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

VOL. VII, No. 15. BEETON, ONT., NOV. 1, 1891. WHOLE No. 29

THE CANADIAN BEE JOURNAL

Devoted exclusively to the interests of the Honey Producer.
 Seventy-five Cents per annum in Advance.

ADVERTISING RATES.

All advertisements will be inserted at the following rates

STANDING ADVERTISEMENTS.

Time.	1 in.	2 in.	3 in.	4 in.	1 col.	page
1 month.....	\$2.00	\$3.00	\$4.50	\$4.50	\$6.50	\$10.00
2 months.....	3 00	4 50	5 50	6 50	11 00	17 00
3 months.....	4 00	5 50	7 00	9 00	15 00	25 00
6 months.....	6 00	9 00	12 00	15 00	22 00	40 00
12 months.....	10 00	15 00	21 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.

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

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

Exchange and Mart.

Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion—not to exceed five lines—and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else it will be inserted in our regular advertising columns. This column is 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. On all orders accompany advt. Five insertions without charge, \$1.

STRICTLY 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	1 00
THE CANADIAN POULTRY JOURNAL	1 00
THE CANADIAN BEE JOURNAL and 1 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.

The Wide Awake Bee-Keeper

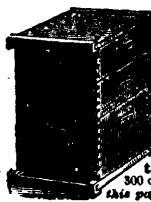
Who reads the BEE-KEEPERS REVIEW one year, or even a few months, is almost certain to become a regular subscriber. As an inducement to non-subscribers to thus become acquainted with the REVIEW, I will send it during the three succeeding months for 20 cents in stamps, and I will also send three back numbers, 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



BEES AND HONEY

The Doretailed 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 only of cleanings in Bee Culture (\$1 illustrated semi-monthly), and a 44 p. illustrated catalogue of Bee-Keepers' Supplies. Our A B C of Bee Culture is a cyclopedia 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

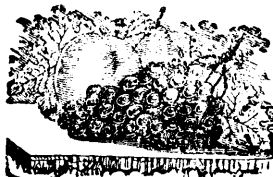
—TITLE PERFECT—

On Michigan Central and Detroit & Alpena and Loon Lake Railroads, at prices from \$2 to \$5 per acre. These lands are close to enterprising 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 hives with 7 inc cap. 100 honey racks, 500 broad frames, 2000 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 1st. Rockford, Ill.



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, bushes, sidewalks, floors, bees, etc., and washing buggies, windows, etc. Galvanized Iron, \$3.50, Brass, \$4.50. Wilson's improved Woven Wire Tree Guards, for hindering Rabbits, Mice, etc., 50 cts. per doz. \$4 per 100. Great Dane 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. Hazeltine, 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.

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.

White Wyandottes Exclusively

MATINGS:

Pen No. 1—Headed by a Towle Cock that has sired some of the highest scoring birds in America. Mated to eight fine pullets.

Pen No. 2—Headed by the **First Prize** Cockerel at the "International," score 96. Mated to hens that have proved themselves good breeders.

In these pens are females scoring 95½ and 97 points, and more just as good. Eggs, \$1.50 per 13. I can ship from Buffalo, N.Y., to American customers. Stock for sale after Oct. 1st.

J. F. DUNN,
RIDGEWAY, ONT.

BROWN LEGHORNS

Benner's Prize-Winning Strain.

EGGS for sale from a grand pen of my strain of **Brown Leghorns** at \$1.50 per 13, \$2 per 26. Satisfaction guaranteed. This pen is headed by a fine cock, winning 1st as a cockerel, by Bicknell, at Owen Sound, 1890, score 94, and 1st as a cock at Owen Sound, 1891, score 93, 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, 86½; as a hen by Felch, 95; one pullet scored by Bicknell last year 95½; 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.

Care Polson Iron Works. MENTION THIS JOURNAL

THOMAS A. DUFF,
287 LANSLOWNE AVE., TORONTO,

BREEDER AND IMPORTER OF

WHITE AND BLACK MINORCAS.
AND HOMING PIGEONS.

I have a great number of chicks for sale. If you want stock to win with you should write now and secure the best. My record at New York, Detroit, Toronto, Hamilton, London, Brampton, Bowmanville and New Hamburg, proves that there is no better stock in America.

My Homers (breeders) consist of the best stock that money could buy in Belgium, England and America. I have young birds bred from these in my loft that have flown 225 miles when five months old. Call and inspect my stock.

SECTIONS ! SECTIONS !

I wish to inform the bee-keepers of Canada that I have purchased \$2000 worth of new machinery for cutting one and four-piece section, and we are running our factory every day and cutting as fine a section as I ever saw. No. 1 section, finished on both sides, white basswood, \$3.50 per thousand. No. 2 section, when I have them, \$2.00 per thousand. All kinds of bee-keepers' supplies always on hand. Don't fail to get a sample of one section before you buy for 1892. New price list will be out by December, 1891. All orders with cash before January 1892 discount of 5 per cent.

R. E. SMITH
BOX 72 TILBURY CENTRE, ONT.



WILL A. LANE,

TURNERVILLE, ONTARIO

Has for sale some extra fine young **Mammoth Bronze Turkeys.** Get his special Fall Announcement.

MODERATE PRICES. SUPERIOR STOCK

JOHN GRAY. ROBT. BLOYE. T. R. WOODS.

JOHN GRAY & CO'Y

BREEDERS AND IMPORTERS OF

Golden, Silver, White Wyandottes

BLACK MINORCAS,

WHITE PLYMOUTH ROCKS,

WHITE MINORCAS.

The quality of our stock is second to none in America. We will sell nothing but good birds to any one. Our birds have won in the hottest competition. We select the choicest specimens for breeding purposes, and consequently have a lot of fine chicks for sale at all times. We have added to our already fine stock 1st prize cock, 1st prize hen, golden Wyandottes; 2nd prize silver cock at Toronto, 1891, also the best white Wyandotte cockerel in Canada last winter, score 97½. You will hear from us at the winter show. If you want good birds at

REASONABLE PRICES,

you can get them right here.

EGGS IN SEASON, \$2 PER 13.

Also Homing Pigeons, Guinea Pigs, Fancy Rats, Mice, Rabbits, etc.

All communications sent to

JOHN GRAY, - TODMORDEN, ONT.

EXCHANGE AND MART

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

QUEENS—We have a few left, tested Queens, Italians, which we will sell at \$1 each to clean out. First come, first served. Address E. L. GOULD, & Co., Brantford, manufacturers of bee-keepers' supplies and dealers in Bees, Queens and Honey.

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

FOR SALE.—A grand lot of Ornamental Bants including Japanese, Golden, Seabrights, Pekin and Games. B. B. R., I have some birds that will please you, sent on approval if required. I will exchange Ornamental Bants for other stock or sell for cash at: Japs, \$10 per tolo; Golden Seabrights, \$5 per pair; Pek us, \$3 per pair. JOHN GRAY, Todmorden, Ont.

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

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

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

MUST be sold, pair "White Indian Games" \$10; Colored Indian Game cockerel, \$5; White Plymouth Rock cockerel, a beauty, \$3; two Black Minorca cockerels, \$3 each; trio of extra choice Golden Seabright Bantams, \$7.50; Pekin Bantam cockerels, \$1 each; Silver Wyandotte cockerels, large birds, \$3 each; 2nd prize Silver Wyandotte cock, Toronto, \$4; trio of White Cochins chicks, \$5. All at Todmorden come and see them. Satisfaction or money refunded. JOHN GRAY, Todmorden, Ont.



IT PAYS ::

TO ADVERTISE IN

THE JOURNAL.

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

A WHITE WYANDOTTE COCK and Cockerel; both good; for sale or exchange. For offers, \$3 each. JOHN GRAY, Todmorden, Ont.

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

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

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

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

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

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

JANUARY ONLY

We will sell our noted 200 and 100 egg capacity

- INCUBATORS -
AT 15 PER CENT. DISCOUNT

off our regular prices till January 1st, 1892. Read one of our many testimonials.

THE GERRED INCUBATOR CO.:

Gentlemen.—I take great pleasure in writing to you of my experience with the incubator I purchased from you. I have had two hatches, hatching all the fertile eggs. The chicks and ducks are all strong and healthy and easily raised. Yours respectfully,

THOMAS HAMLIN.

Allandale, July 6, '91

Send for circular and price list.

THE GERRED INCUBATOR CO.

90 De Grassi Street, Toronto.

ONE COLONY Saved from Death the Coming Winter Would Repay the cost of

a copy of "ADVANCED BEE CULTURE" ten times over. In 5 of its 32 Chapters may be found the Best That is Known upon Wintering Bees. It costs 50 cents but its perusal may make you \$50 richer next Spring. The "REVIEW" and this Book for \$1.25. If not acquainted with the "REVIEW," send for samples. W. Z. HUTCHINSON, Flint, Michigan.



