAL.

Piso's Remedy for Catarrh is the Best, Easiest to Use and Cheapest.

CATARRH

Sold by druggists or sent by mail, 50c.  
E. T. Haseltine, Warren, Pa., U. S. A.

## CARNOLIAN -- QUEENS.

I expect to continue the breeding of Choice Carnolian Queens next season, and orders will be booked from date. No money sent until queens are ready to ship. JOHN ANDREWS, Paten's Mills, Wash. Co., N. Y.

# CONSUMPTION SURELY CURED

TO THE EDITOR—Please inform your readers that I have a positive remedy for the above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Post Office Address. Respectfully, T. A. SLOCUM, M. C., 186 West Adelaide St., Toronto, Ont.

**IMPORTED**  
**Cornish · Indian · Games**

—AND—

**MOTTLED LEGHORNS.**

Grand Exhibition Birds, a limited number of eggs, \$5.00 per 13. Silver and Golden, Black and White Wyandottes, Derbyshire Red Caps, Light Brahmans, B. Javas, Partridge Cochins, Black Leghorn and Pekin Duck Eggs, \$2.00 per 13. White and Red Malay Bantams (just imported), Silver and Golden Sebrights, Pekin and Japanese Bantam Eggs, \$3.00 per 13.

No expense has been spared to mate the above for best results, many of them having won the highest honors at recent shows. Full particulars given on application and satisfaction guaranteed.

**CHAS. R. BACHE**  
472 Parliament St., Toronto.

**COMB FOUNDATION**

Brood Foundation, 45 cents per lb.; Thin Foundation, 55 cents per lb. Warranted a good article in every respect or money refunded. Brood Foundation made up for 10 cents; Thin Foundation for 18 cents per lb., in quantities over 40 lbs.

**BEE HIVES.**

I also manufacture the Mod. Bee Hive, a good serviceable hive, well made from pine lumber, rabbitted joints, 8 frames, (size of L.), movable bottom with slanting alighting board, division board, and quilt flat cover 1 1/2 inc. deep. Sample painted \$1, with super also painted, containing 304 sections, 1.10. Foundation starters in frames and sections 20 cts more. Complete hive for comb honey, same as above in flat, in luting metal rabbits super. tins for same, quilt, 30 sections and sheet of tin for covering cover, \$1.40. In quantities slightly less. This is a good hive and very cheap at the price. Sections \$4.50, Smokers \$1 by mail. Bees from 6 to \$8.50 per colony. Honey knives, Jones', 85c and \$1.25. Bedford is situated a little distance from Montreal and can ship goods over C. P. R. and G. T. R. and both lines of express. References,—Local Bank, Editor Bedford Times or P. M. No circulars. Write me what you want and I will quote lowest prices and give you satisfaction.

**FRANK W. JONES**  
BEDFORD, Que.

**BROWN LEGHORNS**

**Benner's Prize-Winning Strain.**

Eggs for sale from a grand pen of my strain of Brown Leghorns at \$1.60 per 13, \$2 per 26. Satisfaction guaranteed. This pen is headed by a fine cock, 1890, score 94, and 1st as a cockerel, by Bicknell, at Owen Sound, score 95, by J. K. Felch, a fine large bird. One hen has won three first and two special prizes three years in succession, and looks like a pullet; scored by Felch as a pullet, 96; as a hen by Felch, 95; one pullet scored by Bicknell last year 95; also 2nd prize hen at Owen Sound last year, score 94, and other hens and pullets that will score from 93 to 95.

Will sell Exhibition Cockerels and Pullets in the fall

Address

**J. C. BENNER, Owen Sound.**  
Case Palsen Iron Works. MENTION THIS JOURNAL.

**SECTIONS !**

**NO. 2 SECTIONS FOR SALE.**

70,000 Sections about 4 1/2 x 4 1/2 x 1 1/2 and 4 1/2 x 4 1/2 x 1 3/8, at the following

**ASTONISHING PRICES :**

Per 1000, \$1.25 or in lots of 10,000, \$1.00.

**FIRST COME, FIRST SERVED.**

**D. A. JONES Co'y Ltd. BEETON.**

**A RARE CHANCE**

For anyone desiring to make a start in breeding fine poultry, or anyone wanting a good start with one breed. I have to sell my entire stock of

**PARTRIDGE COCHINS**

on account of my intention to keep only Wyandottes in future. My Cochins are second to none. Cock scored 94, one hen 94 1/2; Cock won as Cockerel last winter and at Brampton, only time shown, and is now a magnificent bird. I have Cock, 2 Hens, 4 Cockerels, 13 Pullets, 4 Cockerels and 5 Pullets early March hatch and are fine in feather; the other 8 Pullets are early April hatch. I prefer selling the lot together; 20 birds in all, for \$30, or part cash and part trade for anything useful. I will ship on approval to any responsible buyer and guarantee satisfaction.

**JOHN GRAY, TODMORDEN, ONTARIO.**

The above is a good snap for some one.

**GLEN VILLA POULTRY YARDS.**

**A. R. MCKINLAY**

IMPORTER AND BREEDER OF

**HIGH CLASS POULTRY.**

Auto-erect strain of Light Brahmans Single Comb Barred Plymouth Rocks, White Plymouth Rocks, Black Minorcas and Buff Pekin Bantams. Eggs, \$3.00 per 13, & 5.00 per 26. BOX 18, DEER PARK, ONT.



PUBLISHED EVERY SATURDAY.

DEVOTED TO

**ARCHITECTURE, BUILDING, & DECORATION.**

\$6.00 per annum. 15c. per copy.

**WM. T. COMSTOCK, Publisher,**  
23 Warren Street, New York.

Sent Free.—Illustrated Catalogue of Books on Building, Painting and Decoration.

EXCHANGE AND MART

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

**POULTRY** Netting.—See our advt. in another col with prices. Also for shipping and exhibition Coops, with owner's name printed on the canvas. Drinking fountains and poultry supplies generally. **THE D. A. JONES CO. Ld. Beeton.**

**B**EST thoroughbred lop-eared rabbits, all ages from 18 months down, cheap for cash, or exchange for honey extractor, good muzzle loading shot gun, or clean combs to fit Jones' hive. **C. VANDEVORD, Weston, Ont.**

**E**IGHTY Colonies Bees for sale in Langstroth single walled and Jones Porous Palace Hives. Price, Langstroth, \$5.00; Jones P. P. \$5.50. Bees in prime condition. Never any foul brood in this part of Ontario. Will ship on C. P. R. or G. T. R. as preferred. **I. H. MANNING, Tyrone P. O., Ont.**

**1891,** Carniolans bred from Imported Queens, Italians bred from Doolittle's selected stock, \$1.00; six, \$5.00. After June 20th we will dispose of 100 Italian Queens, one year old, bred from Doolittle's stock, \$1.50; these are tested. 1000 lbs. Bees, \$1.00 per lb. **WALKER & HORTON, Fargo, Ont.**

**W**E are now able to ship by first Express, in fact we are shipping every day all the Foundation ordered Knives, Force Pumps; in short, we endeavor to have everything go by first train after the order is received. **D. A. JONES CO. Y. Beeton.**

**FOR SALE.**—I will sell without reserve my entire stock of W. P. Kocks. 12 hives scoring 94 to 97½, 2 cocks, score 93½ and 95½, about 31 cks. and 50 pullets. I intend making a speciality of S. L. Wyandottes and Pekin Bantams. This is a rare chance for someone. Everything goes; they are all high class. References: **L. G. FARVIS, Sharp, Butterfield.** Prices right. **S. M. GLEMO, Dunnville, Ont.**

A REVOLUTION.

Sure crops of honey and no weak or dysenteric hives.

PUNIC BEES  
(APIS NIGER.)

The coming bee, bred by A. Hallamshire Bee keeper. For particulars of this wonderful race see C. B. J. for March 14th, page 457. Virgins \$1, fertile (untested) \$5, tested \$25 each, free by mail. Guaranteed against loss in delivery, introduction, or winter dysentery. Imported, if to spare \$30 each. Money returned to every dissatisfied party buying the \$5; or \$25 ones. Address

**JOHN HEWITT & CO.,  
SHEFFIELD, ENGLAND.**



**ROBERT BLOYE,  
TODMORDEN, ONT.**

**WHITE WYANDOTTES  
Exclusively.**

Having decided to keep only White Wyandottes in future, I offer for sale my entire stock of

**WHITE PLYMOUTH ROCKS (EMPIRE STRAIN),**

Cheap. A large number of Chicks of both varieties for sale now.

**EGGS IN SEASON, \$2 PER 13.**

CONDENSED DIRECTORY.

Advertisements under this heading, occupying half inch space, three dollars a year

**MICHIGAN LANDS,** best in the State for \$5 per acre; some at \$2, \$3 and \$4. Write **E. M. PIERSON, West Bay City, Michigan**

**O. J. PUTNAM, Leominster, Mass.** has for sale several fine cockerels and pullets, B P Rocks won 1st 2nd and 3rd on pullets, and 2nd on pen at Apr. Jan. 14 to 16 1890. Eggs \$2 per setting. **MENTION THIS JOURNAL**

**W. COLE'S** Black Minorcas. I have bred these birds for 5 years and they are as good as any in Canada, United States or England. 1899 pullets 94 and 94½, 94½, 96, 96, 96½, cockerel 96½. **J. Y. Bicknell, Jamaica, Ont.** Eggs for hatching \$1.25 per 13. **WM. COLE, Brampton, Ont.**

**TESTED ITALIAN QUEENS** bred from selected mothers, principally of Doolittle stock. Prices as follows:—for those under 1 year \$2.50 each, shipped the 20th of April, or 2c. less each day until June 10th. Queens under 2 years old one-fifth less. **G. A. Deadman, Brussels, Ont.**

**SEND** your address on a postal card for samples of **Dadant's** foundation and specimen pages of "The Hive and Honey-bee," revised by Dadant & Sons edition of '89. Dadant's foundation is kept for sale in Canada by **E. L. Gould & Co., Brantford, Ontario** **CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.**

**A FEW** Trios, Buff and Partridge Cochins, \$5 to \$20 a trio, also three breeding pens of Br. Leghorns, \$6 a pen. Eggs from Cochins and B. P. Rocks, \$2. **Br. Leghorns, \$1.50. BARTLETT & GEORGE, Clarence St., London.**

**A RARE CHANCE**—If you desire a good home with in stone's throw of railway, express and post office in one of the very best honey locations in the United States. Write me for particulars. Excellent neighborhood. An apiary of 90 colonies, with fixtures, will be sold or leased with the place. Terms easy. Address **JAMES HEDDON, Dowagiac, Mich.**

**GET** new blood in your bees by getting our large beautiful yellow Queens, 75 cents each. Honey extractors, knives, smokers, frames sections, &c., &c. We are selling our nice foundations for 45 and 55 cents per lb. **W. CHRYSLER, Box 450, Chatham, Ont.**

Special Offer for July!

