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THE CANADIAN BEE JOURNAL

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

VOL. VII, No. 2.

BEETON, ONT., APR. 15, 1891

WHOLE No. 286

THE CANADIAN BEE JOURNAL

Devoted exclusively to the interests of the Honey Producer.

Seventy-five Cents per annum in Advance.

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All advertisements will be inserted at the following rates

STANDING ADVERTISEMENTS.

Time.	1 in.	2 in.	3 in.	4 in.	1 col. page
1 month.....	\$2.00	\$3.00	\$3.50	\$4.50	\$6.50
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Occupying one-half inch space, THREE DOLLARS per annum.

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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.

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Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion—not to exceed five lines—and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else it will be inserted in our regular advertising columns. This column is especially intended for those who have poultry, eggs, bees, or other goods for exchange for something else and for the purpose of advertising bees, honey, poultry, etc., for sale. Cash must accompany advt. Five insertions without change, \$1.

STRICTLY CASH IN ADVANCE

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

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

PUBLISHERS' NOTES.

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

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

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

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

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

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

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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.

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THOS. BARRETT,
Norfolk Poultry Yards
BREEDER
AND IMPORTER OF

Langshans,
S. G. Dorkings,
S. C. B. Leghorns,
White Cochins,
Black Hamburgs
EGGS IN SEASON \$3 per 13 or \$5
per 26, Birds for sale. **ANGUS, Ont.**

1882 Chester Poultry Yards 1891.

E. J. OTTER,

90, De Grassi St., Toronto, Importer and
Breeder of Exhibition

**DARK BRAHMAS,
ORNAMENTAL BANTAMS**

My birds are second to none. They have won since
1890, 97 money prizes, 4 specials. Birds for sale at all
times. Eggs in season. \$3 per 13, or 26 for \$5. Satis-
faction guaranteed.

**BROWN LEGHORNS
AND BLACK MINORCAS.**

WILL sell a few sittings of Eggs from my grand
breeding pens this spring. My Brown Leghorns
are second to none in Canada. At the Owen Sound Show
I won every first and second prize given, winning eight
first and second prizes, making a clean sweep. I have
kept the honors at Owen Sound for 5 years in succession
on Brown Leghorns. My Minorcas are grand birds. In
looking over the prize lists this winter I find I had the
highest scoring Minorcas in Canada (93 to 98). Eggs
from each variety at \$2 per 13 or \$3 per 26 and will give
satisfaction. Brown Leghorns, Benner's strain. Black
Minorcas, Abbot Bros' strain from imported stock.

Address

J. C. BENNER, Owen Sound
Care Polson Iron Works MENTION THIS JOURNAL

DON'T - FORGET

where the **BEST STOCK** in the country is kept.

If You Want Eggs for Hatching

1st Prize Birds as Breeders,

LEGHORNS, B. MINORCAS, B. LANGSHANS.

Eggs per Setting, \$3.00 per two settings. \$5.00.

FRANK TIER, - - - ARYA,

NO CIRCULAR.

Imported Indian Games!

1st prize winners at Toronto and Brampton, 1890. Eggs
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ton, Eggs, \$2 per 13. Golden Wyandottes, Rose Comb
Brown Leghorns, \$1.50 per 13. All prize winners at
Brampton

MAMMOTH PEKIN DUCKS

Eggs, one dollar per 12.

My stock is second to none. Eggs guaranteed fresh and
well packed in baskets. Give me a trial. I am here to
please you. **JOHN A. NOBLE, NORVAL ONT.**

J. L. CORCORAN

Stratford, Ont.

Breeder of Exhibition

BARRED P. ROCKS

White Wyandottes,
S. G. and Colored Dorkings
Imperial Pekin Ducks.

BIRDS FOR SALE AT
reasonable rates.

Eggs, \$3.00 per Setting.



**Niagara River and Grand River
POULTRY YARD.**

Mammoth Lt. Brahmias & Barred P. Rocks.

STILL to the Front, always winning first place in the
sharpest competition, beating the birds that were
at Toronto, London, Barrie, Detroit, Brampton, Markham
So buy your eggs and stock from where the prize winners
spring from. Eggs from our prize winners \$2.50 per 13
\$4 per 26. Send for our Club circular..

**ACKERLY & CLARK
DUNNVILLE**

Partridge - Cochins

My breeding yard of P. Cochins for the year 1891 has
been selected with the greatest possible care

"HANSLER"

a superb Cockerel has been placed in command and has

EIGHT LARGE HENS

under his care are noted for even pencilling and abun-
dant middle to feathering. A limited number of eggs
will be sold at \$2.50 per 13 or \$4 per 26. Our club cir-
culars free.

R. H. MARSHALL,

Sec. Perfection Fancier's Club, Dunnville, Ont.

JOHN GRAY

TODMORDEN, ONT.,

-BREEDER OF HIGH CLASS-

GOLDEN WYANDOTTES, SILVER WYANDOTTES

WHITE WYANDOTTES, & PARTRIDGE COCHINS.

My laced Wyandottes are large and beautifully pencilled.
My Partridge Cochins have scored from 91 1/2 to 94 to 95
Cockerel won 2nd at Brampton 1890 show. The above
birds are mated to produce best results. I aim to please.
try me. Eggs \$2 per 13. A few choice birds for sale.
Send for testimonials etc., never mind stamps.

GLEN VILLA POULTRY YARDS

A. R. MCKINLAY

IMPORTER AND BREEDER OF

HIGH-CLASS POULTRY.

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

25 cents will pay for a trial trip of **6 MOS.**
The Canadian Bee Journal

EDITED BY D. A. JONES,

Published on the 1st and 15th of each month, containing all the good things in the apicultural world as they come to the front. Think of a whole winter's reading for a quarter. Stamps, American or Canadian, of any denomination accepted at par. Sample copy free on application.

The D. A. Jones Co., Ltd., Beeton, Ont

Please mention this paper.

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Journal devoted to collecting the latest Apicultural News. Discoveries and Inventions throughout the world, containing as it were the cream of apiculture literature, valuable alike to amateur and vete. apiculturist. You want to keep posted you cannot afford to do without it. **SUBSCRIBE NOW.** It is a 20-page monthly only 10 cents per year. Stamps taken in one or two-cent denomination.