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

VOL. VII, No. 15.

BEETON, ONT., NOV. 1, 1891.

WHOLE No. 297

THE CANADIAN BEE JOURNAL.

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. JONES

EDITOR.

How much Honey should Bees have to Winter on?

THIS is a question which interests a good many just now, and when all go about the yard weighing or examining their colonies, the question naturally arises: How much should this colony have, and how much should that one have to make it safe to be left until next spring? Now, friends, this entirely depends on where they are wintered. If wintered outdoors, a large colony should have 30 lbs.—35 lbs. would not be amiss—a medium one 25, and a small one 20 lbs. Now, if they are packed securely, perhaps 5 lbs. less in each instance would do, although it is better to have a few pounds extra, and you can easily manipulate your colonies to have them consume it in spring for brood rearing before the honey harvest arrives. In winter quarters the quantity of food consumed varies in proportion to the perfect condition in which the bees are kept, and also varies in proportion to the quality of the food. Now, supposing that we took 25 lbs. of capped stores in two different hives, the one hive is liable to have the stores capped thin and watery, while the other hive may have them thoroughly ripened, thick, rich and fine. This simply means that 25 lbs of thick,

well ripened honey will go further to winter a colony of bees than 25 lbs. of thin, watery honey. The difficulty seems to be that the bees become agitated, eat more, their bodies become distended, and there is a large quantity of stores consumed in order to manufacture an extra quantity of heat to evaporate the surplus moisture; and if this 25 lbs. of thin honey were evaporated down to say 20, the result would be far different, as one of the secrets of wintering consists in having well evaporated stores for the bees to feed on. It takes a pound of wood to reduce a pound of water to steam, is it not reasonable to suppose that it would take a pound of honey to produce the extra heat necessary to evaporate the pound of water. In this way it will readily be seen that five pounds of stores would be required to evaporate the five pounds of water, and the reader will understand that in that case he will only have fifteen pounds of stores left for actual feeding of the colony, whereas the hive originally weighed 25 lbs.; and now the fact is we have had five pounds of water in our stores, which has taken five pounds of honey to evaporate, leaving us 15 lbs. of poor stores instead of good. If the bees are in very poor condition, from the fact that they have been agitated more or less, which naturally shortens their life in spring, and one of the principal causes of spring dwindling is this same difficulty of feeding too thin stores, which injures the vitality of the bee, and we all know that

the quieter they keep in their winter quarters the more perfect and healthy they come out in spring. This is a subject that has not received the attention it should have, and while many of us wonder about the spring dwindling, and see some colonies that we set out in spring with only a few bees, they will observe that they go ahead with brooding, and become very strong early, while those apparently much stronger die off rapidly and dwindle away. Who that is troubled with spring dwindling has not opened his hives occasionally and found them there with not bees enough to cover the hatching brood, and could not account for the difficulty, which is this: they just commence brooding in proportion to their numbers, not in proportion to their strength? Bees that have been badly wintered are unable to stand the severe spring weather, and unfavorable days cause many to fly out never to return, then there are insufficient in the hive to keep up the necessary heat, and the result is, some of the brood perishes. This discourages the colony, and as they are frequently inclined to scatter and try to protect more brood than they can possibly do, they often allow more of it to perish than should have been, from the fact of their spreading themselves out too thin. For indoor wintering we would recommend from 20 to 25 lbs. of well ripened honey, for a good strong colony, and from 15 to 20 lbs. for a medium colony. We have frequently wintered a colony on a very few pounds, sometimes over 100 colonies in a repository did not consume more than from five to seven pounds, and as many will now be setting their bees into winter quarters, perhaps we had better say something bearing on this matter.

"PUTTING BEES INTO WINTER QUARTERS."

In putting bees away care should be taken not to give them too much light, nor to jar them, in other words, it agitates them so as to break the cluster and spread out on the combs. This is a great mistake, because after bees have once clustered they should not be disturbed to break the cluster, because alter their quietude sudden disturbance causes them to fill their sacks with unnecessary food. We believe fairly sized colonies have been wintered four or five months on from two to four pounds.

This shows that they could not have eaten very much at a time, or have eaten very frequently. We think that all lids should be lifted off the hives after they are set in. We do not object to a board put directly over the cluster on top of the combs, providing there is room around the board to allow the surplus moisture to escape.

Another point worthy of consideration is humidity of the atmosphere. We have frequently tested this in our bee houses, and are fully convinced that a dry atmosphere is far superior to a damp one. Some claim that a damp atmosphere does not injure the bees, but we claim that dampness injures them more than the cold, and as a proof of this we find that bees wintered successfully in parts of the N.W.T., where the thermometer drops down to 50 or 60 below zero, and we believe it has been as low as 68 at Prince Albert, and yet in that section bees have wintered successfully, simply because the atmosphere is so dry, and there appears to be less spring dwindling in these unusually cold localities than there is here and further south.

GIVING EXTRA STORES."

A friend inquired a short time ago what he would do with a few of his colonies that had not sufficient stores for winter, and yet it was so cold they had refused to take up more. He said he had plenty of sealed combs of honey, but unfortunately they being of a different size did not fit the hives. We know how to sympathize with him, because we have been there ourselves, but got over the difficulty in this way: When the hives were short of stores we took some of the heaviest sealed combs, cut two or three holes through the centre, and placed one over the top of the frames, first placing a stick about half an inch thick around the edge to raise the comb up, and leave a bee space between them on top of frames. We then put a few strips here and there over the frames to prevent the centre from sagging. The bees consume all the honey in the hive and then ascend to this comb and commence eating it out. They will work up through the holes cut in the comb, when they have all the honey eaten from the under side and commence from the top side. If we find that they have scarcely enough we put a second

comb on top of it, with three-fourth or inch strips run so that when it sags it will not touch the other comb. This does not disturb the bees, and in this way we have wintered some colonies scarce of stores, and brought them through in very fine condition.

The honey flow in future may be very much increased by the united efforts of the bee-keepers and farmers to bring about plenty of rain in dry seasons.

The Bee-Keepers' *Review* is fast gaining confidence, and making a permanent place for itself in the bee-keeping world; but if it is not careful, Brothor Alley may light on it with a swarm of those Golden Carniolans.

We notice that the excellent article by Rev. Mr. Carswell in a late issue of the C.B.J. has been very favorably received, and copied in other journals. We trust that he will soon give us more of the good things he has stored up.

The North American Bee-Keepers' Convention will be held at Albany, N.Y., Dec. 8 to 11. Reduced rates on all the trunk line railroads are secured. It is to be hoped there will be a large attendance at this Convention, and we bespeak for it many new and valuable suggestions.

Rain by contract is the latest. The telegraphic reports in the daily papers of last Monday are to the effect that the citizens of Goodland, Kan., have made a contract with Melbourne, the Ohio rain maker, to produce rain in June, July and August 1892, at 10c. per acre.

A new bee paper called the *Journal of Winona* is started in Minnesota. I wonder if the editor knows what kind of a contract he has on hand? Unless he possesses almost superhuman advantages financially and intellectually, as well as a vast amount of experience, it is almost an impossibility that he will reap much return for his labor. There is room for a certain number of Bee Journals, but the o'd stand-byes that have been for years before the public are not making a fortune. No doubt all the journals should receive more patronage

than they do, because the more bee journals a bee-keeper takes, if he reads them, the better he is prepared to manage his bee business successfully. While we wish our new-comer every success, and extend to him the right hand of fellowship, he must not be disappointed if he finds he is just launched into a mere pasture where he has to pick and pull for a living as well as other mortals.

We have just received a long letter from A. Hallamshire, Bee-keeper, in reference to Punic bees. Among other things the writer claims that Punic bees have the power of reproducing themselves without queens; that any Punic bee can lay eggs which will hatch worker bees, drones, and queens, and produce a colony without a queen. This is a marvellous statement, and we wonder that it has not been brought out before. He offers to send any person some bees on trial, and if not satisfactory, can have them free of charge. As there have been a number sent to America, and also to different parts throughout Europe, we presume their good qualities, if they possess any over other bees, will soon be made known. We are fully convinced that Mr. Benton should be reliable authority on the Punics, as he was the first to send them from Tunis.

Lighting a Smoker.

WE have just learned a new way to light the Clark smoker. We cram it with cedar sawdust, then close the door tight. We next strike a match on the sandpaper, work the bellows, then hold the blaze directly against the perforations *under* the smoker, just back of the front legs. The flame will shoot in, ignite the fuel, and the smoker so lighted is almost sure to stay so.— B. B. J.