**I WILL SELL EGGS FROM MY BEST** Breeding Pen of White Leghorns for **Langshans** for the month of May at the following prices:—

1 Setting (13) - - \$1.50.

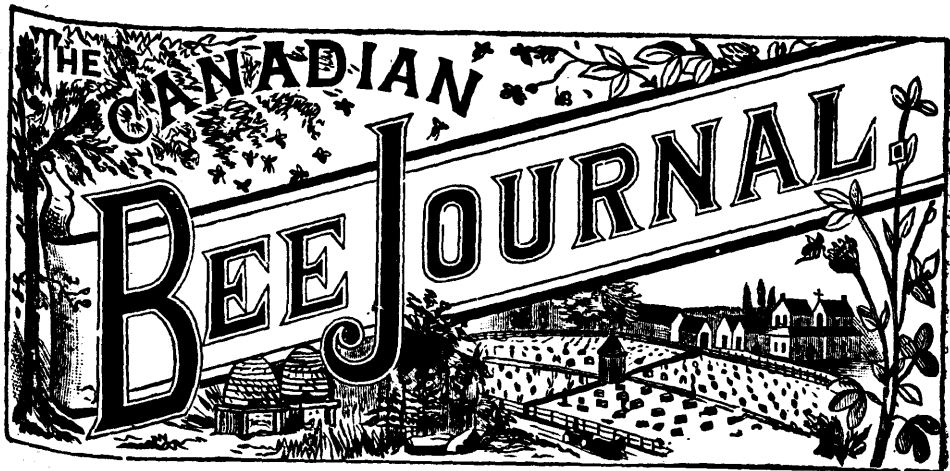
2 Settings (26) - - \$2.00.

This is a grand offer as my birds are good.

**J. L. MYERS,**  
Box 94, Stratford, Ont.

**BEES WAX FOR SALE**—Crude and Refined. We have constantly in stock large quantities of Beeswax, and supply the prominent manufacturers of comb foundation throughout the country. We guarantee every pound of Beeswax purchased from us absolutely pure. Write for our prices, stating quantity wanted.

**ECKERMANN & WILL,**  
Bleachers, refiners and importers of Beeswax, Syracuse, N.Y.



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

VOL. VII, No. 8.

BEETON, ONT., JULY 15, 1891.

WHOLE No. 292

## THE CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. JONES, EDITOR-IN-CHIEF.  
F. H. MACPHERSON, ASSOCIATE EDITOR.

### EDITORIAL.

How to tell when the Bees will Swarm.

**W**E have an enquiry before us from a friend, asking how we can tell when a colony is likely to swarm the first time. Of course second and third swarms are easily told by the piping of the queens; but there are many colonies that give as plain outward indications of swarming the first time as the second, and there are others that we cannot tell anything about. In passing through the yard the other day, one of the students asked how we could tell when a colony was going to swarm, and we remarked that it was a very difficult matter in some instances, while very easy in others. On looking round we pointed over to a colony, perhaps 80 feet away, and said, there is one that will swarm very soon. "How do you know?" was the reply, and we remarked, do you not see those two or three rows above the entrance, running up the hive, apparently biting with their mandibles, and backing down again, that is, they move backwards and forwards, continually working their feet and their mandibles, or holding their heads down closely

to the hive, and we have noticed them doing this same thing on the entrance board. One of our students once named it the bee dance, or balancing to their partners. While we were describing this to him, he said it was very plain if they would always do that, and there was no trouble in telling when they were going to swarm. "Ah," we said, "you would have to watch them every day, because after they commence doing that they are almost sure to swarm the same day, and will very seldom, if weather is favorable, wait till the next, and if they commence doing it in the morning before ten o'clock, you may usually look for a swarm before three. "Well," he said, "that movement is distinct, and we shall never forget it," for while standing there the swarm issued. These bees that were doing the moving back and forth, apparently did not know what was being done inside, till the swarm had about one-third issued, then they turned round, as it were, and crawled back among the rest, and flew back with them. They appeared not to notice the commotion in the inside of the hive, and though they were going through with that peculiar performance, seemed to stop for half a minute, and then rushed pell-mell from the entrance. In passing through the yard this peculiarity should be watched, and you can often pick out the colonies just about to swarm, and by having everything in readiness, catch the queen. We have sometimes taken such colonies, opened the hive,

shook the bees and queen out into a new hive filled with combs, and set them away in new locations, which they accepted the same as a swarm. Sometimes they commenced to swarm before we got the operation finished, and if we were lucky enough to catch the queen before she took wing with the bees, we could make them return, and if not, had to hive them in the ordinary way.

#### Fertile Workers.

**W**E are in receipt of several letters in reference to fertile workers, the writers of which seem very much puzzled to know how it is that ordinary bees could lay eggs the same as a queen. They cannot lay eggs the same as a queen. A queen can lay worker or drone eggs, but a fertile worker, or undeveloped female bee, can only lay drone eggs, which produce smaller drones than those hatched from eggs laid by a fertile queen. One writer wishes to know how he can tell when it is a fertile worker laying the eggs (or a common bee, as he calls it), instead of a queen. His colony is rapidly changing from workers into little drones, and he wishes to put a stop to this sort of thing. There are various ways of telling fertile worker eggs from those laid by the queen; and for the sake of enlightening beginners, we will devote a little space to this question. The moment you lift a comb out of the hive you can tell by its appearance what kind of eggs are in the hive. Should you suspect something is wrong by the number of small drones in the hive, or around the entrance, you should at once make an examination. Lift out a comb, and if the cappings are rounded like little ant hills all over the combs, instead of being kept flat, or slightly concave, as worker comb is, which gives it a smooth appearance, you may be sure you have fertile worker eggs. You may find combs with a good laying queen that has these extended cells capped like the point of a conical bullet. This usually occurs where the queen is becoming old or has been injured by some means so that she does not lay all worker eggs in worker cells. Scattered drone eggs here and there, as we said above, indicate a fertile queen, while solid patches of brood not raised quite so high indicates fertile workers.

By lifting out the combs and examining, you will further find that fertile worker eggs are not laid the same as the queen lays them. The queen lays the egg in the bottom of the cell, attaching it to the septum, while fertile workers are more liable to attach them to the edge of the cell. The reason for this is that the queen having a longer body, is able to back down into the cell until the point of her abdomen touches the bottom, and the eggs are all deposited very uniformly on the bottom. The body of the queen usually just fills the cell, and as she backs down into it, there being more curve on the top side of the body than on the under, the egg is laid perhaps one-third nearer the side of the cell than the under side of the queen's abdomen comes in contact with. In taking combs out of a hive you can look at the egg in the cell, and see how and where it is attached on the septum, and that will indicate the direction in which the queen was walking when she deposited the egg. For instance, if the queen is travelling towards the top of the comb the egg will be deposited one third nearer the top side of the cell. If she is travelling towards the bottom, it will be one-third nearer the bottom; or if to either side, it will be one third nearer. The course the queen is taking, then, is easily told by a glimpse at the egg. Now, on the other hand, fertile workers being shorter in the body and smaller, are unable to reach the bottom of the cell, and as they back down into it they give their bodies a curve, and the point of the abdomen comes against the side of the cell, and many eggs are attached at the side, while others drop and fall to the bottom. Some of these bees, with a little more experience, back away down until their wings spread out on the top of the comb; this allows them to get down far enough to lay their eggs in the bottom of the cell, but they will not be laid uniformly like those by the queen. Sometimes they lay fairly well, but in the majority of cases, they are stuck all round the edge of the cell, and scattered indiscriminately all over the bottom. Besides, it is not an unusual occurrence to find from two to ten eggs in a cell, and, in bad cases, cells will be found with some fresh eggs laid in them, while others are dried up and turning dark. We think, perhaps, this will be explicit enough, so that you

will be able in future to tell fertile workers. But do not run away with the idea that a fertile worker is the same as a queen, and that if you move the hive away you will carry the fertile worker away, because she will remain in the hive, and that things will go on prosperingly afterwards. We have frequently tried that experiment, and have removed the old colony away, and caught all the old bees on the combs at the old stand, and they at once commenced laying fertile worker eggs again. In fact we are not sure every bee in the hive could not lay fertile worker eggs if it liked.

#### Artificial Swarming.

We are asked by a friend who is just beginning bee-keeping, how she will make her bees swarm artificially, as they will not swarm naturally. Now we would say, Miss S. that your bees are not strong enough to swarm or they would. This is not the first time we have been asked how to make bees swarm artificially, and would have thought the parties meant, how to make artificial swarms had they not stated that they knew how, from reading Prof. Cook's Manual of the apiary. Well there are only two ways that we think you are likely to make them swarm artificially. Strengthen them by adding brood or bees, until they become crowded in the hive, and they will swarm, which will be an artificial, natural swarm. Another way, would be to cage the queen on another comb, hang it up near where the hive was sitting, remove the old colony, take out the combs, and shake the bees. You would get enough to go back and light on the combs to make a swarm, but we cannot see any object in either. Natural swarming, where increase is required, will give the best results, unless in the hands of the most experienced apiarist.