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Following our usual practice, we offer the following *very liberal* discounts off orders sent in accompanied by the cash before the date specified. If you will figure out this discount you will see that our offer is an extremely advantageous one for the purchaser, amounting to a great deal more than a good interest—say nothing of the benefit of having your goods when you want them. We will, in a week or two more have a capacity for fully twice as much goods as formerly, and we will be able to turn them out better.

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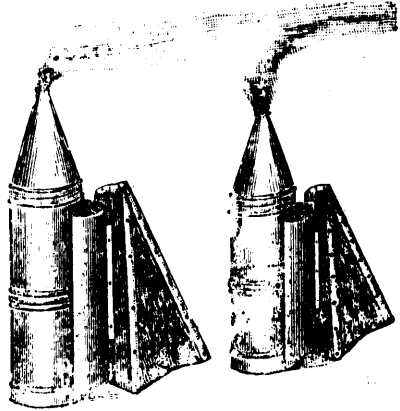
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THE D. A. JONES CO. (LTD),

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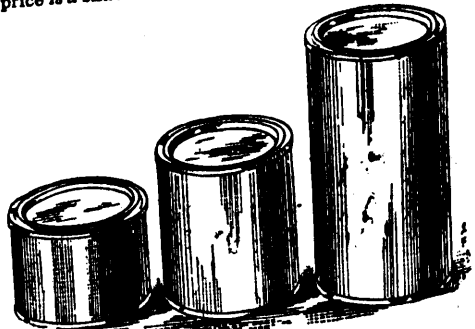
CUT IN PRICE



Since our Catalogue was issued, we have made a contract for a large number of smokers by piece work, at such figures as will enable us to reduce the prices. Hereafter the price of the No. 2 Smoker will be \$1, (formerly \$1.25,) with goods; \$1.35 by mail.

HONEY TINS.

We now offer the "Penny Lever" Tin in three sizes. These are probably the handiest tin to handle and the price is a shave lower than the "Screw-top."



NO. LBS.	PER 1000	PER 500.	PER 100	EAACH
5	\$60.00	\$30.00	\$6.75	6
3	47.50	25.00	5.95	6
2	40.00	21.00	4.25	6

THE D. A. JONES CO.!

BEETON, ONT.



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

VOL. VII, No. 2.

BEETON, ONT., APR. 15, 1891

WHOLE No. 286


THE CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

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

GENERAL.

Not A Good Plan To Fly Bees.

 R. JONES.—Here I am again bothering you for information, but I don't think you will consider it an imposition on my part when you read my letter.

I wish to know if you give your bees a fly when taking them out in the spring before putting them on summer stands, or is it better to leave them in winter clamp until it is warm enough to put them on their stands. I was thinking it would be good to make a kind of box attached to hive of wire gauze and just let them out in that so as to give them a little move around, shortly, when the weather gets warmer.

I also have one colony which I thought in the fall weak in bees and I left it in a dark closet away up stairs and I think, shortly, it would be well to take them down stairs and feed a little before putting out, as I think their stores will be short too.

Kindly give me your opinion as to moving, etc.


Snow is not near all gone yet, although the weather is getting pretty warm.

Yours truly,
 F. GILL.

Charlottetown, April 3, '91.

Where bees are doing well and are in no danger of starving, it is better to leave them in winter quarters until time for placing them on the summer stands. It is not a good plan to fly them in a screen as you mention, as it apparently does not satisfy them and worries them very much. The first warm day take a colony and place it where you intend it to remain for the summer, giving the bees a fly. Also take out a couple of combs, one on each side of the cluster. After shaking the bees off into the hive pour in some liquid food, which may be either honey or sugar syrup. Then set combs back in their place and as soon as the bees return to the hive, after having a good fly in the evening, return them to their former situation. You may repeat this operation once a week until the weather is sufficiently warm to allow them to remain on their summer stands.

Rearing An Artificial Colony.

 R. LANGSTROTH says, page 152, "The skillful apiarian may doubtless compel his bees to rear an artificial colony by separating from the main hive by a slide, an apartment that happens to contain brood." If Mr. Langstroth means to say (and I suppose he does) that this can only be accomplished "by a slide," he is certainly mistaken, as the following line of manipulation will show:—

In the spring of 1889, one of my colonies (a Holy Land) was unusually populous. It occu-

pied an 8-frame, two-story Langstroth hive—9 frames in the brood nest and 8 in the "super." By the latter part of July this colony was immensely populous, filling both chambers and the portico chuck full of bees. I suppose the queen occupied about 13 frames—9 in the brood nest proper, and 4 in the upper story. About the 20th day of July I connected the hive containing this colony with an empty hive in such a manner that the latter hive stood immediately in front of the hive containing the colony of bees. In this position the bees were compelled to pass (an opening being made in the rear of front hive) through the empty hive in leaving and re-entering the original hive. I then inserted into the empty hive a frame containing eggs and larvae. The bees in the rear hive immediately crowded immensely into the front hive as if a natural swarm had parted off. I waited the results 2 or 3 days, but no queen cells were started. At this time I inserted another frame or two containing eggs and larvae, and waited as before 2 or 3 days for results, but no queen cells were yet started, except here and there could be seen a few minute cups about empty cells, showing a very slight disposition to build queen cells. I continued this line of manipulation carefully, watching results closely till the 2nd day of August, when the front hive was full of frames thus added. The bees now (August 2nd) began to construct one queen cell only, which was developed very slowly—prolonging the time much beyond 8 days. I examined this cell 8 days after it was sealed over, when it had no appearance of hatching. I, at this time pulled the front hive loose from the rear one and sat it a little to one side, thus giving each hive an independent entrance. The bees were about equally divided and perfectly calm, showing no signs whatever of confusion. This cell finally hatched one of the best looking queens I ever saw. She is not only a pretty queen, but she has proved herself to be one of the best queens I ever owned. This queen did not begin to lay till late (if I am correct, not until the 15th of September). This being true, she must have been backward in taking her maiden flight. Hence she only laid about 18,000 eggs that fall. It is thus seen that the whole process of development from the egg to the meeting the drone was much retarded.

Now, Mr. Editor, you will please answer:—

(a). Why was this development prolonged beyond the usual time?

(b). How does the foregoing compare with natural swarming?