We sent out quite a number of the Clark smokers to parties who had been using our own make, which, with some slight improvements, is similar to the Bingham. We have had a number returned, and perhaps it was owing to the inability to light them satisfactorily. However, if this meets the requirements to make it work all right, we shall be pleased to sell the balance of our stock of Clark's at half price. We find our own much preferred.

GENERAL.

Melting old Combs.—Sun, Steam and Hot Water Wax Extractors.—Several Hints.

DADANT & SON.

FRIEND HUTCHISON.—In reply to your request, we will give you our views on rendering beeswax as the clarifying of beeswax is not a question of general interest. If we can get bee keepers to render their combs properly, there will no longer be any need of clarifying. In the first place, allow us to say that there is a great deal of beeswax wasted all over the country because many people think that it is not worth while to save little bits of it at a time. But a careful bee keeper will save every particle, clean or dirty.

I would advise every man to have a sun extractor, but every man should also be prepared to melt wax over water. The reason of this is that old combs when put into the solar extractor will yield nothing, the cast skins, residues and old pollen absorbing every bit of wax as it is melted. To succeed in getting everything out of the old combs they should be well mashed in cold weather, at a time when they are brittle. This destroys the shape of the cells and avoids the lodging of particles of beeswax in the cells. Any one who has melted old combs has noticed that it is in this way that the greatest waste takes place. After the combs are well crushed they should be put to soak in water till all is thoroughly soaked. This is to prevent the wax, when it melts, from soaking in the refuse, and it helps it to separate from the refuse as the latter becomes heavier than water and settles to the bottom. One need not be afraid that the wax will rot, for beeswax cannot rot, at least it does not during any reasonable time, as we have proven time and again.

As to the wax extractors for melting the combs over water, we think most of those in use are good, but a very cheap one can be made by using a common wash-boiler in which the combs are melted with a great deal of water. The wax, as it liquifies, comes to the surface. A piece of wire cloth about a foot square is made into the shape of a small round basket and forced down into the mixture and the wax can be dipped out of that strainer with a ladle. A great deal of water will be dipped out with the wax, but the whole is put into some flaring vessel and allowed to cool. These cakes will not be entirely clean, especially if the wire cloth strainer has coarse meshes, but with another melting very nice cakes are secured and the

smell of the hive and of the honey is well retained. The wax must not be boiled much, but it must be thoroughly hot before it is removed from the fire. Soft water must be used.ropolis will not mix with wax, but will settle to the bottom of the kettle during the first melting. When the wax is melted for the second time it should be placed where it can be allowed to cool every slowly, undisturbed, so that all light foreign substances may settle freely to the bottom. Bees and flies should be skimmed off when the wax is hot, as they will usually remain at the top. If there are any particles of beeswax left in the top of the residue or if anything has to be scraped from the bottom of the cakes, it should be preserved to be put with the next lot of combs. Cappings and pieces of light colored combs should not be melted with the old combs, as they will make a better grade of beeswax, which can be used for different purposes, but the very dirtiest combs will make a fair article of golden colored or red wax, according to the locality, if properly rendered.

Cappings may be treated in the same way, or can be rendered in the solar extractor, but it is a mistake to render them before having washed them of all the honey that they contain. Each year we usually get two barrels of capping water which can be used for either wine, cider, or to make the very best of vinegar. To test the strength of the capping water the cheapest method is to try it with an egg. To make good strong vinegar an egg should float in it so as to just show itself at the top.

The solar extractor is necessary for two purposes; first to render out the little bits that may be picked up during the season at different times and which might run the risk of being consumed by the moth if preserved during hot weather. It is also useful to render any wax that has been damaged by melting with very hard water or by over-boiling. Beeswax which has a grainy appearance and which some people have mistaken for grains of pollen is wasted by many and can only be recovered by the sun process. It contains a great deal of water, sometimes half of its weight, and this must be evaporated before the wax is fit to be used.

Wax extractors should be nearly flat and so made that every nook and corner be exposed to the rays of the sun through a glass. Beeswax can be melted in them from May to October, but the best month for their use is June. They give a first class article of beeswax without much labor, and for this reason they will be much more extensively used in the near future.

Hamilton, Ill., Oct. 18, 91.

—The Bee Keepers' Review.

Friend Hutchinson asked us to write an article on the above subject. We consented to do so, but owing to pressure of work have been unable to fulfil our promise. However, from the many valuable things we notice in reference to it, we think the matter is receiving ample justice.

Moving Bees Into the Cellar.

THE main points to be considered are when to do it and how to do it. Two or three years ago the question of when bees ought to be carried into the cellar was considerably discussed. The drift of the matter at that time was that we were leaving our bees out of doors too long, that the one or two flights that possibly might be secured by the delay were of no particular benefit. The bees had ceased to store honey or to breed, they seldom flew and consumed but little food, either honey or pollen; in fact they had settled down into a quiescent state and were ready for their winter's nap. No cleansing flights were needed. The intestines were not loaded, because almost no food was being handled or consumed, and nothing was voided in these late flights, if the bees did fly. It was argued that it was better to carry the bees in before they had even felt the touch of Winter's stern hand, and before the hives were dampened by frost or snow or ice. Instances were mentioned where bees were carried into the cellar unusually early, yet they wintered well. Some bee keepers said that, as time went by, each year found them putting their bees in the cellar at an earlier date. All this appears reasonable, and, for ought I know, is good doctrine. I have put bees in the cellar as early as November 10, and as late as December 15, and, so far as results were concerned, I could see little difference. It is my belief that after bees have ceased active labors (honey gathering and brood rearing) for a sufficient time to allow their systems to get rid of the waste matter resulting from such labors, and they have had one or two flights after cool fall weather has set in, that any slight accumulations may be voided. I say it is my belief that nothing is gained by leaving them upon the summer stands. That anything is gained by putting them in unusually early I doubt. I believe it has been argued that it disturbs them less to put them in early than they have not yet reached so advanced a stage of "hibernation" as my friend Clarke calls it. Rousing a man just as he is on the point of falling to sleep is not so much of a shock as it is to awake

him from a sound sleep, is the idea, but I don't take much stock in it, unless we are to use it in comparing the bringing in of bees early in the fall with that of bringing them in at mid winter. In short, I think it unimportant when the bees are brought in, provided they have really settled down for winter's inactivity and they are not left out until freezing weather sets in.

When the time arrives for carrying in the bees how shall it be done? If there are only a few colonies and they are near the cellar they may be picked up and carried by "main strength," but if there are many to carry or the distance much, some other plan is needed. If there are two persons to do the work it simplifies matters, as the hives may be carried between them upon a hand barrow. The barrow used by my brother and myself is made of two pieces of fencing, each six feet long, the ends being shaved down to a convenient size for handles. The two pieces of boards are placed upon their edges, about fifteen inches apart, and then fastened together by two cross-pieces nailed in between them. As the bee cellar is in a side hill, four hives could be placed upon the barrow and carried directly into the cellar. When the cellar is under a building and must be entered by going down stairs this sort of a barrow would not answer very well unless there were stakes put in to keep the hives from sliding, and the frames were not of the swinging style. Mr. H. R. Boardman has a cart behind which he can walk and from the front of which project arms that may be thrust straddle of a hive and the hive thus raised from the bottom board and wheeled into the cellar without so much as touching the hive with the hands. Mr. F. H. McFarland, of Vermont, has a sort of neck-yoke to each end of which a hive may be attached by wire loops that pass under the hive. Mr. Doolittle and Dr. Miller have each, I believe, some sort of a device that enables them to use their strength to the best advantage when carrying bees into the cellar. I have forgotten just how their arrangements are arranged, the same as I have in regard to quite a number of other devices that have been devised for this purpose. Carrying bees into or out of a cellar is hard work at best, and if there is any "best way," either for one man or for two, let us find out what it is.

If an attempt is made to carry bees into the cellar during warm weather, or when the temperature is rising and the cluster expanding, there is trouble from the bees leaving the hives on account of the disturbance. When the temperature is falling and the cluster contracting is the time to move them in. If the bottom

boards are loose (and they ought to be) and there comes a day when "its growing colder all the time," just raise each board an inch or two, putting a block under each corner. This will allow the cold to "get at" the bees, causing them to cluster more quickly and compactly, when they may be carried into the cellar without leaving a little cluster upon the bottom board or very many bees leaving the hive.

No, I would not bring in the bottom boards with the bees, and I would stack up the hives as practiced by Mr. Boardman. That is, if I had room enough. Set the bottom row of hives a foot or more apart. Let the distance apart be such that when the next row is placed upon the first, each hive may set over the opening between the lower hives. In other words, the ends of the upper hive will just nicely "catch on" to the upper ends of the two lower hives. Each row would be placed in a similar manner, thus leaving a space below each hive. For the lower row I would use empty hives. I would manage in some manner to have an empty space below the combs, for, without being able to say exactly why, I have noticed for several years that colonies so prepared, whether in doors or out, have wintered better than where the bottom boards came up close to the bees. Put the weakest colonies at the top.