One of our lady bee-keepers was trying to make a swarm stay in the hive the other day, and after hiving it the third time, came to the conclusion that she would try the water cure; and as soon as she shook them off the limb into her wire swarm-catcher, with the watering can, she drenched them with cold water, and then dropped them down in

front of the hive. The result was, she says, "that they lay there pouting on the grass for some time, scarcely offering to move, but as the sun warmed them they gradually crawled in on the combs. I then poured another can of water over the hive, and on the grass around it, and all went in without grumbling as soon as they got dry enough to crawl, and we have no swarm that has done better work since, than this one." She has ordered a force pump, and thinks she will try a finer spray, but feels confident that using water is a good plan. There is more virtue in water, friends, than many bee-keepers are aware of. The water cure is good in more ways than one.

\* \*

One of our neighbors had a second swarm of bees, and as they were lighting he happened to catch the queen, fancying she was the only one. He placed her in a cage back by the hive, setting the old colony to one side, thinking by this means he could make them come back and hive themselves, but to his astonishment, after a while, when they got tired of remaining on the limb, they commenced absconding, and, in spite of his efforts, they left for parts unknown. He then recollected that nine days before, the same hive had swarmed. He had ample time to hive them many times, but thinking that he had the key to the situation when he had a queen, he allowed them to go. On looking over the hive he found seven queen cells that the queens had just gnawed out of, and the hive contained two young queens. So in figuring up, he thought that the swarm left with four young queens. If you do not want your bees to swarm too much, give them plenty of room, and don't fail to give them room in time. Do not wait till they start queen cells, and they are almost ready to cap. Keep your eye on them, and do not give them all the room at once, but keep enlarging the brood chamber by degrees.

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Alsike clover is yielding wonderfully well in many localities this year.

\* \*

For smoker fuel, dry cedar bark cut short, and pounded finely, pleases us so well that we feel like saying it is the best.



## GENERAL.

### How Swarming is Conducted.—Agricultural Editors Who Need Posting.

BY G. M. DOOLITTLE.

PICKING up an agricultural paper lately, I was surprised to read in the "bee-department," in reply to a question asked of the editor, that "only old bees go with the swarm," while in another paper I find that the young queen in the parent colony "hatches in less than twenty-four hours after the swarm has issued." Coming, as these statements do, from as high authority as editors, they ought to be correct; nevertheless, all my experience with natural swarming goes to prove them incorrect. If editors are not sufficiently well posted to know how, and under what conditions a natural swarm issues, it might be well to have a little light on the subject for the "rank and file" of bee-keepers, and especially those young in the business: so, with friend Root's permission, I will say a few words regarding the matter in *Gleanings*, the same being more especially designed for those who have not been in the bee-business for any great length of time. I have always used natural swarming as a means of increase, and experimented largely, to know under what conditions swarms issued, as a rule, and have found, as regards the age of bees, that bees of all ages in about equal proportion leave the parent hive, from the old forager to the bee that has not been out of its cell for more than a day or two. Many times have I seen the ground in front of the hive nearly covered with bees so young as to be unable to fly; and as often have I seen the veterans with their jagged wings hanging with the swarm, as well as those having their pollen-baskets filled with pollen. Thus we have the field-bees, the wax-workers, and the nurse-bees, in about equal proportions, thus showing that the all-wise Creator knew how things should be when he pronounced all which he had made good. If it were not for young bees going with the swarm, the hive would be nearly depopulated by the bees dying of old age, before the brood could hatch out to take their places. Again, if all were old or field bees, the hive could not be filled as profitably with comb; for when, in a normal condition, the bees between the ages of eight and twenty-four days old are the ones which do this work. That this division of bees in a swarm is just as it should be, is the reason that I prefer natural to artificial increase.

But, let us look inside of the hive when preparations for swarming are being made, and see if we can not arrive at the truth in the matter, as regards, the condition under which the swarm issues, when the first queen hatches, etc.

The first indication of swarming is the laying of eggs in the drone comb. While eggs in drone-cells are not a sure sign that a swarm will issue, yet, as far as I have observed, swarms never do issue with ut eggs being laid therein.

If the weather is propitious, the next step is the building of queen-cells, soon after which the queen deposits eggs in them. In three days the eggs hatch into larvæ, and said larvæ are fed an abundance of food by the nurse-bees for six days, when the cells containing the embryo queens are sealed over. If no bad weather has intervened, the swarm issues the next day, the old queen going with the swarm. Now, bear in mind that this is the rule with the black or German bees, and generally with all the other races; still, the Italians, Cyprians, and Syrians often swarm when the eggs are first laid in the queen-cells, and sometimes without the least preparation at all except drones, in a time when swarming runs high in an apiary. All good authorities admit that the queen larvæ remains seven days in the cell, as my experience also proves, and I can not see how any one could make such a mistake as to say the queen hatches in twenty-four hours. When bad weather occurs, the thing is barely possible for the swarm to be kept back for six days after they would naturally issue, in which case the first queen would hatch in twenty-four hours. But this is something I have had occur but very few times since I kept bees, for in such cases the bees generally destroy the queen-cells, and postpone swarming for an indefinite period. So I find, as a rule, that the first queen emerges from her cell from six to seven days after the first swarm. If more swarms issue, they usually come out two days after, or from the eighth to the ninth day after the first, and never later than the sixteenth day. As soon as it is decided that no more swarms shall issue, all queens in the cells are destroyed, when in from five to nine days the queen goes out to be fertilized, two days after which she commences to lay. If the apiarist stops all after-swarming by the cutting of cells, or any other means which keep all of the bees in the old hive together after the first issue, I find that the young queen is much slower in going out on her wedding-trip, and often does not commence to lay till the twelfth to fifteenth day. Where any one wishes to make artificial increase it is well


to understand just how natural swarming is conducted, for with such knowledge one is more apt to succeed in having the right proportion of both young and old bees in the two parts after dividing.

Borodino, N. Y., June, 1891.

Gleanings.

**Selling Honey Under One's Own Label.—  
Difficulties When the Crop is  
Large.**

R. WILKIN.

 R. EDITOR, I am glad you continue this subject of adulteration of honey, which is intimately related to the variations in the quality of the genuine article. I have seen much more harm from unripe and off grades of honey than from adulteration. So indiscriminate has become the purchase and sale of honey that there is but little encouragement to the bee-keeper here to aim at excellence in his products, as it is mainly sold from all parts of the State through commission men of San Francisco. The main test being that of color; strictly white commanding 1 to 1½ cents per pound more than dark amber. It is shipped East by the car load and manipulated there to suit the interests of the dealers. Owing to the variations in the color, flavor and consistency of honey, and the many tastes and fancies to be consulted, it is very difficult to grade according to merit, and when we add to this what seems to me the almost insurmountable difficulty of readily detecting adulteration, it is not strange that the consumer gets his honey in a hap-hazard sort of a way. If bee-keepers were convinced that in most cases we could have the experience that Byron Walker had when Health Officer Duffield tested the honey, we could in a short time raise the necessary thousands of members to the Bee-Keepers Union, which would, if necessary, employ an expert to travel and look after this matter of adulteration. But can we rely on its being so practical?

Last season the man on whose place I kept bees, bought nearly a car load of my honey to take with him to his old home in Missouri to sell to his acquaintances as honey that he knew was made on his farm in California. It did not sell so fast as he expected, and he left it with a commission man in Kansas City to sell for him. Soon after, the commission man reported that he had the honey tested by a chemist who pronounced it 28 per cent. glucose, and consequently sold it at a sacrifice. (I know it is possible that the chemist never saw the honey as it was

represented he did.) But from what I understand of the composition of honey, it would be an easy matter to make just such a blunder and bring the force of science to bear against the innocent bee-keeper.

Being of the same faith with yourself, that the most practical thing was for each bee-keeper to work up a trade for himself, I have made three efforts at it. In 1879, I went to London, England, with 80 tons of extracted honey. With much labor it was sold at some profit. I formed an acquaintance with Pelling, Staley & Co., of Liverpool, extensive grocers, who expressed themselves inclined to deal in California honey, but were discouraged by their experience in buying from Cutting & Co., extensive packers of honey in San Francisco, as they found both good and bad honey under the same label marked orange blossom honey. (?) But in 1881 I succeeded in getting their order for 10 tons in 2-gallon tins with my label. The next season they ordered 32 tons, and the third year they ordered 48 tons, one-half in 1-gallon tins, the other half in 2 gallon tins, but here set in trouble. In this region, honey was scarce and none of it so fine as I had been furnishing. I informed them of the fact, but they had their demand created, and I filled the order as best I could, but it was not satisfactory; and about this time honey poured into London from all parts of the world, running the price away down, thus killing our trade there. In 1884 the price of honey came down to 3 cents here; 4 in San Francisco. I took a car load to Boston, where I sold it at an average of 6½ cents per pound. Taking the cost of transportation and my expenses from it, reduced it to 3 cents, while the cost of package and hauling from the mountains, reduced it one cent more. But Boston was far away, making it difficult to follow up the trade already started.

In 1886 honey was very abundant and exceedingly fine, but only brought 3½ cents in San Francisco. I put my honey in 10 gallon tins with my label on it, showing it to be from the producer in California, and took it with me to Texas. I had no difficulty in persuading dealers that they were getting a genuine article, and thus created a good demand for our honey.

The next season the orders came in freely, but the bees that season, and the following one, yielded almost no honey and what there was, was of a poor quality, as it usually is here when scarce. This disconcerted all our plans, and now, without going back there as a honey dealer, myself, I could not sell a full crop of honey. To hold one's custom, it seems neces-

sary to be near enough to give it one's personal attention.