(c). If I had not pulled the hives, as referred in the foregoing, asunder, what would have been

the result? Would there not have been two laying queens in the same continuous hive?

(d). If the foregoing line of manipulation had been developed during (and not after, as was the case in the foregoing) natural swarming, what would have been results, comparatively?

Would like the foregoing inserted in the C. B. J., if agreeable; if not, just cast it aside.

M. G. HILL.

(a). The weather being very cool, sometimes queens will not hatch in 15 days, especially where they are not cared for as carefully and attentively as they are at other times. In warm weather a very populous colony will hatch in less than 15 days. (b). We would prefer natural swarming. (c). There might have been two laying queens, but the probabilities are that the one queen would have killed the other or the bees would have taken more kindly to the one than the other and the old queen would die. Two laying queens in one hive however, is not an uncommon thing. I have frequently had them. I once constructed a hive and put in a large colony with five compartments, four outside, one facing north, one south, one east, one west, and a central colony of the same size to which the bees had access through perforated metal from all the outside colonies. I had queens laying in the different compartments and the old queen in the centre. I also changed queens from the centre to the outside and vice versa. These operations were carried on for some time as an experiment, but we saw no special benefit in it and abandoned their use. (d). We do not think it equal to natural swarming, and the result would not be as satisfactory. It would require much more skill and perhaps frequently prove a failure.

FOR THE CANADIAN BEE JOURNAL.

Report From Campbellford.

IT IS so long since I have sent you a report or communication of any kind, and for fear you should think I have deserted the ranks as a bee-keeper, before the busy season commences, I must send you a report of my work for 1890.

In the fall of 1889 I put into winter quarters 39 colonies. All but one came out in good condition, but the latter part of the spring and early summer was very hard on them and on

the 5th of June I found some colonies in a starving condition, but saved them by feeding. I was foolish enough to sell ten colonies to a man by the name of Pugsley, at Goderich, who turned out to be a perfect dead-beat, and has never paid me a cent for them, but as I have heard since, on the best authority, that he makes a practice of never paying his debts, the knowledge that I have companions in my misfortunes, reconciles me in a degree to my loss.

The season improved as it advanced, and from the 28 colonies I had left I took 2000 lbs. of honey, principally extracted, most of which was gathered from clover.

I kept down increase as much as possible, and put 37 colonies into winter quarters in November, 1890, 15 of them packed out of doors. They were all alive two weeks ago, but one has starved since. It has not been really warm enough here to open the hives and put in frames of honey, besides I made sure that I had given them all an ample supply in the fall.

It is a good plan as a precautionary measure to lay some sticks of candy on the frames of every colony out of doors as soon as they fly in the spring, and shall try and do so in the future.

If you will give me directions for making the sticks of candy in the next number of the JOURNAL, so that I can make what I require for myself instead of having to send away for it, I shall be much obliged to you.

I am afraid, from present appearances, this is going to be a backward spring, and hard on the poor bees. A neighboring bee-keeper told me a few days since, that many bee-keepers he knows of, have lost half, and some all their bees. He thinks the fall honey was thin and that in consequence bees have not generally wintered well.

HENRIETTA F. BULLER.

Campbellford, Ont., April 7, '91.

We are very sorry that you should have lost your ten colonies in the way you did, and we trust that your letter will be a warning to others not to place any more with the same party. We hope he will see the evil of his ways and make the proper restitution. Before this reaches you we think the weather will be quite warm enough to use liquid stores. However, candy is very easily made by simply boiling sugar with a little water in it until it can be placed on ice or in water and may be broken. Just as soon as it will do this, you should stop boiling and pour it while hot into your dishes and cool as soon as

possible by allowing the dishes to remain in cold water or on ice or snow. We have sometimes taken stiff paper and bent the edges up at right angles 1 inch high and about 1½ inches wide, and by carefully placing these side by side in a dish and then pouring in your sugar each cake would be separate, but unless the paper is greased it would stick to the candy which is objectionable.

We have found that caking it in the dish without partitions and breaking it up into pieces after it is cool and laying it on the frames, is just as good a plan as any. You will see in a back number of the C. B. J., a receipt for making honey candy. We are sorry to hear that bees have not wintered well in your locality. Perhaps a better way to put it would be to say that they have not been put up as well as they should be. The fact of yours being in fine condition shows that it is only necessary to have them properly prepared in the fall to have them come out in fine condition in the spring. We often wondered why you did not write us more frequently. Articles, especially from a lady bee-keeper, are very acceptable.

FOR THE CANADIAN BEE JOURNAL.

English vs. Canadian Foul Brood.

IN REPLY to an article of Allen Pringle's in B. B. J., our esteemed friend, the editor, seems to think that Canadian foul brood is some mild, dry type, or different from the English foul brood. I can assure him if they have got any worse disease in England called foul brood than what we have in America I am sorry for them. It scarcely seems possible that any disease could be worse than ours. That it is contagious there, is no question, as many of us have found to our sorrow in years gone by, but to say that our fasting system will not cure foul brood and thoroughly rid any apiary of it, when properly managed, is contrary to our experience. I have personally superintended and cured thousands of colonies, but in my earlier efforts I frequently found my treatment was not a success. I sometimes found that 4 or 5 days fasting was sufficient to make a permanent cure. At other times 2 or 3 days would make a perfect cure and at other times 6 or even 8 days did not do it. I then began to search for the reason why some colonies should be thoroughly cured, while others were not, and I was not long in learning that the honey was the