Friends, this is to be our special topic for November; you will please criticise what I have written.

As this is to be the special topic for November, and we are asked to criticise, would say, there are many good points about it, but we have usually just picked up the hives, and carried them in except we had some distance to carry them, and then we found the handbarrow a very convenient thing, and although we kept them in our various yards, we never considered it worth while to use them unless the bees were at least 100 feet or more, from the door of the bee-house, because picking them up and setting them down, tends to excite the bees, or jar them more or less. We think it bad policy to leave the lids on when carrying them in, and usually remove them, but take a division board, or something flat, a heavy ordinary inch board would do to keep the cloth down. Before picking up the hives, the entrance should always be close until all the bees are carried in and the place made dark, then the entrance blocks should be removed entirely to give them plenty of air. The little board

used for holding down the cloth is taken off as soon as the bees are placed on the shelves or in the bee-house or cellar, as the case may be. If there is much propolis on the cloth, we would advise that the four corners be slightly raised to allow the moisture to escape. Otherwise you may find drops of water on the under side of the cloth, which causes mould. Cedar sawdust cushions, or cushions made of fine cork dust are excellent for retaining the heat and allowing the moisture to escape. Fine sawdust is much better than coarse, and we prefer clover chaff to wheat or oat. Mr. Corneil says wool is the best, although perhaps a little more expensive. It certainly is warmer than cotton or linen, will retain the heat better and yet allow the moisture to escape.

FOR THE CANADIAN BEE JOURNAL.

G. A. Deadman's Report.

BEES being very light with stores, the honey flow was slow, consequently the queen not being crowded for space layed freely outcome therefore plenty of bees and not much honey. The bees however were induced to rob and wander in search of food during the very hot weather in September, which bees lessened their members somewhat I have not for sometime known the queen to cease laying so early, the bees utterly refusing to call for the eggs and larvae.

Brussels, Oct. 26.

The above report from Mr. Deadman indicates about what has taken place in many localities in Canada. Of course where there was an absence of fall flowers, and no nectar secreted, breeding would stop, but while our bees were lying quietly and not doing any work, we know of some that were gathering large quantities from various sources, and like Mr. McArthurs bees, doing a booming land office business.

Rain Making.

RAIN MAKING is now absorbing universal attention. When protracted drouths have so often destroyed the honey crops, apiarists are interested in this discussion, as well as the general growers of the crops. Relative to the credit for the suggestion put in by Mr. Penfield, or page 276, the following has come to hand:

I think if you will look over the Bee Journal for the latter part of 1887, you will find very

good replies to Hill's and Penfield's articles on causes of drouth.

I saw replies referring to large scopes of country where there were numerous lakes, etc., and yet they were subject to drouths. Judging from newspaper reports sent in by some of the good citizens of Texas, the experiments made in that State to cause rain, has by no means been a success.

E. SANDFORD.

Nokomis, Ills.

This reminds us of a story about making rain some 40 years ago, which we copy from the San Francisco Examiner. Here it is:

Making thunder-storms to order is not such a new scheme as Frank Melbourne and the Government balloon dynamiters seem to think. Forty years ago it was tried successfully in California, and a drouth was broken without resort to expensive chemicals. An old Indian did the trick at no cost other than the expenditure of a little breath and mental effort. At least such is the statement made by S. A. Bishop, one of San Jose's most prominent citizens.

Mr. Bishop, in 1850, established the Tejoy Indian Reservation at the southern end of the San Joaquin Valley, under the directions of Gen. E. F. Beale, Superintendent of Indian Affairs in California, and gathered at Tejoy a large number of Indians, whom he instructed in agriculture. The Indians took kindly to the work, and during the first season they plowed and sowed with wheat, a field seven miles long by a mile in width. In March the rain ceased, the weather became very warm, and for two months not a drop of rain fell. The drouth threatened to ruin the wheat crop, and Mr. Bishop decided to try irrigation.

Five hundred Indians were set at work in four six-hours shifts, digging ditches to concentrate a number of small streams, and conduct the water to the wheat field. It was hard work, and, therefore, distasteful to the Indians.

One day the head man waited upon Mr. Bishop, and represented to him that it was foolishness to do so much hard work when rain could be had for the asking. They wanted permission to send to the mountains for a medicine man, who could produce rain by speaking a word.

A messenger was sent on muleback to the home of the chief of a small tribe living about 100 miles from the reservation.

At the end of five days the messenger returned and reported that the rain-god and his

whole tribe were on the road to the reservation.

The news of the arrival of the great rain-maker was sent abroad, and at least 30,000 Indians gathered at Tejoy to greet him.

Mr. Bishop propitiated the rain-god with a quart or two of red beads, and then interviewed him on meteorology.

"Can you make it rain?" he asked.

"Did you not send for me for that purpose?" said the old chief.

"Yes," rejoined Mr. Bishop, "but I would like to know whether you can do it."

"If I could not do it I would not have come," replied the old chief, and, although Mr. Bishop was not convinced, the logic of the reply was unanswerable, and he dropped the subject.

The Indians spent that night in dancing and feasting, eighty bullocks having been killed and barbecued for them, and the next day the rain-maker said he was ready to begin operations.

The Indian, retiring into the bush, went through some mysterious evolutions. Mr. Bishop says he was greatly amazed to see clouds begin to gather in the sky, and his surprise increased when a few drops of rain fell. But the Indian soon came out of the bush and declared that he could not be sure of a good shower until he could produce thunder and lightning, and he intended to go into a grove not far away and try some new incantations.

The Indian retired, and in less than half an hour the artillery was turned loose. There was a blinding flash of lightning and a roar of thunder that shook the earth, and then the rain came down in torrents. The old Indian's shower lasted for ten days, and the ground became so soaked that the cattle mired down on the plains.—American Bee Journal.

From reading the above, we imagine that it would not be advisable to get the Indians to produce rain, but if the bursting of dynamite shells in the air causes rain, it would be a simple and easy matter to plant mortars in various localities throughout the country, from which these shells may be discharged. We think this matter will require more experience and further proof, before it becomes generally adopted, although in this day and age of improvements and inventions, we should not question any improvement which bids fair to be successful.

Introducing Queens to Colonies that have been Long Queenless.

SOME time in August, I sent a queen to a party in Canada; and in writing to me, telling of his losing her in trying to introduce her, he incidentally mentioned that he introduced her to a colony that had been queenless for three or four weeks, and asked what I supposed was the trouble. I suppose the colony had a queen, or something it called a queen. I do not know whether or not he had given this colony unsealed brood at different times during this time that they were queenless; but from the tone of his letter I should judge that he had not. The object in answering this question in *Gleanings* is to particularly emphasize this thought: Don't ever try to introduce a queen to a colony which has been long queenless, without first giving them unsealed brood, so as to know to a certainty that they are queenless. According to the many letters of the past, in regard to loss of queens in introduction, I judge that more queens are lost by trying to introduce them to supposedly queenless colonies than from all other causes put together. "But," says one, "how shall I know to a certainty that a colony has or has not a queen by simply putting in brood?" As far as I have had experience, a queenless colony will always start queen cells on brood given them, unless they have laying workers, in which case they do not always consider themselves as queenless, and, as a rule, one might about as well try to get a queen into a colony which has a queen as to try to introduce one to a colony having laying workers. If a colony builds queen cells you may know that it is queenless, and that, if the right amount of care is used, a fertile queen may be successfully introduced to it. But if any colony does not start queen-cells on brood given them, it may be known that it is a dangerous undertaking to try to introduce a queen to such a colony. Don't let us as a bee fraternity be longer ignorant or heedless on this matter, for enough money and fine queens have already been sacrificed at the shrine of ignorance and carelessness.

SECTIONS PARALLEL WITH FRAMES.

Another writes, telling how he is about to make some new hives in which he desires to have the sections in the cases go crosswise of the brood frames, and wishes me to tell in *Gleanings* whether I think the bees will do as well in them when worked in this way as they do were they go with the frames, as is the usual custom. As far as the bees are concerned or the amount of honey produced, it makes no

difference which way the sections run to the brood-frames where the Langstroth bee-space is used, as I have repeatedly proven to my satisfaction. Where a continuous passageway is used, necessity compels us to place the sections parallel with the brood-frames. There is one important item in this matter, however, which makes it very desirable to have the sections run parallel with the frames, and that is the matter of having all hives pitch towards the entrance. This is almost a necessity to keep the water out of the hives, both as regards rain at all times, and the condensed moisture from the bees' breath during the winter and early spring months. If hives do not slant towards the entrance, injury is worked, not only to the bees, but to the hives; for a hive will not last nearly as long which stands level as will one that pitches enough to the front to run off all water. If such pitch is used and the sections go crosswise of the frames, the combs in the sections will be run from one section into the bottom of the next one, for bees always build their combs perpendicular; or if the frames run crosswise to the entrance, and the hive is pitched toward the entrance, as it always should be, then the combs will not be built true in the frames. Having hives pitched toward the entrance also helps the bees much in cleaning the bottoms of their hives and keeping them clean; also in defending themselves from robbers and other insects. For these reasons I should prefer to have the sections run parallel with the frames, if such a thing were possible.