Thanks to Byron Walker for his stating the condition of the honey market in Cincinnati. It would seem a solid basis of business to have a Muth & Son in every large city, who have sufficient integrity and tact to so select and put honey on the market that the public may know just where to go to get what they want; then glucose and syrups would be sold pure, and while we would not be resisting an evil, we would be overcoming evil with good; although I think a few heavy fines of adulterators would have a healthful influence in working up a legitimate trade.

I still think the putting of our honey in a retail package and sending it as direct as possible to the consumer, is most desirable, if we can have the proper dealer in each city to act as a kind of balance wheel, selecting and selling according to merit, so that when there is a failure in one locality, he may buy a choice article in another to supply the demand. What shall we do, advertise for such dealers?—*Bee-keeper's Review*.

Ventura, Cal.,

May 29, 1891.

#### Producers can't afford to adulterate Honey.—Chemists can usually detect Adulteration.

PROF. A. J. COOK.

**I**N discussing this question there are two or three points that should not be lost sight of.

1st. There is no small amount of this nefarious business carried on. Often in the smaller towns, and always in the large cities, it is easy to find adulterated honey on the market, often in large quantities. This is always in liquid form, as comb honey cannot be adulterated.

2nd. This work is not done by bee-keepers, but by unprincipled vendors in our cities. No bee-keeper could afford to do it, as with the present low price of honey the profit is so slight that a profitable business must be at the same time a mammoth business. The bee-keeper could not do this without speedy detection. Detection would mean ruination to reputation and business.

3rd. Adulteration may be accomplished by either mixing glucose—grape sugar of commerce—or our cane sugar with the honey. As both these products are now cheaper than honey, either can be used in this way at a slight profit, and with large sales, may make a very profitable business. Thus the outlook for adulteration is too promising to please either the right minded or the honey producers. Except that the bee-keepers step to the front and throttle the business, as I believe they may, we may expect

to see it waxing strong and more mischievous and more damaging to our pursuit.

4 h. As I have often said, it is impossible to tell, at the present stage of scientific research to surely detect adulteration in all cases, and as impossible to prove that every special sample is pure. Thus the best chemist may say that a sample of pure, genuine honey is adulterated, or that some sample of adulterated honey is pure. Yet, in many cases, indeed most cases, he could pronounce positively in the matter. You, Mr. Editor, could not in every case detect autumn from summer honey, yet in nearly every case you could decide with no hesitation and with no doubt.

Honey adulterated with cane sugar could be detected in nearly if not quite every case. As nearly all commercial glucose contains a little sulphuric acid, and often some of the lime used to clarify it, in nearly every case the chemist could say at once of honey adulterated with glucose, this sample is adulterated.

Thus while an occasional sample might be beyond detection, so many would be easily determined, that, practically, this point is no hindrance to our detecting such frauds, punishing the perpetrators, and winding up the *whole business*. Suppose an occasional sample were beyond detection. Such glucose would rarely be secured by the man who was engaged in the manufacture, and still more rarely would such samples be seized by the person engaged in detecting the iniquity. Thus the chemist by the use of reagents, aided by the polariscope, could and would bring the evil to the light. I tell you the Union can and must kill this arch enemy of apiculture. I believe this is to be its greatest conquest.—*Bee-keeper's Review*.

Agricultural Col., Mich., June 6, 1891.

#### Something Scientific About Wax of All Kinds.

HOW TO DETECT ADULTERATION IN BEESWAX.

The following article is taken from the pages of *Le Rucher*, one of our French exchanges. Although somewhat scientific in spots, we believe it is of such general interest that we are warranted in giving place to it. The entire treatise on this subject extends through several numbers of our valued exchange, and we feel that they have done bee-keepers a good service in probing the matter with that thoroughness which is so characteristic of the Europeans. The original article is, of course, in French, which our proof-reader translates as follows:

Lately I was unwrapping, in the presence of one of my friends, a package, the contents of

which I wished to show him. Scarcely had I opened it when he exclaimed:

"Oh! see what a pretty piece of beeswax!"

"Beeswax!" said I; "nary a bit."

"You are deceived," said he; "it is a beautiful wax;" and, taking a piece in his fingers, he began to examine it more closely. After he had examined it in every way he added:

"And you speak in earnest?"

"I do. In that product which you hold at this moment there is not to be found a gramme of beeswax."

He looked at me smilingly; but noticing my serious looks, together with the positive tone of my words, he manifested his surprise.

"Well, now," said I, "take the pains to smell of that stuff and tell me whether it has the agreeable odor of beeswax."

"Why, it is absolutely odorless; but sometimes wax loses its odor. I can hardly believe that it is not pure beeswax."

While he spoke I took from my pocket a second package, which I soon unfolded before his eyes. "See," said I, "a piece of pure yellow beeswax—genuine wax this time. Compare the two products. The one you are holding is odorless and nearly transparent; the other emits the odor of beeswax, which you know so well, and is quite dull. On the one hand you have a mineral product; on the other, an animal product. This animal product is pure beeswax which we get in our hives, and which we furnish in business, such as you see there.

This mineral product is ceresin, or purified ozokerite, of which so much is said now, and which did considerable at first, for which a substitute has been found. The unscrupulous speculator began by mixing with his beeswax, little by little, this stuff; and, emboldened by the success of his speculation, and the greed for gain, at last ended by selling this foreign product, unmixed, for pure beeswax, realizing, for the more beautiful product, a profit of 90 per cent. Genuine wax has not ceased to fall in price; and from 68 cts., at which it was sold several years ago, it has actually fallen to 47 cts. in consequence of this fraud. Consumers do just what you have done. They trust to appearances, and buy ceresin for beeswax."

My friend could hardly believe his ears, which is, however, easily to be understood, for he, like everybody else, was ignorant of these things.

Let us leave him to his surprise, and talk seriously. I seem to hear the buzzing of several thousands of voices who put to me the same question:

"What is ozokerite?"

"What is ceresin?"

To answer briefly, it is necessary to say: Ozokerite is a crude mineral wax, or rather, a mineral wax that has been subjected to only one melting. Ceresin is mineral wax which has been completely purified—that is, ready for use. Little known at present, although sold in large quantities, it has received at different times the following names:

Mineral wax; ceresin; cerosin; ozocertine; ozokerite; ozocerite; fossil wax; odoriferous wax; native paraffine; fossil Moldavian wax.

Several authors and dictionaries have described it.

1. It is a carboniferous combustible, belonging to the bitumens, which resembles wax; can be kneaded, like wax, and emits an agreeable aromatic odor.

2. It is a mineral which was discovered at Slanik, in Moldavia, in sandstone, accompanied with lignite and rock-salt. It is found, in this repository, in such abundance that the inhabitants use it for lighting purposes. It is, in fact, a combustible composed entirely of carbon and hydrogen—a true carburet of hydrogen. Ozokerite resembles beeswax in its consistency and transparency; it possesses, at the same time, a marked aromatic odor. These properties have given it the name of fossil Moldavian wax.

3. Again, it is a substance composed essentially of paraffine, burning with a very brilliant flame, and it is found in sufficient quantities in the bosom of the earth in Moldavia, near Slanik and Zetriska, which the people melt and run in molds to make wax tapers.

4. It is a mixture of hydro-carburets, of high molecular weight, of a waxy consistency; of a general brown or greenish cast, a peculiar aromatic odor, greasy to the touch; is found at Slanik, Vienna, Borslaw, in Galicia, and in the coal pits of Urpeth, near Newcastle, England.

In short, ozokerite is a substance which is found in the bosom of the earth in Galicia, in Rumania, and on the western coast of the Caspian Sea. It has received the name of mineral wax on account of its resemblance to beeswax. To extract it, it is necessary to bore wells to get to the place where it is found in strata. These wells cannot be made except with extreme caution; and the men who do this work have time only to escape; for it nearly always happens that the material, crowded by the gas stored in the mine, rises rapidly, even to the surface of the ground.

Crude-ozokerite, such as is taken from the ground, more nearly resembles the smooth wax with which we are familiar, and, like it, admits of being kneaded; but it soon becomes hard, and assumes a marbled appearance—sometimes

clear yellow, sometimes dark green, and sometimes even black. It is only after having been melted and remelted several times that it looks like beeswax. There exist several varieties of mineral wax, known under the names of *wax*, or *mountain suet*, *sichtelite*, *hartite*, *izolite koulite*, *scherenite*, *Urpethite*, and *Zetrisikite*, which are of a greasy nature, sometimes opaque, sometimes transparent, but commonly of a yellowish white or a grayish white, and hold, so to speak, a middle place between resin and bitumens. How shall we recognize the presence of ceresin in beeswax? It is well known that it is difficult to analyze pure beeswax. It is ever claimed that this operation is impossible, as witness the *Revue Internationale*, where the following lines may be read:—

“Wax is but little known; and even chemists like to talk but little about it. Some years ago I received some wax, of which the odor, the specific gravity, and the melting point showed adulteration. To be sure of it, I applied to the Polytechnic School of Zurich, and asked if they would be willing to put that wax to a quantitative and qualificative analysis, in order to ascertain not only what material was used in its adulteration, but also in what proportions, and to enable one to found, on that analysis, a complaint before the courts. The answer was no. They declared to me that the state of chemical science would not permit of making any such analysis.”

Nevertheless, it is possible to recognize the presence of mineral wax and paraffine in beeswax by using the following method:—

Place in a porcelain dish some sulphuric acid. Warm it over some alcohol; and in order that the wax may be attacked more violently, scrape it off in shavings as for bleaching. The shavings being thin, the beeswax is immediately attacked and carbonized by the sulphuric acid, while the mineral wax or paraffine is not affected—or, at least only partially so. After boiling for half a minute it is allowed to cool. The beeswax is in a heap like a carbonized (or charred) sponge, and the ceresin forms a transparent film on the surface. If there is a film there is ceresin or paraffine. If there is only a charred mass, there is no ceresin.