principle, if not the entire cause of the difficulty. The location or position in which they were placed to fast, had much to do with the results, or time required for fasting. Again we found that queenless bees, if made queenless at the time they were put away, did not fast or consume their honey as evenly as those which had queens, and when they were placed where the light could shine in, some of them would rush about the hive or fasting box, over the wire cloth attempting to escape, and in their vain efforts to escape would exhaust their food and perhaps worry themselves to death in one or two days, while others that remained quiet would not have all the honey in their abdomens consumed in perhaps 6 or 7 days. Soon we found that it was necessary to place them in a dark place in order that they should all remain quiet alike, and as they were all clustered together, they would usually fast more evenly. The bees would become perceptibly smaller, their abdomens get very small and slim and the cluster would also get smaller, and when kept hanging in that position in a dark room until all the honey in their abdomens was thoroughly consumed we never have found a case of foul brood to return. We have even fasted them longer and found it to return, and in looking for the cause we well recollect finding that they had built combs, and in some instances filled it with honey or put some honey in it. For instance, after fasting them for many days, in shaking the bees out of the fasting box we found this comb, and on examining it we found honey in the cells. We took this honey and fed it to a clean nuclei to ascertain if it would give them the disease, and we had no difficulty in starting the disease in any hive in which we fed this foul honey left by the bees in their comb. While fasting, repeated experiments proved to us that the honey they carried in their abdomens when they were taken from their affected colonies, they deposited in the combs they built in their fasting box. When they did build the comb and so deposit, the honey would give the disease to any clean colony that it was fed to. When they were brood rearing these experiments were varied and carried on sufficiently long to satisfy us that we were not mistaken. After becoming thoroughly convinced that by fasting the bees all the honey was consumed and putting them in disinfected hives that the cure was certain, we went to an apiary containing over 150 colonies, all affected with foul brood, some of them so bad that it was difficult to handle the combs and shake off the bees, so loathsome was the stench arising from it. We placed this number of colonies in the fasting

box, rendered the combs into wax, boiled the hives and frames to disinfect them, made the wax into foundation, put foundation back into frames, and when the fasting was complete, returned the bees back to their own hives, frames and comb made of foundation. In not one instance did the disease return to any of these colonies. Now if the queens or bees carried the disease in any way, why was it that the eggs they laid were not infected with the disease? Why was it that the disease did not get into the body of the bees, or from wherever it lurked in the food fed to the larvae which again would cause the disease. Now, this one instance which I mention is not the only proof. I could mention fifty others. Some argue that it is carried by the bees and scattered in the fields amongst flowers, but this apiary of over 150 colonies, which was diseased for 2 years, was less than one-half mile from a smaller apiary which never had a case of foul brood. Now if the bees from this large apiary, which visited almost every cloverhead and other flower in that vicinity, carried the disease and scattered it in that way, is it not strange that this smaller apiary, situated close by and gathering honey from the same flowers, flying over the same yard to and from the apiary and gathering their stores all around, should not have been affected. It is a well-known fact with our best beekeepers of America that fasting until the honey is consumed in their abdomens, disinfecting hives and frames by boiling, rendering the combs into wax by boiling, and even boiling the honey will disinfect it so that it may be fed with impunity to any colony. Now if our foul brood in America is not the same as that in Europe I would like to know it, and I will ask as a favor that some of our European friends will select some of their worst foul brood that they can get and forward it to me safely packed and I will endeavor to get some Canadian foul brood and forward to them in return. I will infect colonies with the European plague, then try after they become thoroughly affected our various cures. I have an isolated spot with no bees near that I can operate with perfect safety, and they can infect their colonies with our American foul brood and see if it is not the ordinary European foul brood. We believe that it first came from Europe, but there are points which must be remembered. The atmosphere in some localities in Europe being so damp with their excessive rains and fogs, might make the disease operate more rapidly. Our atmosphere being dry there might be some slight difference in that respect, but if our European friends should find out as Mr. Root, of Medina, Ohio,

that aparies can be cleansed without any medicine, we shall not be surprised. In saying this I do not wish to infer that some who have tried the fasting plan in Europe are not amongst the best and most scientific bee-keepers. Why they do not succeed I am not able to say, but I would like to prove that their foul brood is not worse to cure, if as bad as ours.—D. A. JONES.

Bees and Odors.

THE following interesting paper on "Bees and Odors" was read by Mr. R. A. H. Grimshaw, at *Conversazione* of the British B. K. A., Feb. 24, appears in the *British Bee Journal* of March 12.

"I must ask your indulgence if in this paper I deal more with the question of odors than with the distinct connection we know exists between them and the honey-bee; that point needs no elucidation, it stands as a plain matter of fact. The visits of insects are required by some plants—they secrete perfumed nectar, which has the effect of attracting the insects, with the results we all know of. There is, however, an aptness to confuse the words odor, perfume, scent and smell, and from this I will not attempt to exempt myself. Shakespeare tells us 'The rose by any other name would smell as sweet.' Moore says:—

'You may break, you may shatter the vase, if you will,
But the scent of the roses will hang around it still.'

And so on through the innumerable works of preceding and subsequent writers, the words are used somewhat indiscriminately.

The scent of the violet stinks in the nostrils of the fox-hunter, because it draws the hounds off the scent—mark the word—the *scent* of the fox. Now, if there is one smell above another that is an abomination, it is that of a fox; yet the odor from the bruised leaves of the St. John's Wort (*Hypericum*) is identical with it, and is the most delicious perfume to some insects. Many plants are the color of putrifying animal matter, emitting the same smell, the color and smell serving to attract such insects as are necessary for the cross-fertilization of the plants, while they repel undesirable visitors. In other species the very exquisiteness of the perfume is protective against an enemy. In a rough survey of animate nature—or rather the animal kingdom—we observe the power of odor as an important factor, insects, birds and beasts being drawn towards others of their kind, or from or to suitable or distasteful plants, by be-

ing able to distinguish the attractive or repelling odor provided.

We should, strictly speaking, never take upon ourselves the responsibility of branding any odor as agreeable (attracting) or disgusting (repelling) excepting as it refers to our own sense of smell, for all, even the vilest to us, are intensely agreeable to some other animal, and the converse is also quite true. Take oil of cumin or aniseed as an example; the aroma of these is so much beloved by horses and some other animals that they are used as taming media. Some insects delight in putrefactive odors, but to others they are an abomination; every plant or animal bearing a distinctive odor is valued and sought after by some living thing, which uses this means for its discovery.