PARTLY FILLED SECTIONS.

Still another writes, saying: "I am about having my partly filled sections fixed up by the bees preparatory to next season's operations. This I do by uncapping the sealed part of the honey and placing them over colonies which need feeding. After the bees have removed the honey, during my leisure hours this fall and winter I wish to put them in my cases so as to have all in readiness for another harvest when it comes, so as to have no fussing with these in my hurry next summer. Should the supers be entirely filled with these sections, or partly filled with new? If the latter, what part of the super is the best location for the sections containing the comb?"

My way of doing this would be to divide the number of sections by the number of colonies which I expected to have next year to produce comb honey, and place the quotient in each case, placing the partly filled ones in the center and the other on each side. Used in this way as "bait" section, these partly filled sections are of great value, and will bring you a

greater interest than money in the bank; while if all were put on top of a few hives they would not be of nearly so much value. If you have more partly filled sections than enough to make one tier through the center of each section-case, then I should place in the middle tier as before, then a tier on each side of this of the new sections, then more of the partly filled sections, and so on, alternating till the section-case is filled. In this way the bees will be at work throughout the whole case, almost before you know it.—G. M. Doolittle, in Gleanings.

North American Convention.

AS previously stated, the meeting of the North American Bee-Keepers' Association will take place at Albany, N.Y., Dec. 8th to 11th. Our President has been working hard, and has secured reduced railroad rates from Chicago and the Mississippi River, and from the South. The meeting promises to be the grandest in the history of the association, and we hope the West will send a good delegation. Besides personal members' attendance, we expect every local and State association to send one delegate, or more. This will be a good occasion for Western bee-men to become acquainted with the noted bee-keepers of the East, nearly all of whom will attend this meeting. Bee-keepers desiring to attend will please send their names to either the President, Mr. P. H. Elwood, of Starkville, N.Y., or to the undersigned, as we intend to publish a full list of those that are expected to be present.

C. P. DADANT, Sec.

Hamilton Ills.

FOR THE CANADIAN BEE JOURNAL.

Outside Wintering.

SOME weeks ago you made the request that I would let the readers of the C. B. Journal know my method of outside wintering. The want of time and absence from home has prevented me from acceding to your request until now. I feel a little diffidence in writing upon the subject, for I have really nothing new to offer, and have met with very varying success. Several times in my past experience I have succeeded in wintering without any or with a very trivial loss, and I then was vain enough to think I had discovered the art of successful wintering; and as I read or heard of the losses others had sustained, I felt a deep sympathy for them for I had been there myself, and was seized with a strong desire to try and dispel their ignorance and show them just how

to do it. The following season, however, took all this conceit out of me, and showed me by the mortality that prevailed that I knew nothing or very little about wintering. Several times I have been nearly cleaned out, but instead of being discouraged I set to work with new avidity, determining that I would master the wintering problem. I cannot say that I have succeeded in doing this yet and so feel more like occupying the position of a learner, sitting at the feet of some of these masters in agriculture who say they can winter bees with the same certainty and success as any other stock around the farm yard, rather than assuming the roll of teacher. However, I will briefly give you my method, and your readers can take it, as they doubtless will do, for what it is worth.

First, I made sure that every colony has a young, vigorous queen, and I try to keep them laying as late as possible by contracting the entrance and putting a cushion on top so that they may go into winter quarters with abundance of young bees. I next make sure they have enough of supplies to carry them through the most prolonged and severe winter and to do this I weigh them all some time in the month of September, marking on each hive the weight of the colony. I then set to work and feed them syrup, using the best granulated sugar, making the syrup of the consistency of honey, or two pounds of sugar to one of water. In doing so I simply tip up the front of the hive and pour the syrup behind, if the hive will hold in; if not, I use one of the Simplicity feeders. I feed until these in the large "Jones" hives weigh seventy-five pounds; those in the large combination, seventy pounds, and those in the small combination sixty-five pounds. Later on I exchange the oilcloth quilts for some made of thin, cheap cotton. For a number of years I have put about half of my colonies in the cellar and left the other half outside. I do this because some winters are more favorable for inside wintering and others for outside. By dividing them as I have mentioned I hit the season with half of my stock, and am not likely to be entirely cleaned out. I protect those I put in the cellar from mice. I put them on shelves suspended from the sleepers. Before I did this I was very much troubled with mice, and lost heavily from this cause. I take off the covers, leaving the cushions on top to absorb the moisture.

Those I am going to winter outside, I like to get packed in the clamp as early as possible, and before cold weather has set in. My clamp stands about six inches from the ground, so as to prevent moisture. There are about six

inches of chaff under the hives, eight inches in front, a foot behind, and about the same on top. I take off the tops and leave the cushions on. To prevent mice I make the camp as mice-proof as I can, and set a mixture of flour, sugar and strychnine made into a paste on little pieces of board at intervals along the top of the chaff. The hives stand as close as they can with the covers on and I pack the chaff tightly round them, and make sure that the cover is water-proof, for I have several times lost colonies by the packing around them getting damp. I leave the entrance open all winter and about once a month I clean it out, lest it should become choked with dead bees. With this exception I leave them severely alone until the spring and it has become warm enough to remove the top packing and look into the hive, and ascertain how it has fared with the denizens within. I then replace the covers and leave them until warm weather has unmistakably set in.

J. GABWELL.

Bond Head, Nov. 3rd, 1891.

FOR THE CANADIAN BEE JOURNAL.

Old Bees, New Management, etc.

QUIN the first page of your issue Oct. 1st, the question:—"Do old bees ever secrete wax and build comb" is discussed in a way that leads one to believe that it has been a matter of much doubt in the past as to whether old bees ever secrete wax and build comb. There has never been any doubt in my mind about it. Nearly every season I winter one or more large colonies that are queenless, and I make these colonies rear cells in March so as to have the young queens mated early in April. These bees are from 90 to 100 days old, and they do all the work in and out of the hive that is ever done by bees of any age. Of course they dwindle down to few bees by the time the young bees are ready to take their place. That they secrete wax is plain to be seen by the white elongations of the cells near the top bars of the frames and bits of comb built just as you see in a hive where colonies in normal condition are at work. Some years ago I made a trial to indicate how long worker bees may live under favorable circumstances. I was sure that some worker bees survived nine months. On page 659, same issue, under the head lines:—"Another great sensation, or new mode of managing bees." The writer talks like he is perpetrating a huge joke on somebody, but there is no sign of a "smile," and may be he is in earnest. Be this as it may, I guess the "new arrangement" will never make the flowers secrete nectar when the "elements"

are against it. I have letters from bee men in the Western States who say that the bloom was never more profuse than it was during the past season; and notwithstanding the profusion of bee forage, they have to feed for winter stores, and "nary a drop" of surplus have they taken.

Let us have a "new system" that will prevent drouth, and will prevent excessive rains, prevailing east winds, unseasonable cool spells, and all unfavorable conditions that always stand as a menace to a full honey crop. If this is done the man who "went and done it" can draw on me for a tax of \$100 annually. But if the "new system" is any kin to the fussy contraction system why that settles it.

Whatever may be said in favor of contracting the brood nest so as to force all the honey into the surplus cases, and thereby secure a larger crop of surplus at the expense of an impoverished brood nest at the close of the honey season, I know it will not pay to do so in the long run. Those persons who tell us that bees are simply consumers after the honey flow is over seem to forget that the colony must be perpetuated for future service. I will now tell your readers how to keep out apiaries and home apiaries too, with no watching whatever to do except to do the necessary tiering up, the taking of, and caring for, surplus honey, and not a swarm will issue. The plan is perfectly plain and practicable, and is no mere vision. I practice it with perfect success every year. It is as follows: Use hives as large as the standard Langstroth modernized so as to "tier up" handily. Your outfit must consist of a zinc queen excluder—full sheet of zinc framed with wood for each hive. If the outfit is for extracting the honey you want two sets of extracting combs to go above the brood chamber, with the hive bodies or supers to hold the combs. If comb honey is the object, you want one set of combs with super to go above the brood chamber, and two cases for sections.