[Are we to understand from the above that chemists at the present day, in our country, are unable to detect impure wax by chemical analysis? I should like to have Prof. Cook answer it? Some years ago we experimented considerably with ceresin; but I believe it is universally decided that it would not answer for making foundation, even though only a small

per cent of ceresin be added to pure beeswax. When the contents of the hive are subjected to the extreme heat of summer, the combs melt, and the contents go the bottom of the hive in a heap. The man who gets such foundation is damaged far worse than if he received counterfeit money].—*Gleanings*.

We are astonished that there should be no mention made in the above, in reference to the melting point. The melting point of ceresin, we believe, varies from 110° to 122°. We have heard that there was some made at a temperature of 135° or 140°, in fact one party claimed, it melted at 145°, but when we tested it with beeswax, we found that the ceresin would all be melted, while the wax remained solid, and on putting a few pieces in the hive, the bees drew it out, because we placed the combs so closely together, that the weight of the bees, would be on the combs on either side while this foundation of ceresin hung in the centre. By this means we got it drawn out, filled with eggs, and some capped brood, but oh! the first hot day down it went, in one mass to the bottom of the hive. We then tried mixing it with the beeswax and melted it in every instance to ascertain the melting temperature of the wax. Ceresin is one of the most common substances that is sold here for beeswax. We have had thousands of pounds sent to us from dealers, some thinking by mixing two-thirds beeswax with one-third ceresin, they could get us to accept it as pure wax, but in that they were mistaken.

You can also tell ceresin as soon as it gets into the foundation mill. It is not as tough as beeswax, and the foundation will pull in pieces, when pulling it through the rolls, and it sticks to the rolls very much more than beeswax. It is worth from 12c. to 20c. a lb. in quantities according to the quality.

#### Introducing the Punic Queen Bees.

E. L. PRATT.

SOME have the idea that the Punic bees are the same as Minorcans or the Malta bees, but they are not. The above are varieties of *Apis Niger*, but not Punic. This species is spread all over Northern Africa, from Egypt to the Atlantic, and are met with in various other places, including Spain, more or less interbred with the *Apis Melifica* and *Apis*

*Ligustica*, All the yellow banded races are *Apis Ligustica*—even Syrians, Cyprians, and yellow Italian. Black Italians belong to *Apis Niger*; hence, one will see that the Punic bees are a variety of *Apis Niger*, and if any other is obtained for them, people are likely to be disappointed.

If virgin queens of the Punic variety mate with any of the high grades of drones, a splendid mother bee will be the result, and by allowing only the drones from this queen to fly another season, other virgin Punic queens can be mated and they will be pure. Thus, at a small cost, pure stock can be obtained.

The directions for the safe introduction of these queen-bees are very simple and are as follows:

Take three or more combs, with some honey in them, but no unsealed brood or eggs, and put them into a hive, then shake onto these combs the bees from off two combs at least, from a good strong colony, taking care that the old queen is not among them. Now, remove this strong colony to a new stand, and place the new one in it, steady, so as to catch most of the flying bees.

Do not use any of the combs from the strong colony, for fear of getting one with an egg or two in it. Combs containing brood that have been above an excluding honey board at least eight or ten days can be used, but it is safer to have no brood until the queen has been introduced two or three days.

In 48 hours drop the virgin queen between the combs among the bees after dark, alone; and on no account must she be caged, scented or daubed with honey.

Do not give them unsealed brood or eggs until after the queen has been laying a few days, or she will be almost certainly "balled" at the entrance on returning from the bridal trip.

All the appliances used in previous bee-keeping with any race can be used with the Punic bees.

Beverly, Mass.

*American Bee Journal.*

### The Dadants On Preventing Increase.

What do the Dadants mean when they say (Question 186), "To prevent increase, return swarms 48 hours after swarming?" also, "cutting out queen-cells does no good?" For many years I have cut out the queen-cells (if the queen was not removed), and immediately returned swarms. Of course, this was likely to have to be repeated. Swarming is now on, and if their too indefinite reply involves some-

thing valuable, I should be grateful for immediate information on the subject.

Excelsior, Minn., June 10. J. W. MURRAY.

[We sent the above to the Dadants, who reply:]

*Friend Root*:—Replying to the inquiry of J. W. Murray, we will say that we have repeatedly found that the cutting off the queen-cells when the colony is preparing to swarm has very little effect on them, for the reason that they start new ones, and, if crossed in their purpose, will even swarm with only eggs or young larvae in the queen cells newly built.

If we return the swarms 48 hours after swarming, the queen-cells have been destroyed by the young queen, and the bees get rid of her or of the old one when the swarm is returned, the swarming fever being usually over by that time. If the young queen is not yet hatched when the swarm is returned, the old queen usually goes about the work of destroying all queen-cells herself. We do not know but that it would be safest to destroy all queen-cells before returning the swarm; but this should be attended to only a few hours before the returning of the swarm or it will be done to no purpose, as the bees have eggs and larvae at hand from which they can raise new queens without end.

Our aim has always been to take the shortest way of arriving at our purpose, and we will repeat that we have found out two things: 1. Destroying the queen-cells to prevent swarming will avail nothing unless the season proves also unfavorable to the swarming-fever, as the bees at once rebuild new ones in the place of those that we have destroyed; 2. After the colony has swarmed it is sufficient to return the swarm after two days, to insure the destruction of the cells or of the young, hatched queen or of the old queen, at the bees' choice, except, perhaps, in isolated cases which are exceptions to the rule.

The objection which we have to the method mentioned by Mr. Murray, of destroying the queen-cells and returning the swarm at once, is, that the swarming-fever is not over then, and it often happens that the bees simply begin the work over at once by rebuilding new queen-cells, as we infer was the case with Mr. Murray, since he says, "Of course, this was likely to have to be repeated." If he will try keeping the swarm 48 hours, he will find much less need of repeating the operation, and will not need to remove the queen-cells, since it is always or nearly always done by the queen. If he has ascertained that the bees have a young queen

already hatched, he can either destroy her or the old queen before returning the swarm.

Another objection that we have to destroying the queen-cells in any case is the difficulty of making sure of having found every one of them. As a matter of course, with a great deal of attention a bee-keeper can make sure of that; but it is hardly necessary to tell the reader, that during the swarming season a bee-keeper has his hands full, even if he does not run a farm and a bee-supply shop besides.

The words "swarming-fever" which we have used in the above are well known to practical bee-keepers. This term has been used by the old masters, and very fitly describes the condition of the bees when they make preparations for swarming. These remarks are not intended for old bee-keepers like yourself, friend Root, but for the many beginners who read these pages. When the bees have the swarming-fever, they have no rest till they succeed. We have divided a colony into three artificial swarms while they were making preparations for swarming, and each of these swarms sent forth another swarm. It is this excitement which makes all attempts at prevention so futile on the part of the bee-keeper, unless the weather becomes unfavorable. But when the colony has swarmed, this excitement promptly goes down unless they are still crowded and ill at ease, and for that reason the returning of the swarm is more likely to be successful, especially if the apiarist takes pains to give more room, more ventilation, and more shade, at this time. This rule is not infallible, but it is the best we have ever found in these circumstances.—DAD-ANT & SON in *Gleanings*.

Hamilton, Ill., June 20.

#### Intelligent Bee-Keeping.

HERE is no pursuit that can be named in which success or failure does not depend upon the intelligence or otherwise with which it is carried out. This is especially true with regard to bee-keeping, and it is quite remarkable what numbers of persons there still are who have not the smallest idea that anything is required in keeping bees beyond providing a shelter, and pots for the storage of the honey. Further, there are some who, though regular readers of bee journals, bring far less of the intelligence with which they have been blessed by Providence to bear upon their bee-work than they do upon the ordinary business of life. They read details of certain work to be done, but, unfortunately, their reading has not led them to enquire into the why and

wherefore, and they are apt to forget how very materially circumstances alter cases when bees are concerned.

An editor betrays no one's confidence by alluding to the verdant simplicity displayed by correspondents whose queries never appear in print, and which sometimes cause a smile—occasionally something less amiable, we fear—when it is borne in mind that his querists are supposed to read what appears week by week, or month by month, in the columns of his paper. For instance, more inquiries than are quite pleasant reach him every spring regarding foul brood, and a large percentage of them take this form—"If this is foul brood, what must I do to cure it?" Well, we complain less of the fact that times innumerable the same question has been answered, than that the sample of comb accompanying the query contains nothing at all resembling foul brood, and, instead of the foul-smelling, coffee-coloured matter so often described, the cells are full of wholesome pollen fragrant and fresh-gathered. We do not complain of the trouble one bit, and are always glad to render help where we can, while if there is any doubt, samples should be sent on by all means; but, as the same question has been already replied to time after time, in *Records* only a month or two old, they should be referred to. This, however, is but one point among many, and we hope to give so full a reply to all such inquiries when the "Winter Paper" on foul brood appears that those who read it may learn all we can tell them on the subject.

What excuse can be brought forward in these days of "improved methods" for the lack of an intelligent appreciation of what is meant by the term when one individual, owning eighty colonies of bees, loses seventy-five per cent. of them during the past winter and spring? Yet this, we are assured, is a fact! We do not know all the circumstances of the case, but, on the face of it, this is not intelligent bee-keeping, and betrays a deplorable lack of the requisites necessary to ensure success. A well-known appliance dealer once said, "I wish I could send out a small parcel of brains along with my goods to teach some customers how to use them properly." All, however, must learn *how* before any work can be done well, and we are making progress—not very rapidly, it is true—but the bee-men are fewer nowadays who consider that if bees cannot gather enough for themselves even in a bad season, they must die!