All odors are attractive in most directions, absolutely repellent ones are few in comparison. Plants, as a rule, are provided with protective appliances, mechanical arrangements against robbery—such as hairs, spines, folding doors kept tight by springs, barriers of sticky wings where leaves join stems, etc.; but I am sure the scents given off by smell-distilling cell-contents are not nearly of so protective a nature as is commonly supposed. It cannot well be so when we remember that ever odor given off by plants and flowers is an elaborate secretion of its cells, generally—nearly always—identical with the essence of the whole plant—its active principle, in fact. It may be all very well to say the plant will repel certain visitors by the odor of this essence; in some cases I admit it does so, yet I contend this is chiefly accomplished by the other means I have named, and that the portion of essential principle which is diffused in the air is mainly attractive in its office. The plant giving off odor loses some of its substance, which floats in the air—with the wind, of course; the bulk of this matter is (for want of a better word) wasted, exactly as is the case with the clouds of pollen-grains which never fulfil their office, but are absorbed and used again in the great laboratory of the soil we live on. (A similar fate seems to overtake the countless drone bees, which appear to us as having lived in vain.) Such substance, then, of the plant as is thus received by a desired organism produces what may be termed a pollination of odor, the scented cell-contents absorbed by the receiving organism, having successfully played their part; but in nearly every case, I wish you to notice, this reception is in animals given by the breathing apparatus, by inhalation. The atom-like cells of odor, with their own peculiar and characteristic chemical properties, strike responsive chords on certain cells as they pass

along the air-ducts, and these sensations being carried to the brain (or what does duty for it) record the character of the plant or animal from which the messengers come.

Our own organ of smell does a score times more work than it gets credit for, and the taste-organ gets credit for an amount of labor considerably in excess of what it performs; this is due to our own physical inability to accurately discriminate in our own minds between what we taste and what we smell—there is a sort of deception practiced by these two senses upon the brain. These senses are not alone in this failure of identification. Eyesight and touch may be deceived with ease. Truly speaking, the greater number of the things we believe we are actually tasting, we are but smelling; for instance, the different flavors of honey. Our own comparatively coarse discriminating organ of smell can be easily rendered useless by cold; the taste-organ nearly always sympathizes with it, and we thus so often find a cold in the head deprive us of the temporary use of these senses. To be accurate, we can only taste acids, alkalis, sweets and bitters, these things recording themselves on taste-cells situated at the back part of the tongue, whereas the flavors of things rise, or are rapidly carried up, to the true smelling cells situated in the nostrils. Now, what about the honey-bee and its taste (!) organs? Are they not, must they not be, in some portion of the mouth as in most other animals, so that what passes down the oesophagus may be checked, and passed along as approved and suitable, or rejected? Is it not more reasonable to confine the true use of the taste-organ of the bee to the discrimination between acids, alkalis, sweets and bitters, to locate these tasting-cells in the mouth, as with us, than to mistake tasting for smelling, and lodge the organ in the antennae? When we observe a bee approach any substance with its head, do we not find the antennae passed over it and touching it before the tongue comes into play, smelling and touching before tasting? It becomes an interesting subject for thought how the smell of nectar, or anything else, is carried to the knowledge-centre of the honey-bee, for it seems to me that an act of inhalation is necessary in nearly all animals before the smell-organ can be brought into use, before they can taste (!) anything beyond sweet or bitter, alkaline or sour; this is in order that minute flavor-atoms may be borne along the current and strike the scent-cells en route. No air, current no inhalation is necessary to enable the bee to smell by its antennae; there can be no actual inspiration, bringing the flavored particles into contact with the extremely sensitive

smell-organ—seeing that the inhalation of air is believed to be only by means of the spiracles found on the abdomen and thorax. Every other animal (excepting insects) I can think of, that is attracted or repelled by odor, demands the mechanism for the inhalation of air-currents. With the bee, which we all know is violently attracted or repelled by agreeable or disagreeable odors, I believe the scent-atoms strike immediately on those telephone-receiver-like depressions on the antennae, which communicate the impression to the thought-centre precisely as do the scent-cells in our own nostrils. Whenever we notice bees under the influence of odor the antennae are somewhat raised forward, so that the scent-atoms borne about by the air may strike the drum-like disc and vibrate them on the nerve-tip, which we believe is the true organ of smell. Whenever we notice bees approach an odorous substance the antennae are first placed over it, for the reason just stated.

Returning for a moment to the agreeable or disgusting qualities of odor, let me impress upon you the fact that attraction or revulsion are almost always only questions of the intensity of the smell given off. Try most odors—musk, Lawthorn, orange, heather, clover, the smell of apples, pears, and many fruits, the scents of lillies, violets and most flowers—in intensity, and even on our notoriously coarse olfactory nerves there is an exceedingly objectionable effect produced. On the other hand, let us attenuate by spirit water or air nearly every objectionable smell, and the sensation becomes agreeable, so that the bee finds delicious what may annoy us, and is sometimes intensely annoyed at what we may deem agreeable odors. This is the case with many human beings who have more or less sensitive smell-organs. We find precisely the same thing with the essential active principles of plants; diluted they are potent medicines, whilst in intensity they are deadly poisons.

Again, we find insects which, in their larval state, feed on plants, are flavored throughout their whole body with the active principle of the plant, besides partaking of its color (falsely called mimicry). Both in color and taste they resemble the food they eat, and not this alone, but they have in many cases an apparatus for casting forth flower-perfumes for the same purposes as the nectar is used by flowers—aims at cross-fertilization or protection against undesirable mating. Some larval secretions of beetles smell of guano. Some larval secretions of moths smell of pineapple, fennel, pears.

Beetles.—A *Pterostichus* smells of smelling.

salts; a Dytiscus of sulphuretted hydrogen; a Trichius of musk: an Osmoderma of Russian leather; an Aromia of musk; a Cantharis of mustard; a Lina tremula of raphtha; certain long-horns of tea-roses.

Moths.—Musk, vanilla, jessamine, amber, vinegar, turpentine, ratafia.

Plant Bugs.—Fruit essence, thyme, peach, dead nettle, black currants, sliced cucumber, hyacinth.

Gauze Wings (amongst which are bees).—Musk, cachous, ether, formic acid, garlic, etc.

So that we see the delightful aromas we have hitherto thought peculiar to plants and their flowers also emanate in many instances from members of the animal kingdom.

The whole subject of odors so far as insects and plants are concerned, is woven the one into the other in the most beautiful web of intricate interdependence; yet, when we remember that these odors, essences of plants, when analyzed seem to us (mere compounds of carbon and water) as simple as the mariner's compass, we find they are just as mysteriously wonderful. It appears as easy for the mind to grasp the idea of their simplicity as it is to think of the glistening diamond or a plain bit of coal as a piece of carbon. The whiteness of the clear crystal, the opaque blackness of coal, however, are in truth so complex that the chemist is able to extract from the one the most lovely colors, from the other the most enchanting perfumes and delightfully tasting essences.