Now for the manipulation. When the honey season has just begun, and before any swarms have issued, commence with the strongest colonies and remove all the combs containing brood from the brood chambers except one that contains the most eggs and unsealed brood; leave this in the brood chamber and see that the queen is left on this comb. If she is not found on it, hunt her up and put her on it; now fill up the brood chamber with empty combs, and put the queen excluder on the brood chamber. The combs of brood have been adjusted in a super as the work progressed; you now fill the super out with empty combs if the combs of brood do not fill it and set the super on the brood chamber with

the queen excluder between. You now have all the brood above the queen excluder except the one comb of eggs and unsealed brood with the queen below the excluder. Go over the whole yard in this way as fast as the colonies are strong enough to look like swarming, till all are fixed up as I have described; and the season will have to be more than usually extended if you have a single swarm, and certainly none, if you have no very old combs in your hives. After your bees have undergone this manipulation they need no further attention except to do the necessary "tiering up" to give them all the room they need. All the brood above the queen excluder will be hatched out in 21 days, and the combs will be filled with honey, and the bees will be working in a second super. I treat colonies that cast swarms precisely in the same way, except the frame of brood is not left in the brood chamber. All the brood is put above the excluder, and the swarm is hived back. When producing comb honey by this plan the section cases go on top of the super that contains the brood above the excluder; and at the close of the surplus honey season the honey is extracted from the combs which are above the excluder, and "fed back" to properly prepared colonies, to have all the unfinished sections completed. In this way I get extra large yields of comb honey. Bee-keepers who have visited my apiary to see its workings have been delighted and astonished at the results obtained through these manipulations.

On page 661 is an elaborate argument to disprove the commonly accepted opinion that bees are natives of a warm climate. Much ammunition is lost in this argument. I believe nobody denies that bees have migrated to all parts of the earth, and have fought for existence for thousands of years; but this proves nothing to the point at issue. Those geological curiosities that have tickled the so-called scientists into a fit of delirium in these modern times are more assumption than established fact. They prove nothing to the well balanced mind. It is enough to know, what every observing person knows to be a tangible fact, that a warm climate is the natural home of insect life. The honey bee is an insect. In my locality, and further south, the honey bees sport in the open air on an average once a week during the winter months; they are always healthy and strong. Further north they become diseased with dysentery, and hard winters sweep away thousands of colonies. A few hard facts are worth a thousand fancies.

G. W. DEMAREE.

Christiansburg, Ky.

Thanks, friend Demaree, for your valuable article, and description of your

method of management, which undoubtedly will be very interesting to many of our readers. The point brought out that differs from Mr. Alpaugh's system is, that the Alpaugh system compels the bees to work in sections immediately, securing all the crop of white honey in the surplus, whereas, if you had to put a set of combs to hatch out above, the sections would be further away from the queen, and the brood chamber that is created by the change of combs between the sections and lower brood chamber would necessarily receive considerable of the white honey; but we see no reason why your plan should not work for both comb and extracted honey, but whether it would prevent to as full an extent the swarming, we are not prepared to say, as we never tested it exactly on the lines you mention. Your long experience in that way, of course, proves the matter beyond question, and those who do not want increase could work upon this plan, and, no doubt, be very successful. In our last issue we gave a further explanation of the Alpaugh system, and would like to have Mr. Demaree comment upon it, and give us his opinion on some of the principal points.

Half-Storey Supers for Extracted Honey.

BY F. A. GEMMILL, VICE-PRESIDENT ONTARIO BEE-KEEPERS' ASSOCIATION.

As promised, I will attempt a short article on the advantages of using a super or half-storey, in other words, a case containing drawn combs half the depth of those used in the brood chamber for the production of No. 1 extracted honey, and as an adjunct or assistant in securing a first-class crop of comb honey such as no one need be ashamed to place on any market.

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

First, I would ask, why object to a half-storey containing combs such as described any more than the use of supers containing sections for comb honey, so long as the complete tiering up of all is not interfered with? Second, why should bees be allowed to cling to the brood chamber in the forepart of the season, depositing honey herein, only to crowd out the space which should

be occupied by the queen? Simply because there is not sufficient inducement to entice them to deposit above.

Now, we all know the giving of a full story in most localities, at the time when more room is needed, is rather more space than is necessary, and consumes too much of the heat required in the brood chamber, unless the hives are chaff-packed; and again, the giving of a super containing sections, especially if they are not nearly all drawn out the previous season, does not always succeed in gaining the desired end. There is, however, no trouble if a half-storey of drawn combs is first given, as such can compose a part of the brood chamber proper, sufficiently long to secure the point sought for. The market requiring choice grades of honey is yearly becoming more marked; particularly is this the case in regard to variety and quality, therefore I venture the opinion that while honey may always be honey in the proper sense of that word, still all articles of this kind are not alike to a consumer any more than all kinds of butter, or in fact any delicacy usually found for sale, and no one knows this better than bee-keepers generally. Now, in order to secure the different varieties by themselves as nearly as possible, no other system offers better facilities than the half-storey system. There are localities and hives where it is not only advisable but necessary to extract from brood combs in order to secure the honey of poor quality and flavor from being deposited in sections, (a place, by the way, in which the very finest honey only should be stored) or placed in combs of full depth, when added above the brood chamber, thus completely destroying the appearance and flavor of a large quantity of what ought to have been a first-class article of clover honey; and while my own locality does not differ materially from the one quoted, still my mode of procedure is somewhat different; not, however, that it is by any means new, but because I am not an advocate of extracting from combs containing brood, especially unsealed larvæ, as I believe brood in brood combs and honey in store combs is the proper place for both; in other words, the queen in one apartment, and the honey in another, at all times, except, of course, during winter. And right here, I trust you will pardon the digression when I state that incalculable damage is done yearly from such work, independent of the risk of encouraging, if not propagating, the great curse of our pursuit, viz., foul brood.

But to resume. The method adopted by myself is as follows: About the first of June, or a little earlier in some instances, as soon as the queen requires more room (I use the eight frame

Jangstroth and New Heddon hive), the hive is opened, and the face of every capped cell of honey is bruised by simply drawing a knife flatwise across the comb, first driving the bees away with smoke, or, if necessary shaking them from the combs altogether, when a half-storey of drawn combs, as described, is placed over the brood chamber, and the cover to the hive replaced for two or three days, when it is again opened, and a queen-excluding honey board placed between the two, as egg depositing in supers is not encouraged, although the presence of a few eggs will do no harm at this juncture, provided the bees are not allowed to build queen cells, and a young queen reared and destroy the one below. It is, of course, presumed, when the excluder is inserted, that the old queen is in the lower portion of the hive. Reversible frames are said to accomplish this end, if the reversing is done at the proper time, without the necessity of bruising the face of the comb; but not having an extended experience with such, I can give no decided opinion, although I do not see why such a course would not work. This, however, I do know: the dividing of the Heddon hive, viz., placing the top half below, and the bottom part above, will effect the same purpose.

There will now be no difficulty in securing the honey in its proper place, after it has been carried up stairs, from this time henceforth.

You will please observe there is no difference up to this point, whether or not one is working for comb or extracted honey, as that can be determined afterwards as the strength of the colony and strain or race of the bees are factors that must or ought to be considered especially in producing the former article.

We will suppose extracted honey is desired. If so, all that is required is to raise up the first half-storey or super containing the dark honey stored from the brood chamber, and any that may have accumulated before the flow from clover has commenced, and add a second, which will, of course, be now filled with clover, while a third or fourth may contain basswood or thistle, as the case may be, and yet all can be thoroughly ripened on the hive, as it should be, for many reasons too numerous to mention here. If, however, for want of sufficient combs, you prefer extracting the different kinds before thoroughly ripened on the hives, it is an easy matter to place one of the several bee-escape boards (preferably, the Porter spring contrivance, which, by the way, are only beginning to be half appreciated as they ought to be under) each top storey, and free the supers from bees in a few hours. They can now be extracted and again returned to the hives. This way of manag-

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

In the event of your being a producer of comb honey, all that is necessary is to tier up as for the extracted article. With this advantage, only one case of sections need be given any colony, unless considered advisable to do so, and this not given until the honey is coming in rapidly, and the bees ready and willing to fill and seal them in short order, and thus present you with an article as white as snow, instead of travel-stained, propolized sections, sufficient to disgust any one from purchasing even at a low figure. Again, I find I can get more and better comb honey with less unfilled sections than by any other process; in fact, it is not at all desirable to carry over any partly drawn sections from the previous year, as, in my own experience, they are not filled and sealed any sooner than a new case of sections containing full sheets of thin foundation, when added under a half-storey as described.