We hope to keep on "pegging away" till the time comes when bee-keeping will be taught in our public schools, so that the boy, when he becomes a man and takes to the keeping of a

have or two, may have a good idea of doing it intelligently and successfully.

In a season like the present, when, after so trying a time as, fortunately, seldom comes, we are having splendid weather, and the bees are doing as well in some parts as any of us could wish, much of the season's success will depend on the management bestowed on them. It must not be forgotten that hot weather will bring forth swarms in abundance. In the south this has already been felt, and every day we hear of the swarming fever becoming developed; but honey is plentiful, and swarms, intelligently managed, will yield surplus, as well as fill their hives, if little comb-building is given them to do, and a limited brood nest to fill. We ourselves have a swarm, only hived on June 15th on ready-built combs, now rapidly filling a box of shallow combs given them a few days later, and we quite hope to add a second similar box before the season ends. If this swarm had been put in to an empty hive, and not "seen to," what surplus could have been expected this season? Yet we may easily secure forty or fifty pounds, and we only mention it to show how the simplest forethought and intelligent management may yield good results, which otherwise would be *nil*.—Bee-Keepers' Record, England.

### Sections.

*Queen-Excluders below Sections.*—The use of these is another moot point with bee-keepers, among whom we have always advocated their use when working for extracted honey, and now that we are in a measure compelled, by change of location, to do some sectioning, we find ourselves with excluders below all our surplus chambers, whether section boxes or combs for extracting. In our own case the excluders are set close on to the top bars, with the length of the perforations, as usual, running across the spaces between the frames, and once the bees pass through the excluders into the free space below and around the frames in which the sections hang in our new section box, there has been no hesitation in their taking full possession of the sections and starting work. We lay stress on the need for keeping sections as warm as possible in the early part of the season, using newspapers over the quilts above and around the sides of boxes, in addition to slips of paper between the junction of hive and section box, for the purpose of maintaining the heat therein.

Various methods are adopted to induce bees to take possession of sections, one of the most successful being the insertion of a square of comb with honey in it—freshly gathered if pos-

sible—in one of the section boxes. The bees pass through into the upper chamber attracted by the odor of the honey, and (as the bee-keeper hopes) stay there. As to the most suitable or proper time for setting on sections no date can be given. So much depends upon the honey resources of the district—to say nothing of the preparedness or condition of the stock—that no guidance can go beyond saying that when the hive is fairly full of bees, and honey is being gathered, surplus chambers should at once be put on, and the precaution as to maintaining warmth, already indicated, carefully attended to.

*Using Ready-combed Sections.*—These are seldom satisfactory owing to the fact that they usually have a coarse appearance, when refilled by the bees with honey. They may, however, be used with advantage if about one-half depth of the cell walls be removed, and the bees allowed to lengthen them out again with newly formed wax. Partly-drawn-out sections of comb are valuable for future use, and should be carefully preserved from moths and dust when removed from the hives at the close of the season.

*Storifying.*—While all agree that several racks or boxes of sections may be worked at one time on a hive, some difference of opinion exists as to whether the additional room in storifying should be given above or below the chamber already on the hive. Our own view is that the judgment of the bee-keeper, and the circumstances at the time should guide him. It is very undesirable to have a lot of half-finished sections left on hand, but no rule of action can be laid down and not departed from when so much depends on the season, &c. For instance, we have this year given our first surplus room in the shape of boxes of ready-built shallow combs. These hold the slowly-gathered honey stored earlier on, and, now that the weather has become propitious, sections have been placed over the first boxes, which latter will remain on probably till the close of the season, as bees can do no harm by travelling over and soiling the surface of sealed combs intended for extracting. But we shall, in the event of fortune favoring us, raise the section boxes when well forward, and set a second lot over the extracting frames but under the first sections. The object is to get sections worked out and filled as rapidly as possible. Once finished, remove them from the hive without delay, and when indoors keep them fresh and clean for market, by storing in a crate.

*Grading Sections for Market.*—Experienced honey producers have long ago realised the importance of grading their sections into several



qualities when marketing. The simple business rule observed in all trades applies here, and the best will command the highest price. Hence it is that he exercises his skill in getting as many of the best and as few of the worst as he can. Two or three poor sections will spoil a crate holding a couple of dozen, and tend to lower the price, though all the rest be good ones, so they should never be mixed. Besides, buyers soon know how to estimate the judgment of the producer, and once a man can be relied on for sorting aright he has little difficulty in finding regular customers. Some bee keepers have, unfortunately, almost no idea of the importance of fully considering these points, and the result is that many retailers will on no account buy comb honey without seeing samples, or having some knowledge of the seller or of his method of preparing the product for market. It is perfectly certain that the trade in honey has been hitherto much hampered and limited in its scope in consequence of the poor fashion in which the sections are prepared for the market; therefore, when we hear complaints of slow sales it should be borne in mind how much fault lies with the bee-keeper himself.

*Section Cases.*—Some laudable attempts have been made to introduce a case suitable for displaying comb honey in, while affording safe protection from dust and damage, and several of the articles so designed answer the purpose admirably in all respects save one. They have removed a long-standing difficulty on our show tables, and are recognized as a great boon at exhibitions, where nearly all sections are now staged either in tin or cardboard cases—glassed on both sides—which safely protect them from leakage and robber bees. Besides these, there are cases of tin and of wood, made to fold over and protect sections in transit, each neat and efficient to a degree in themselves; yet none of these cases seem to be popular with the Italian warehouseman, or with the florist or grocer who sells section honey across his counter. Our experience goes to show that they each and all prefer the sections of honey sent to them in a crate, and to entertain the idea that "beauty unadorned," &c.—that is, that if the wood of the section be perfectly clean, as when made, free from propolis, and the combs sealed over with cappings of transparent purity and whiteness, no covering of any color or kind is needed to add to their attractiveness, but that it rather spoils a fresh section to cover it up with anything.

We close this paper with the advice that all comb-honey producers should aim at an ideal section, which looks best when offered

to buyers just as it comes from the hive.—*The Bee-Keeper's Record, Eng.*

#### About Queens.

**A** LADY friend, writing us, wishes to know if we think her colony of bees will do any good this year; that they built up very slowly in spring, and in looking at the combs in June, she found what we have described as drones in worker cells, scattered among the worker brood. She fears there is something wrong with the hive, as the other day she found a number of queens in front of the hive. Two showed signs of life, one being very light in color, of a whitish appearance. Now, she would like to know if there was some disease in the hive that was killing off the queens. We would say that the examination of the hive in June indicated an old queen, that she died or was superseded, that when the young queens had hatched out, the colony not being strong enough to swarm, the first one hatched was allowed to destroy the others. Had the colony been a little stronger and the weather favorable, the probabilities are that the first queen that hatched would have led out a swarm. Sometimes we have known first swarms in such cases to take out a number of queens with them, because if the weather should happen to be unfavorable for swarming, the day the first one hatches a number of queens are allowed to hatch. The queens are all guarded separately by the bees, one not being allowed to come in contact with the other. Then when the excitement begins in the hive, and they rush out to swarm, these guards seem to liberate the queens and each queen goes out with the swarm, all alight together, and when hived in their new home, they will then destroy all the queens but one, or perhaps we had better say there will be a queen battle in the hive and the queens will destroy each other leaving only one. When such swarms issue, we usually select the best queen and cage the others for future use, or destroy those that we do not require.—[E.]

There are many good recipes for paste which will stick to tin, but we have been in the habit of using ordinary flour paste, with a little alum in it, say about 1 oz. to a gallon of paste. Ordinary flour paste well boiled, will give good results if the alum is put in, but with all pastes that we have tried, without the use of alum, we find, in damp weather that the labels will sometimes discolor, and where you have very fine lithograph labels, it is desirable to preserve them. The alum answers a double purpose, for it makes the paste adhere tightly to the tin, and prevents discoloring.

## CAPPINGS.

CUT FROM A VARIETY OF COMBS

## A Curious Bee-Story.

A very interesting discovery was made by a French naturalist, M. Guilment, during his last exploration in Australia, where in May, 1884, he noticed on some eucalyptus-trees, at a height of about two hundred and fifty feet from the ground, a singular hut fixed to the branches around which were in movement a swarm of black bees. The explorer caused one of these gigantic trees, of about twenty-one feet in diameter, to be cut down, and then he found that the hut was a hive weighing over two tons, and containing more than a ton and a half of a delicious native honey. This discovery was the subject of a very interesting paper read by Dr. Thomas Caraman at one of the last sittings of the Academie de Medicine in Paris.—*Bee-Keepers Record*.

We should be pleased, if any of our subscribers in the east, could give us some further facts, in reference to these bees and their habits, also any further particulars in reference to this paper that was read. When we hear of 1½ tons of honey, being taken from a house 250 feet in a tree, it certainly begins to give us a little of the old enthusiasm that we once had for exploring new races.

## HONEY-DEW AND THE APHIDES IN 1891.

Something from Prof. Cook, taken from Gleanings:—

Prof. A. J. Cook:—The trees here are covered with a sort of plant-louse, a sample of which I send you by mail to-day. The bees are simply swarming on it. Is it the aphid that gives the so-called honey-dew? The honey is anything but nice. Would it do to extract and feed to bees for winter?

RANDOLPH CUYLER.

Alexandria, Va., June 20.