FOR THE CANADIAN BEE JOURNAL.

Not Advisable to Import Syrians.

DEAR SIR,—Please excuse my troubling you a moment concerning bee matters. I am aware you imported queens from Syria—different points—and I observed in one of your communications years ago you mentioned that you discovered some difference between the bees you obtained in different parts of Syria. I have never seen these-called Syrian bees, but I am contemplating trying a Syrian queen and want to get one of the most desirable strain. I am not particular about perfection in looks if well or truly bred. I do not know whether or not you still run your "Islands" and breed queens strictly true to breed or strain. I have been thinking of importing queens from Syria through some American resident there. I would send mailing cages provisioned for the bees passage. I boast of mailing the first queen and attendants ever shipped by mail transit, but I never engaged in breeding queens and never sold a queen, but have had hundreds from

different breeders including a number of Carniolans.

I was concerned with Mr. J. R. Mahon in soliciting our government to import Italian bees in 1859. We failed to interest the government officials and Mr. Mahon made a trip to Germany and purchased queens of Dzeryon & Berlspech, and returned to Philadelphia in September, 1859. It was a losing game for us. Messrs. Colvin & Wagner had queens imported on same ship with Mahon's bees. These queens were the first Italians that reproduced in America. Rev. Mr. Langstroth has not given correct accounts while attempting to record the history of the first importation of Italians. He gave it as he understood it, but he did not know all the facts, and is evidently mistaken, as shown on the face of his statements. Mr. Parsons was sent to Europe as a government agent—not to buy bees—but after we solicited the Patent committee for a commission to go to Italy an order was sent to Parsons to purchase bees and ship hither. Parson reported he purchased ten colonies on the government account and ten on his own account. He received some queens, the government none. But Uncle Sam paid, as the record shows, one-thousand eight-hundred dollars on account of the bees. I had a little racket with the commissioner over the matter. Parsons was more in luck in the matter of importation than yourself and the rest of us. Parsons official report of his mission to Italy appears in the patent office annual report for 1860 or 1861, in which he alludes to the bees. The government bees (dead) arrived in the spring of 1860.

I have wandered from my inquiry, however. Can you furnish me with a Syrian queen next coming season? I do not care for beauty, only pure breed. Perhaps I would go in for a virgin queen. If I should try to import from Syria I would try and get queens from cold regions from the mountains about Nazareth or other high cold climates. I suppose bees bred on Mount Lebanon are equal to any of the "Holy Land" bees, and if I remember correctly you imported from Mount Lebanon. If you cannot furnish these bees can and will you please refer me to a party in Syria who would give me information concerning the bees?

Very respectfully,

C. J. ROBINSON.

Richford, Tioga Co., New York.

We would not advise you to get any Holy Land bees or Syrians as they are now termed. We have tested them thoroughly and we are satisfied the results would be very unsatisfactory to

you. Our climate is too changeable and they are very cross. They have more disadvantages than advantages. They are very liable to breed too much and consume much of their stores for brood. You had better get some of our best Canadian or American strains of Italians which are more or less mixed with the foreign races. There is more or less of the Syrian or Cyprian in almost every apiary.

FOR THE CANADIAN BEE JOURNAL.

About Extractors.

SEE by the last C. B. J. that D. A. Jones gives notice of the Solar wax extractor that I sent him last season among the list of articles he has to sell. He says the one I sent him is too costly for the public. Now I think every bee-keeper who has over ten colonies will find it will pay him to get one of my Solar wax extractors, instead of one like the cut he has in his list of articles attached to the C. B. J. My opinion is that you had better get one of the best when you are at it for all the difference in price. It is a thing that will last you a life time. While his spoils the honey for market mine improves it, and that is quite a consideration. Send your order in to the D. A. Jones Co., and ask for one of Alpaugh's solar wax extractors, and I think you will never regret it. I give the Jones Co. my consent to make and sell them at whatever price they chose. I think they are in a position to make them cheaper than I am. I am not making one red cent out of this, but just doing it for the good of the public. Every beekeeper should have one. Throw away your steam extractors as they only spoil your wax.

JACOB ALPAUGH.

St. Thomas.

Now, friends, you hear what Mr. Alpaugh has to say. He is a practical bee-keeper and very ingenious. He is the inventor of some very good apiarian appliances. His plan of putting comb foundation into sections is both original and good. Mr. Alpaugh is one of our best comb honey producers. He has been very successful in his business and we shall be pleased to hear from him at least once a month. No doubt there is very little profit in his wax extractors, and that is the reason we have made one like Mr. Doolittle's or A. I. Root's which from appearances will answer the purpose admirably. There is one thing

certain, however, and that is that steam or heat must be applied to wax sufficient to kill all the spores or germs of Foul Brood, before it is made into foundations, and we are convinced that heat from a solar wax extractor will not do this. We would like to have Professor Cook test the lowest temperature that wax might be melted at and yet destroy these germs.

Sterilizing Wax.

ON PAGE 475 of the C. B. J. Mr. Corneil further discusses sterilizing wax, and says, "Will Mr. Jones please give us the temperature at which wax boils." In speaking of "boiling of honey or wax," I did not intend to convey the impression that it was the beeswax itself which boiled, because I have frequently cautioned the readers of the journal not to attempt to boil wax as it destroys both its texture and color. I do not know, in fact, if there is a point at which pure wax will boil. I think it would be more likely to burn than boil. I have always advised the use of water or steam in the rendering of wax and in this instance I meant to say, that when the water boiled and the wax reached the temperature conveyed to it by the boiling water it practically destroyed the disease. In rendering combs in our wax extractor we allow the live steam from the boiler to pass in, and by putting a heavy weight on the lid of the extractor we manage to get a considerable pressure of steam which makes the wax very hot and renders it much more rapidly than it is rendered by using the wax extractor upon the stove. I intend to make some careful tests this season in order to ascertain the temperature reached by our system, which I know kills foul brood spores. When I first tried this plan years ago I was not positive that it would rid the wax of the disease, but thought so, and after scores of tests in which the disease never afterward made its appearance I think I have sufficient proof for saying that practically the disease is destroyed by the above process, whether the spores are scientifically killed or no. I quite agree with the assertion that it requires a higher degree of dry temperature to kill the germs than it does with moisture. I hope soon to be able to give the various temperatures which are necessary to kill germs of foul brood. How low a temperature of hot water will kill the germs I am not prepared to say but the ordinary boiling temperature of water is quite sufficient and never has failed with me. If any of your readers