The only valid excuse against using these half-storeys is the expense and the time consumed in handling the double number of frames. As to the first reason, I am free to admit, the cost is a trifle greater; still, if protected by outside cases until clover commences to bloom, the material comprizing them need not be any thicker than $\frac{3}{8}$ inch stuff. As to the second reason, I find it easier and more expeditious to uncap and extract two sets of half-depth frames than one of the full size, as one sweep of the knife cleans the face of every comb in an instant; and if your frames are wired as they ought to be, even in half-storeys, notwithstanding what others may say to the contrary, and your extractor is capable of taking a full set of eight frames, or four of the large ones, as with myself, no time need be uselessly sacrificed.

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

Lastly, do not be afraid to put your name on all honey offered for sale, at the same time

stating the source from which it is secured, and thus prevent confusion and suspicion. Too much need not be on the label, but it should be in large print and easily understood.—From *Canadian Live Stock and Farm Journal*, Oct. 1891.

Some Questions in Regard to Cyprians and Syrians.

SEVERAL questions have been sent in for me to answer; and as the most of them are appropriate for this time of year, I will, with your permission, Mr. Editor, answer them through the columns of GLEANINGS, answering them by number.

1. "Can Cyprian and Syrian bees be distinguished, by their color of markings, from the Italian bee or from each other?"

Well, that depends whether the asker of the question is expert in detecting nice colorings; whether he is a close observer, and whether he has had large experience with the different races named. The claim was originally put forth, that the Cyprian bee had a shield between its wings, of the same color as the golden bands on the abdomen, and that, as no other bee had this shield, it was therefore easy to distinguish the Cyprian race from that of any other. However, it was soon found out that the best specimens of Italians showed this shield fully as plainly as do the Cyprians, so that claim went for naught. Candidly, I do not know that I could tell a beginner how he could tell these races of bees apart, were there nothing but the coloring of each to go by. The yellow on the Syrian is of a little darker or duller shade than that of the Italian, while the same color on the Cyprians is of a brighter orange than that of the Italian, and much more so than that of the Syrian. This I say of them in their purity—not when they are considerably mixed with "blood" from each other, as is quite apt to be the case. When thus mixed, the best authorities are so badly puzzled that it is no wonder the above question was asked by one not thoroughly posted.

2. "Do the Cyprians and Syrians rear more brood than the Italians?"

Yes, as a general rule they do. The Cyprians, in my opinion, would be an acquisition, were it not for their vindictiveness, which is so great that it can not be tolerated. They commence breeding more profusely, earlier than any other bee with which I am acquainted, thus getting many bees on the stage of action just in the right time for the white-clover honey harvest; while when the harvest is well under way they rear no more brood, to become useless consumers, than do the Italians. I never parted with

any thing in the bee line with more reluctance than I did with the Cyprian bee. The Syrians are very different in this locality, regarding brood-rearing, from either the Cyprians or the Italians. They do not begin rearing brood to much more than supply the waste of the hive till the honey harvest commences, when they go to brood-rearing on the most extensive scale, this brood consuming the larger part of the honey gathered by the few bees they have at the beginning of the harvest; while this brood, after it has hatched into bees, becomes a consumer of the little honey they did not consume while in the brood form. I had from two to six Syrian colonies of bees for four years, and each fall I had to give them nearly all of their winter stores in the shape of frames of sealed honey taken from my Italian colonies. During this time I succeeded in taking about 50 lbs. of inferior comb honey from them. Of all the bees I ever had in my apiary, the Syrians proved much the poorest. Some speak well of them, and I think that they might prove better than with me where the season is of long duration for honey.

3. "Some say that bees need a cleansing flight when wintered in the cellar; others say that such a flight is unnecessary. Which is right? I do not wish to carry mine from the cellar till time to set them out for good, unless it is actually necessary."

It used to be thought, by nearly all, that bees should be carried from the cellar on pleasant days during the winter for a fly; but of late years most of our best apiarists believe this is of no special benefit. I used to carry mine out, up to about twelve years ago. At that time I commenced to experiment by so arranging in the fall that I could carry a part out without disturbing the rest; and when there came a warm day these were carried out, and the rest left undisturbed. The result proved that, on the whole, those not touched wintered a little better, if any thing, than did those taken out; consequently I have not carried a colony out of the cellar for a cleansing flight during the last ten years; only as two or three have been carried out and fed, as I feared they would starve before spring. Some say, "Leave them as long as they are quiet;" but my experience has been that there is nothing gained by carrying out the uneasy ones, should there be any such; for if they are going to die, carrying out for a flight does not seem to help them much if any.

4. "Would there be any injury to bees if placed in a cellar under a kitchen where there is lots of noise all winter?"

If the bees are so arranged that no jar comes to them, so far as my experience goes, noise

does no harm. It is the jar that arouses bees in the winter, not noise without jarring. To illustrate: In sighting my rifle one pleasant winter day, I fired it within eight feet of two or three hives of bees. Just before firing I listened at the entrance of these hives and heard the low hum of the bees which we always hear; but before I had fired ten shots these same bees were all in an uproar, many coming to the entrance. At the time I laid it to the noise; but thinking differently a few days afterwards, I again fired the same number of shots 50 feet in front of the hives (the first having been fired in the rear), so that the noise might reach them at the entrance, and they were not disturbed in the least. I now fired at the same distance as at first, when they became agitated the same as before.

G. M. DOOLITTLE.
Borodino, N. Y., Sept. 16.

—GLEANINGS.

Who First sent Queens Successfully By Mail?

BEE-KEEPERS of the present scarcely appreciate the advantages derived from the knowledge that queen bees can be sent from any point of the earth to any part thereof by mail. Not until July, 1863, had a queen with a few workers ever been caged and shipped per mail. From 1860 to '63 I was bothered about getting Italian queens by express. It occurred to me that queens might, perhaps, be transported by mail. I wrote to my ideal apiarist, Rev. L. L. Langstroth, suggesting the idea of sending queens by mail, and asking his opinion of the feasibility of mail transit of bees. He answered, saying that, in his opinion, he thought it not practical. I at once determined to test the matter. I took a small paper box, about the length and depth of the Benton cage, but wider, took a piece of sealed comb, very tough by age, and, with needle and thread, fastened the comb in one corner of the box, and with an eyelet hole punch made holes in the box, by which air could circulate among the bees. Then I put a common queen and some 15 workers into the box; made it secure and addressed it to Mr. Langstroth; paid postage; and the postmaster, who is still my neighbor, duly marked the package, and, to honor me, dropped it into the pouch with the installment of mail matter. A few days later I received a letter from friend Langstroth, informing me of the safe arrival of the bees, and complimenting me highly for suggesting and putting in practice so worthy an enterprise. At the time he wrote he sent a fine Italian queen in a very small cage, addressed to me. The workers, five or six, were dead, and the queen died soon after I took her from the postoffice. Later he mailed another fine Italian addressed to me, and all came safely.

This is the history of the advent of sending queen-bees by mail, which has proved a great boon to the bee-keeping public. Mr. Langstroth was the first who shipped queens by mail. The authors of the "New Langstroth" were mistaken in according credit to other parties as

being first to cage and mail queens to patrons. At the time of my sending the queen to friend Langstroth he wrote me that, in his contemplated new edition, he would give me due credit. Unfortunately, not only for bee-keepers but for the prosperity and good of mankind, the teacher was debarr'd by ill health from issuing another edition. In 1881 I wrote, calling Mr. Langstroth's attention to the circumstance of my sending him the queen by mail. I was prompted to do so from the fact that I thought certain other parties laid claim to the discovery. Mr. Langstroth answered my letter, and I inclose it, requesting the publishers of Gleanings to publish his answer, to the end that an authenticated record be published, and thus settle the question of priority. Mr. Benton received a prize for a particular form of shipping queen-cage, but I was first to devise a cage and a way of transit.

C. J. ROBINSON.

Richford, N. Y., Sept. 22, 1891.

The following, in the familiar handwriting of Mr. Langstroth, is the letter referred to and it speaks for itself.

Dear Sir:—I remember distinctly the circumstances to which you allude. As far as I know you were the first person to send a queen in this country by mail. I am not sure that queens had been previously sent anywhere by mail. If you could give me the year I could probably find all the facts recorded in my private journal. I think that the queen you sent came in July. I am entirely laid aside by ill health from all active work, and have published no new edition of my work since the 3rd, in 1859.

L. L. LANGSTROTH.

Greenfield, O., Jan. 21, 1881.

We are sure no injustice was intended by the publishers of the Revised Langstroth. We are pleased to get the information. Mr. Langstroth's letter above establishes the fact pretty clearly as to who sent the first queen by mail successfully. As Mr. L. would have given properly credit had he been able to revise his book, we are sure he would be glad to have it done now over his own signature. —GLEANINGS.