[Prof. Cook replies:]

The insects sent by Mr. C. were so broken that I could make out only by their wings that they were plant-lice, or aphides. These insects are very common this year, the country over. I have lived in this place twenty-five years, and never saw so many before. Plum-trees, cherry-trees, linden trees, and many others, are literally covered with these little pests. On the plum they first caused the leaves to roll, and now they have migrated to the stems of the fruit, which are often invisible, so fairly shingled are they with these green plant-lice. Not only in Virginia, but here and elsewhere, the bees have secured much honey-dew from these aphides. Our plum, cherry, and other trees have been roaring with the hum of the bees for days. Now the evergreens, especially the arbor-vitae and our oaks, are infested with a scale or bark louse. These are large, brown, and plump. These also secrete nectar, and are humming with the noise of bees, even before

four o'clock in the morning. The leaves are fairly coated with sugar secreted by the scale-lice. Of course, it is evident that, if this nectar gives strong rank honey, it is a calamity. We are going to test it often, and so know just the effect. We now have a great area of clover bloom, and I hope this will counteract the rank flavor that may come from the honey-dew. It behooves all to be most watchful this year, that they do not get a quantity of unsalable sweet mixed with their honey. I hope the season will have no such evil in store for us; but to be forewarned may be to be forearmed. Let us watch, so that, if the evil does come, we may make it the least possible. A. J. COOK.

Agricultural College, Mich.

## THE NUMBER OF OPENINGS NEEDED IN A QUEEN EXCLUDER.

The Bee-keepers' Review says in reference to the above:

Just at present there is being more argument used to show that two rows of perforations are an advantage in the strips of zinc used in making the wood-zinc honey-boards. There is also argument on the other side. It is claimed that a large number of openings are needed for ventilation and for passageway for the bees. In a queen excluder with eight rows of openings (for a Langstroth hive) there are 200 openings, and their combined capacity is equal to a space 1½ inches high and 14 inches wide! Just compare an opening of this size with the entrance of the hive, through which a whole swarm can pass in less than two minutes.

## THE INFLUENCE OF SCENT IN INTRODUCING QUEENS.

Mr. A. E. Morgan, of Chippewa Falls, Wis., writes to recommend the plan of introducing queens that was lately given, in the Review, by Mr. J. H. Larrabee, that of first caging the removed queen a few minutes in the cage that is to be used in confining the new queen. The theory is that the old queen leaves a scent in the cage that the bees recognize and thus mistake the new queen for their former sovereign. Mr. Morgan stops up the entrance to the cage with Good candy, and allows the bees to at once begin the work eating out the candy. He says he has practiced this method three years, sometimes in a terrible dearth, and never lost a queen—has often found a queen laying in three hours from the time the old queen was removed.

Of course, I can't say that the scent has nothing to do with the queen's acceptance, but I should like to see the same method tried with the caging of the removed queen left out.—*Bee-Keepers' Review*.

## "BRACE" COMBS AND "BURR" COMBS.

Writers have been using these terms indiscriminately, but J. A. Green says, in *Gleanings*, that the combs between the top bars are brace combs, and those above the top bars may be called burr combs. J. A. is correct.—*Bee-Keepers' Review*.

## SHIPPING DRONES FROM THE SOUTH. FOR EARLY QUEEN-REARING IN THE NORTH

I do not know that the shipping of drones

north in early April has ever been attempted with any degree of success. If not, friend Craycraft (did you see what that dyspeptic says in the CANADIAN BEE JOURNAL about calling friends "friends"?) and myself having made a new departure in progressive bee culture. However, if it has not been before undertaken, I have no idea a patent will be applied for; but friend C. deserves as much credit for his successful delivery of drones north in early spring, which has enabled me to rear queens much earlier than by any forcing method. The Adams Express Co. deserves "boycotting" for excessive and unreasonable rates on bees.

JNO. C. CAPEHART.

St. Albans, W. Va., May 5.

[Friends C., this matter of shipping drones has been tried at different times for years back. I believe, however, they do not ship very well; and when they get to their destination, so far as I am informed they do not seem to answer the purpose intended. If you and friend Craycraft have succeeded, let us know more about it.]—*Gleanings*.

A great many years ago, we advocated the rearing and shipping of drones, from South and North, and in fact from any direction to have an interchange of breeds. As hives containing an unusual quantity of drones, would be the better for having them shipped away, we have frequently recommended an interchange of drones from one apiary to another. We have had considerable experience in shipping drones for a number of years, to our isolated islands in the Georgian Bay. We first attempted to ship the drones without any workers accompanying them, but we found that they did not arrive in good condition. Ordinary queen food, we found would not suit them on their journey they want good thick honey in the combs, or very thick syrup. Thin watery honey or syrup will injure and often kill them. We have shipped them in fine condition, and had them from 10 to 20 days before they would get a flight, but it was done on combs with thick, rich, well ripened honey. If the honey was capped over, the capings had to be removed as they seem to be very helpless about getting food, unless it is placed in the combs, in the ordinary way. One of our students once remarked: "The great big calves did not know enough to suck up the food like the bees did," and he expressed the idea exactly. We also found them very much inclined to scatter, if there was room in the shipping cage, when shipped alone, but

with a few bees along they would cuddle around them, as much as to say, "we do not know enough to take care of ourselves, but will keep in company with you, and let you take care of us." The shipping of drones may be made a success, and a very profitable business if gone about in the right way. Drones can be shipped in this manner all right. We recollect having a lot of very fine drones, shipped to our islands, late in the season. The weather was so cold and disagreeable up there, that we had to abandon the work for that fall, not getting a queen mated for 15 or 20 days. When we returned, we brought some of those fine drones with us, and as we had a few unmated queens, we thought we would try the experiment, and the result was, that we got a number mated, which proved to be very fine queens. The bees at home were situated in a more sheltered locality, the weather was much warmer, and the apiary better protected than on the island which accounted for our success in the home yard. When drones are cold and chilly, they are less inclined to fly out, and to be of value. Now is not this the reason that drones shipped from the south, where it is very warm, to the north, are in a stupid or dormant state, and do not fly out very often, except for purifying flights, until the weather gets warmer, or they become more accustomed to the change. When we have sudden changes in the summer time it effects our spirits and our feelings, until we become accustomed to the change of atmosphere, and bees are like us in this respect. When we say this or that is not a success, or cannot be made a success, would it not be better to use the words, that we have not made it a success, or he has not made it a success, because in this day and age of progress, what may have been a failure with a great many may turn out a perfect success, with others who try a little different mode or system. A very slight difference, occasionally makes just the difference between success and failure, and failures should only spur us on to try new methods.

\* \* Clubs of five, at one time, to any address for \$3.25; ten at one time \$6.00; 20 at one time \$11.00; 50 at one time \$25.00. This is an excellent opportunity for associations.

## 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 before the answers appear.

### A Bee Department at the Agricultural College.

QUERY No. 305.—Why should we not have a bee department at the Agricultural College, Guelph, and at the Dominion Experimental Farm, Ottawa?—  
T. G. M.

H. D. CUTTING, CLINTON.—Echo answers, why not.

G. A. DEADMAN, BRUSSELS.—I know of no reason why there should not be.

EUGENE SECOR, FOREST CITY, IOWA.—Why not, to be sure, if the bee-keepers of Canada want it!

J. F. DUNN, RIDGEWAY, ONT.—Have such departments ever been of any benefit to bee-keepers.

G. M. DOOLITTLE, BORODINO, N. Y.—You should, if you can get one, and you are satisfied it would be a benefit.

C. W. POST, MURRAY.—I think that Apiculture should be taught at the Agricultural college, Guelph, and also at the Dominion Experimental Farm, Ottawa.

J. E. POND, NORTH ATTLEBORO, MASS.—Most surely, why not? Such institutions are of the greatest value, and every country and state should support something of the kind.

J. K. DARLING, ALMONTE.—I believe there is to be something of the kind at Guelph in the near future, if not already started. I think it would be a step in the right direction in both places.

JAS. HEDDON, DOWAGIAC, MICH.—Only because it will be almost surely placed in the hands of some politician or his brother-in-law, who is so impractical that he is out of a job, is seeking a salary, and don't know a beetle from a mud-wasp.

PROF. A. J. COOK, LANSING MICH.—Without doubt you should, and would if the bee-keepers would demand it. General Agricultural and Horticulture are taught, and the omission of Apiculture gives a black eye to this important art which it in no way deserves.

G. W. DEMAREE, CHRISTIANBURG, KY.—Why not? I guess the reason why not, is because all

the professors of those institutions are innocent of the proper knowledge of bee culture and therefore can feel no interest in bee culture. Only those who do understand the modern science of bee culture can be made to see and appreciate the importance of bee culture as a modern industry.

ALLEN PRINGLE, SELBY, ONT.—In a recent letter from Prof. Saunders of the Dominion Experimental Farm, Ottawa, he says: "No provision has yet been made for carrying on any work with bees here \* \* \* Our work covers many different lines now, and we have introduced several new features this season; but it is almost impossible to reach all we should like to do without more time for preparation." I do not know how Guelph feels on the subject—have had no correspondence with them as yet.

### What Temperature will Destroy Foul-brood Spores.

QUERY No. 306.—At what temperature will the spores of foul brood be destroyed, or rendered harmless, that is how low a temperature and what length of time is required at the lowest temperature? (2). Is dry or moist heat best adapted for the destruction of germs or spores of foul brood?

EUGENE SECOR, FOREST CITY, IOWA.—I cannot answer.

C. W. POST, MURRAY.—212° for 12 hours, I should say, moist.

G. A. DEADMAN, BRUSSELS.—I have made no experiments with foul-brood.

J. F. DUNN, RIDGEWAY.—I am no authority in foul-brood, never having any experience with it.

G. M. DOOLITTLE, BORODINO, N. Y.—I don't know, I had supposed that the spores of foul-brood were only killed by a very high temperature.

J. K. DARLING, ALMONTE.—I leave this with the scientists who have made it a subject of investigation. Have had no experience with foul-brood and "I don't want to."

PROF. A. J. COOK, LANSING, MICH.—I doubt if any degree of low temperature would destroy the germs. Microbes are quieted, not destroyed by low temperature. High temperature—if high enough, quiets and destroys. (2) I doubt if any one knows. Ten minutes boiling would surely put a lasting quietus on the microbes.