doubt that the disease lurks in the honey, all they have to do to test the matter is to take a comb from a clean hive containing eggs and larvae and extract honey from it. Then make a nuclet, with this comb in it and feed them on the honey taken from a foul broody colony, and the result will dispel their doubts. I have caused such colonies to be badly diseased with foul brood in a few days and the same honey boiled and fed to others similarly situated showed no signs of causing disease. Now, Mr. C. seems to think that practice is of very little use and that science determines all these questions. While I am willing to accord to science it's due meed of praise, I do not feel inclined to discard an opinion which practice has demonstrated to me to be true over and over again for the sake of a theory, which is contrary to all my experience. When science can point out a simpler and surer mode of destroying foul brood than what I now practice with complete success I am prepared to accept it.

I have yet to learn, however, of one scientist who has been able to detect foul brood in honey. He discovers it under the bees feet, tucked up under the scales of their abdomens, in the hairs on its throat, in fact every corner of the bee seems to be filled with foul brood, but he cannot detect it in the honey. Now, if every bee in a colony be reeking with foul brood and its whole system honey-combed with the disease and they be compelled to consume all the honey in their abdomens the disease is immediately stayed and the colony is completely rid of its ravages. Will our scientific friends explain this fact if the disease be not in the very place where they fail to see it. If some of these scientists will send me a sample of bees which contain so much foul brood, I will mash them up and soak them in honey and then see if feeding that honey would give the disease. If it did it would be a proof to me that the disease lurked there but always harmless unless it was mixed with the honey. The point, however, that Mr. Corneil is after is to find out how low a temperature will kill the spores. Now that is something I would like to determine as well, and I would like to know if there is any clear case on record of foul brood coming from comb foundation even though it is melted at a low temperature. Then again I would like to know if the spores covered with melted wax would cause foul brood to start again in the hive, because if the bees are full of spores and covered with them and if they never start the disease except through the medium of the honey perhaps the spores in the wax might remain in the same dormant state. We want just such men as Mr.

Corneil, however, to keep us from making mistakes and to point out our errors in practice as we are liable to err in our conclusions sometimes; but is it not also true that scientists occasionally find out that what they imagined was a fact, is wrong, and when their theories clash with practical facts it behooves them to search closely and see whether their premises are not astray.—D. A. JONES.

FOR THE CANADIAN BEE JOURNAL.

A Chapter for Beginners.

DOES that mean you, my friend. Well, I want to talk to you. If you could call around this evening I would prefer talking to you. But then the motto of the C. B. J. says the "greatest possible good to the greatest possible number," so I shall endeavor to give you a few hints through its columns, and if there is anything that I don't make quite clear don't hesitate to ask questions, I shall try to answer to the best of my ability. You do not own any bees you say, and wish to purchase. Now, my friend, "go slow." You would not think of entering any other business, of which you knew so little, without some preparation to render success more certain. The first step should be the purchase of one of the many text books; read, and above all *study* it. After you are through this I would advise you to read all the back numbers of the bee journals you can get, and don't forget to read all the failures as well as the successes, and remember that sometimes by reading closely you can read between the lines.

"Who reads,—

And bring not to his reading,
A judgment equal or superior
Uncertain and unsettled still,
Remains deep versed in books
But shallow in himself."

Don't think because you know of Mr. So and So that gets "lots of honey," from his bees and yet never saw the inside of a bee's journal or text book, that you can do the same. Such people are rare, and they invariably spend a good deal of their time testing ideas, which had they taken the trouble to "read up," they would have found had been discarded years ago. I know of one such a person. He has an apiary of about 50 colonies. One of his ideas is that each hive *must* be painted differently from its fellow either in color or splashes of different paint in front of hive. But he gets a fair crop of extracted honey, and sells it in the City of Buffalo, clearing 17½ cents per lb. after paying the duties. I know another bee-keeper living in the same county. He takes several journals,

has nearly all the text books and reads them. His apiary is a model of neatness, and the hives are symmetrically arranged, he has a better locality for honey than the other man, but only gets about half a crop, and sells his comb honey at from 10 to 15 cents per lb.

The first man is a born bee-keeper and salesman; the other, well, he has missed his calling, that is all. But do not think my friend that I am holding the first man up as a model. He is an exception, and even if you have as much natural ability for the business as he, you will need all the help you can get. Life is too short to learn in the school of experience one-quarter of all you will need to know. Although you will probably buy full colonies to start with, I would advise you to buy instead two or three nuclei, each containing a young Italian queen and three frames well covered with young bees, and with considerable brood. Nuclei with young bees are always gentle, and can be handled without smoke, and you will thus gain confidence. Before you buy decide on the frame and style of hive you wish to adopt, and by all means select some hive that is popular in general use. Buy from some responsible person. When the bees arrive take them out of the cases and place them in the hives you intend using. Space the frames about $1\frac{3}{8}$ inches from centre to centre and fill up the hives with dummies which are simply one-inch boards the size of the frame with top bar nailed on top edge. Examine the brood nest frequently and keep close watch. The brood will soon commence to hatch out and as fast as they seem crowded take out a dummy and insert in its place a frame filled with foundation. Repeat this until the hive is filled with bees. And if you get them at the time of fruit bloom they ought to be ready to work in the surplus department by the time of winter bloom and you may derive some benefit from your outlay the first season, and although your colonies will probably not swarm, they may do so and it is well to be prepared and have your hives in readiness. A cheap inexpensive one will give as good if not better satisfaction than the most expensive one. A double walled hive, with space between walls, packed with chaff, planer shavings, or some non-conductive material, may, all things considered, be the best, but a light single walled hive, having a thin removable outer case for winter and spring protection, is fast growing in favor and is a capital arrangement. After the first season make your bees first pay their way, and second, give you just as big a profit as possible and you can best do this when controlling the increase by

one of the many ways described in the text books. One swarm from each old stock is about right. The two plans in general use to accomplish this are the Heddon plan and cutting out the queen cells. As to which method is best, depends, I think, upon the season. Last year I practiced the Heddon method with perfect success. But as the Linden promises a good yield this year, I shall in each hive that casts a swarm, cut out all but one cell just before the young queens begin to hatch. If you buy full colonies to start with and work for comb honey you will have more or less swarming. Let it be less.