How I "Got Even" with the Ants.--A Novel Plan.

HIS vicinity has a sandy soil, and, being loose and warm, it is inhabited by myriads of ants. The struggle for existence among them makes it necessary for them to prospect every nook and corner for food. They came up into the house day and night, and soon found the way to the cupboard. No barrier would prevent them. After failing with several expedients I determined to give them a satisfactory feed. I took a large bottle and dropped into it a quarter of a teaspoonful of Paris green. To

this I added a tablespoonful of alcohol to make it more soluble, and filled the bottle up with sugar syrup. Then I got a piece of a pane of glass and poured them out a meal on it, setting it in their trail on the floor. This was in the afternoon at five o'clock. The whole colony was awakened. They streamed in all night, passing around by the edge of the carpet, over which they would not crawl, and filled up on the deadly feast and went back again—hundred, thousands of them, hundreds of thousands. The next day by ten o'clock not an ant was to be seen. Once since, the colonies in rear of the house were induced to come to a festival with like results. Not one died in the house. The bottle is yet half full, waiting any further encroachments.

C. H. MURRAY.

Elkhart, Ind., Sept. 22, 1891.

The following hotels have been recommended to us as desirable places for the accommodation of those intending to be present at the N.A.B.-K. Association to be held in Agricultural Hall, Albany, N.Y.:—Globe Hotel, American Hotel, \$2 per day; Cox Bros. No. 4. Williams St., (temperance house), \$1 per day; W. H. Keeler, 488 Broadway, (European plan), rooms 50c., 75c. and \$1; Kimbal House, 69 Washington St., \$1 per day; Merchants' Hotel, 497 Broadway, J. Keeler, 56 State St., \$2 per day. Odel Restaurant 94 State St.

Queries and Replies

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

A Question in Reference to the Market.

QUERY No. 317. (a).—Has there been more comb honey produced during any season in the United States and Canada than there has been marketed before the next season's could be placed on the market? (b) Ditto.—Extracted honey—
A. R.

G. M. DOOLITTLE, BOROINO, N. Y.—I think so. Not more than could be, but more than has been.

EUGENE SECOR, FOREST CITY, IOWA.—I have no statistics at hand.

JAS. HEDDON, DOWAGIAC, MICH.—Yes. (b.) Yes; more than was consumed.

PROF. A. J. COOK, LANSING, MICH.—(a) I think so. (b) I do.

G. A. DEADMAN, BRUSSELS.—I don't think so in Canada.

J. K. DARLING, ALMONTE.—The dealers can answer this better than I can.

ALLEN PRINGLE, SELBY, ONT.—I presume the season following a good honey season sees more or less honey of both kinds on hand when the new crop comes in.

J. F. DUNN, RIDGWAY, ONT.—Yes, there has been more raised than has been marketed; but if bee-keepers would work up the home market there need be no trouble on that score.

R. F. HOLTERMANN, BRANTFORD, ONT.—(a) Cannot speak for the U.S. In Canada, I think all the honey might have been sold if the producer had known where to market it. Home markets should be looked after first, then all surplus away from home. A good market at ruling prices can always be disposed of before fresh honey comes in the market.

J. E. POND, NORTH ATTLEBORO, MASS.—Some one else must answer this—I am unable to do so, and don't know where or how to get statistics on the subject. I should suppose, however, that some sections may be found where honey has been carried over for want of purchasers.

G. W. DEMAREE, CHRISTIANBURG, KY.—I am not able to say positively, but I believe the market has been seldom entirely bare. I have some extracted honey of last year still on hand, but I could have disposed of it last winter if I could have foreseen the glutted state of the market so early this year. I guess I see what you are driving at. You suppose that the markets will always take all the honey that is offered. If this is it; you are mightily mistaken. The market is quickly and easily glutted with honey. Honey is not "staple" yet, and none but the producer looks ahead; a big pile of honey gluts with a vengeance. In comparison, a barrel of honey will out-glut a hundred barrels of sugar, because the latter is *staple*, and the former is not yet.

D. A. JONES, BEETON, ONT.—We do not think there has, if it has been properly distributed to the various points where sales could be readily effected.

Empty Combs as Division Boards.

QUERY No. 318.—Are empty combs not as good division boards as those generally recommended and used?—E. F.

ENGENE SECOR, FOREST CITY, IOWA.—I believe they are.

G. M. DOOLITTLE, BORODINO, N. Y.—Perhaps so. I prefer the division board, however.

J. E. POND, NORTH ATTLEBORO, MASS.—Yes, and in my own opinion far better.

JAS. HEDDON, DOWAGIAC, MICH.—For winter, do you mean? If so, perhaps they are, sometimes. Not for any other purpose.

G. A. DEADMAN, BRUSSELS.—No, certainly not, unless you mean division boards with a half inch space all around. I prefer and use chaff, with close-fitting division boards.

ALLEN PRINGLE, SELBY, ONT.—To keep cold out the comb division boards would need to be as large as the wood, and fit as tight in order to be as good.

R. F. HOLTERMANN, BRANTFORD, ONT.—They might be in spring, if fitting tightly at the sides; in any case, they would in summer, unless the board was to keep nuclei apart. The division boards costs less.

J. K. DARLING, ALMONTE.—No. The bees would be affected by a change of temperature far quicker, and so suffer more with the cold, and when warm would not recognize an empty comb as a barrier, but would be likely to build comb in the empty space beyond before they had occupied half of the combs they already possessed.

G. W. DEADMAN, BRUSSELS.—Yes, such is my experience; but when you meant your bees to rear brood in all the combs—the comb is an expensive division board because the bees refuse to utilize the outside comb, because it is unprotected by a "background." In fact the bees want the combs encased all around them, and for this reason the division board is necessary when the brood chamber is to be contracted.

D. A. JONES, BEETON.—An empty comb does not fit tightly to the sides of the hive, and therefore the bees could escape more readily than if a division board was used.

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A FEW Trios, Buff and Partridge Cochins, \$5 to \$10 a trio, also three breeding pens of Br. Leghorns, \$5 a pen. Eggs from Cochins and B. P. Rocks, \$2. Br. Leghorns, \$1.50. BARTLETT & GEORGE, Clarence St., London.

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Brood Foundation, 50 cts. per lb.
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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, 186 WEST ADELAIDE STREET, TORONTO.**



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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.

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1st and 2nd on S. C. B. Cock, These birds are for sale
2nd on S. C. B. Hen, 96; 1st on Bk Minorca Pullet, 94
1st on S. C. B. Leghorn, B. P.; 1st on Bk Minorca B. P.;
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EGGS, \$1.00 for 13.

Light Brahmas—Six yards. Fletcher, Duke of York, Williams and Buckiam strains

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Black Cochins—Two Yards. Williams strain

Langshans—Three yards. Groad strain

White Plymouth Rocks—Four yards

White Wyandottes—Two yards

Silver Wyandottes...Two yards

Barred Plymouth Rocks...Twelve yards. Drake Upham and Corbin strains

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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

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

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Foundation and General Bee Supplies always on hand.

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We pay 35c in trade for good pure Beeswax, delivered at Beeton, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 20 per cent. on Wax coming into Canada

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Brood Foundation, cut to any size per pound.....50c
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Brood Foundation, starters, being wide enough for 48c
Frames, but only three to ten (inch s) deep

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Less than full roll lots the price will be 1 1/2 c sq ft

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Breeder of
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IMPERIAL - PEKIN - DUCKS.

Chicks and Ducklings for sale in September. No more Duck Eggs for sale. Leghorn Eggs for balance of season, \$2.00 per setting of 13; or two settings for \$3.00, one of each if desired.

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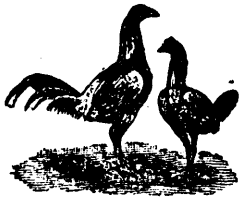
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COCKERELS, PULLETS, HENS,
 \$1.50 to \$3.50 \$1.00 to \$2.00 \$1.25.

Barred Plymouth Rock Cockerels, \$1.50.

Setting of Eggs.

BROWN AND WHITE LEGHORN.....\$1.50.
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I have not spared money in procuring best strains in the country, and you can rest assured you will get

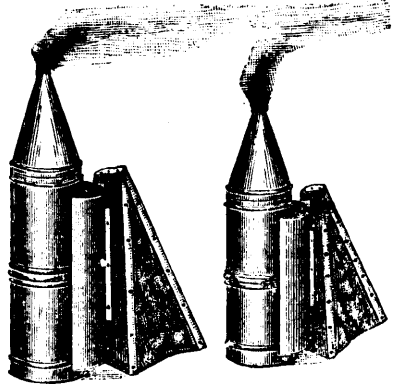
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