G. W. DEMAREE, CHRISTIANBURG, KY.—I have no experience with foul-brood. No case of the disease was ever known in Kentucky, except perhaps about the regions of Cincinnati, or more properly, Covington on the Ohio River. All science however, goes to show that no living organism can survive the boiling point of water

if subjected to its influence long enough to be scalded in all vital points.

JAS. HEDDON, DOWAGIAC, MICH.—Never had a case of foul-brood. Have studied the laws relating to spores, some. Were I going to work at the destruction of foul-brood, I should be governed by the belief that none of our low temperatures on this planet, will kill them, while neither they nor any others life, whether vegetable, or animal, can live in a temperature as high as boiling water.

ALLEN FRINGLE, SELBY, ONT.—These and coquate questions are not yet definitely settled. As to the degree of heat necessary to destroy the spores in wax or comb, that is one of the questions we are now endeavoring to get settled by proper experiments at Ottawa or Guelph. We hope to be able to induce one place or the other to take hold of the matter, as it is one of great practical importance to bee-keepers.

# THE CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. JONES, - - - EDITOR-IN-CHIEF.  
F. H. MACPHERSON, - - - ASSOCIATE EDITOR.

BEETON, ONTARIO, JULY 15<sup>TH</sup>, 1891.

The demand for bee gloves is increasing.

Some think the price of sugar will effect the price of honey this year.

The weather just now, is all that could be desired and those in favorable localities should be reaping a rich harvest.

The Canadian Thistle is just beginning to bloom. Look out for a big yield from it this year, as a wet season is the season for the thistle.

We would like to accomodate our friends with smokers and force pumps, as our stock is altogether too large. Special quotations for quantities.

Our second growth bass wood trees do not appear to have much bloom on them this season. Perhaps a rest this year will give us large returns next.

From the very large demand now, for tin cans to hold honey, and ripening cans to put it in, when taken from the extractor, we think the yield must be very large in some localities.

Some are already sending in their orders, preparing for the exhibits at the local fairs.

That's right, friends, make a big show and create as large a home market as possible. All bee-keepers, rushing to towns and cities, and neglecting their home market, make a dull honey sale.

Mr. Gowan's new book, is receiving many favorable notices from the various Journals, and not undeservedly.

The Bee-Keepers Union, seems to be doing a splendid work in the United States. It has prevented many of the members, from being imposed on, by unprincipled or ignorant opponents.

We have hundreds of pounds of beautiful brood foundation, that we can ship out the same day the order arrives. Also a large stock of section foundation, specially prepared.

From some parties in the South, we have very favorable reports of the honey flow, and many localities in Canada seem to be yielding splendidly. Where the bees are strong in spring, beekeepers, we think, have little to fear.

On page 574 of the JOURNAL appears a letter, that by some mistake got in among the manuscripts. There are some very unkind references made in it, and we regret very much that it should have appeared. We are exceedingly sorry that one of our readers should so far forget himself, as to make such unkind references, as the last two lines in the centre paragraph. Mr. H. has done much for bee-keeping, and we are much pained that it should have appeared in our JOURNAL; Instead of being found fault with Mr. H. should be commended, on the various efforts that he has put forth, in connection with and in the interests of bee-keeping.

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**BEEES**

**MENTION** this Journal if you are writing about anything advertised in its columns.

**WAX FOR SALE**—100 lbs. good clean wax. No sediment. Offers solicited. J. H. MANNING, Tyrone P. O., Ont.

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**FOR SALE OR EXCHANGE**—For anything I can use about one hundred empty bee hives, very superior to any in this country for storing honey and bees, glass boxes, sundries, etc., etc. Also a first class patent incubator by the very best maker, cost \$40, capacity, 200 eggs; also brooder, capacity, 300 chicks. The above have only been in use one season. WM. SNEELGROVE, Woodstock, Ont.

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THE MEMBERS OF THE

**Ontario Agricultural & Experimental Union**

wish to secure the co-operation of some of our Canadian Bee-keepers in conducting an experiment with different weights of Comb Foundation in sections; to note extent to which bees thin it out, and difference in thinning out of base in these varieties. Until the supply is exhausted three thicknesses will be sent free of charge by mail. These are inserted in sections and results noted according to instructions which are very simple. Address

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**ABOUT FIVE HUNDRED COMBINATION AND JONES HIVES**

that have been used one or two seasons. All have been painted and are in good shape, ready for use. We will sell the entire lot

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**FOR SALE**—Pekin Duck Eggs, only \$1.00 per setting. Packed carefully. Address: J. A. GUTTIN, Owen Sound, Ont.

**A F&W Silver Laced Wyandotte Cockerels** for sale from American prize winning birds. Eggs for hatching in season. W. J. O'NEIL, Paris, Ont

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**ATTENTION FANCIERS !**

I shall soon import from England a large number of

**BUFF LEGHORNS**

—AND—

**Indian Games.**

Orders received until Nov. 20th for imported birds Buff Leghorns are all the rage. Send for prices. I have some fine BLACK LEGHORNS for sale.

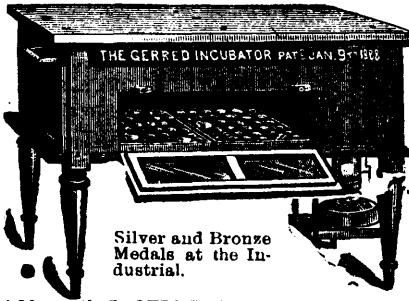
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When I say Cure I do not mean merely to stop them for a time, and then have them return again. I MEAN A RADICAL CURE. I have made the disease of Fits, Epilepsy or Falling Sickness a life-long study. I warrant my remedy to Cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my Infallible Remedy. Give Express and Post Office. It costs you nothing for a trial, and it will cure you. Address:—**H. G. ROOT, M.C., Branch Office, 128 WEST ADELAIDE STREET, TORONTO.**

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on list. MENTION THIS JOURNAL.

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Medals at the In-  
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- Light Brahmas—Six yards. Fletcher, Duke of York, Williams and Bucknam strains
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- Partridge Cochins—Three Yards. Williams, Booth and Washington strains.
- Ruff Cochins—Three yards. Gold Dust strain
- Black Cochins—Two Yards. Williams strain
- Langshans—Three yards. Croad strain
- White Plymouth Rocks—Four yards
- White Wyandottes—Two yards
- Silver Wyandottes...Two yards
- Barred Plymouth Rock...Twelve yards. Drake Uplam and Corbin strains
- Hondans—Two yard. Pinckney strain
- White-Faced Black Spanish—Two yards McMillan and McKinstry strains
- Rose-Comb Brown Leghorns...Two yards Forbes strain
- Rose-Comb White Leghorns...Two yards Forbes strain
- Single Comb White Leghorns...One yard
- Single Comb Brown Leghorns...Two yards Bonney strain

I make a specialty of furnishing eggs in large quantities for incubators at reduced rates. Send for 1890 catalogue.

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MENTION THIS JOURNAL

CLAMPS FOR SPRING PACKING.

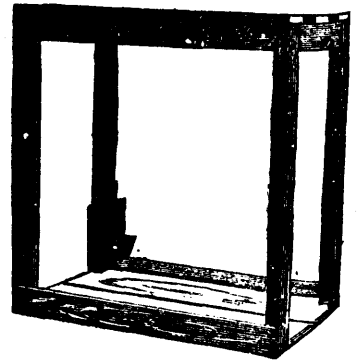
All practical Beekeepers concur in the opinion that bees wintered in the cellar, should be packed on their own stands in spring, to keep them in the best condition. We are making a light clamp specially designed for this purpose.

This clamp consists of a bottom board of 3/4 in. lumber to cross pieces 7/8 x 3 in. to set hive on to allow of packing under; the four wall and a bevelled rim to cover the packing above, arranged so as to allow of using the ordinary lid of hive for cover. To be used with 4 inches of sawdust or chaff, and will be in sizes to suit the Jones Combination or Langstroth hives, at the following figures:—

Each	5	10	25	100
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They will be shipped in panels, ready to nail together.

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Skeletons, only,	Each	10	25	100
With Canvas,	30c.	\$2.75	\$6.25	\$20.00
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Skeletons, only,	50c.	2.50	5.80	18.00
Name and address printed on canvas 5c. each extra.				
		\$3.00 per 100.		

For Exhibition purposes, where coops are not furnished by the Fair Associations, strips are supplied which are tacked on one side of coop, at 4c. per coop.

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We make coops in any size desired, and shall, at all times, be prepared to quote prices. In asking for estimates please give size and number wanted.

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C. H. McRae

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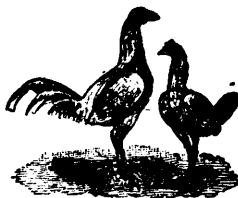
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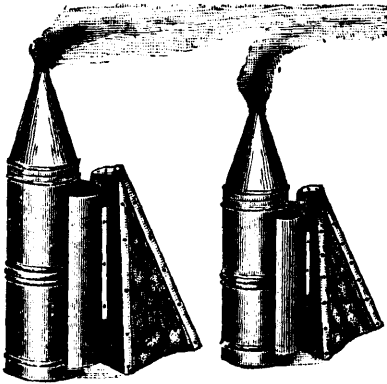
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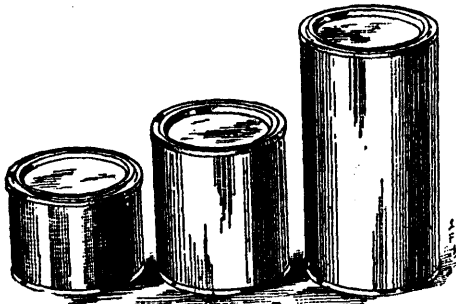
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Since our Catalogue was issued, we have made a contract for a large number of smokers by piece work, at such figures as will enable us to reduce the prices. Here after the price of the No. 2 Smoker will be \$1, (formerly \$1.25,) with goods; \$1.25 by mail.

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THE D. A. JONES CO.  
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