J. F. DUNN.

Ridgeway, Ont., March 10, '91.

A PROCESS FOR DETECTING PARAFFINE IN BEESWAX.

A process for detecting paraffin in beeswax has been found useful in Germany by H. Hager. A few grammes of the sample to be examined, in fine air-dried shavings, are gradually heated to arise. A pint wide-mouth bottle is then inverted upon the capsule, and when it is filled with white vapors it is closed and set aside until the fumes have condensed upon its sides. The sublimate thus produced is then dissolved in three cubic centimetres of chloroform, and this solution being evaporated in a test-tube, the residue left is boiled with four cubic centimetres of caustic soda solution. If paraffin is present it will be now found floating on the clear alkaline solution when the latter has cooled. A drop of the chloroform solution may also be placed on a slip of glass and evaporated, after which the spot is examined under the microscope. The author remarks that the fumes from pure beeswax are not so white as those from paraffin, and are only obtained at a higher temperature, which he estimates at from 300° to 320° Centigrade. The sublimate produced in the above experiment gives a colored solution with chloroform, and a colored and turbid solution with soda. The residue from the chloroform solution is a dull film; paraffin, on the contrary, gives separate grains in a clear field.—Magazine of Pharmacy.

TO KEEP TOOLS BRIGHT.

I once saw a seedsman care for his hoe after using it. He washed it off clean in a pail of water, and then, without drying it off in the least, he stuck it in a barrel of wood ashes. "There" said he, "no matter when I want to use that hoe again, I'll find it dry and bright."—Gleanings.

We have never found anything equal petroleum cerate for keeping tools bright. It is cheap and easy to use. Heat, cold or dampness has no effect on it, except the temperature be very high. It is good for chapped hands and it has good heating properties. Try it friends.

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.

QUERY No. 293.—Have you ever tried building-paper as a lining for D. W. Hives? Does it get damp and wet, and if so, would you advise its use in the way I have mentioned?—J. H. S.

PROF. A. J. COOK, LANSING, MICH.—No.

G. A. DEADMAN, BRUSSELS.—No.

R. MCKNIGHT, OWEN SOUND.—I never tried it.

M. EMIGH, HOLBROOK, ONT.—Have never tried it.

ALLEN PRINGLE, SELBY, ONT.—I have never tried it.

J. ALPAUGH, ST. THOMAS, ONT.—I have had no experience in this matter.

EUGENE SECOR, FOREST CITY, IOWA.—I have not. I fear it would not prove a success.

J. K. DARLING, ALMONTE.—No. Do not think I would like it. 2nd. Don't know, rather think it would.

G. M. DOOLITTLE, BORODINO, N. Y.—I used building paper once or twice but it got damp and soon rotted out, so I gave it up.

C. W. POST, MURRAY.—No. It would not go next to the bees. I don't think it would get damp outside of the brood chamber if the hives are properly constructed.

G. W. DEMAREE, CHRISTIANBURG, KY.—I have never used any lining about my hives, simply because no such protection is necessary in my locality. The tarred building paper would stand the weather if it was necessary to use it. Pray what is a D. W. hive?

H. D. CUTTING, CLINTON, MICH.—I often use newspapers on top of frames in winter and they are an excellent non-conductor and will never become damp if you prevent the cold air from coming in contact with the warm air in the hive.

J. F. DUNN, RIDGEWAY.—No, but others have and have abandoned it. The bees do not keep as dry as when space between walls are filled with dry planer shavings. I don't want any more of my D. W. hives filled with sawdust. It is too much like a solid plank.

JAS. HEDDON, DOWAGIAC, MICH.—I do not

know what D. W. hives are. Neither do I know how you have previously mentioned using building paper. I used it, or some paper very nearly like it, in double-walled hives, 20 years ago, made 400 of them. The extra expense was money cast to the wind. Don't bother with anything of the sort is my advice.

J. E. POND, NORTH ATTLEBORO, MASS.—Yes, and don't find it of any advantage. In fact I don't want an absolutely tight hive. I prefer that the moisture generated in the hive should be allowed to get out in some way, and prefer a double walled hive, the inner wall 3/8 inch thick, with one-inch air space and outer wall 1/2 to 5/8 inch thick. I winter wholly on summer stands.

S. CORNEIL, LINDSAY, ONT.—I don't know what is meant by D. W. J. H. S. had better say it out. Paper is cheap and space is not so very much limited. I advise the use of paper in hives because it is good for retaining heat. If any one thinks that he can give reasons for the opinion that it gets damp and wet when other materials keep dry I, for one, would like to hear what they are.

D. A. JONES.—I have tried paper and found when it got damp it swelled. I also tried pasteboard, it was thicker than ordinary building paper and perhaps made of a different material, but I did not find it had advantages over wood.

QUERY No. 294.—Do you use full sheets of foundation in the brood nest? If not, what are your reasons against its use in that way?

C. W. POST, MURRAY.—Yes.

DR. C. C. MILLER, MARENGO, ILL.—Yes.

G. A. DEADMAN, BRUSSELS.—Yes, every time.

S. CORNEIL, LINDSAY, ONT.—Sometimes. Costs too much.

R. MCKNIGHT, OWEN SOUND.—I do when I have it on hand.

PROF. A. J. COOK, LANSING, MICH.—Yes, I use wire in frames.

EUGENE SECOR, FOREST CITY, IOWA.—I did formerly. It's cost is the only reason I do not now.

M. EMIGH, HOLBROOK, ONT.—Nearly all my combs are from full sheets of foundation. I prefer such combs for the brood-chamber.

JAS. HEDDON, DOWAGIAC, MICH.—Yes, I do just now. I am yet unsettled which is best for general use, full sheets or guides only.

ALLEN PRINGLE, SELBY, ONT.—I use the full sheets whenever I can get them, and I know of no good reasons against their use.

H. D. CUTTING, CLINTON, MICH.—I have used full sheets until the past three years. I now use 1/3 to 1/2 to save first cost and to see if it is as well.

G. M. DOOLITTLE, BORODINO, N. Y.—Yes, when I use only starters in the sections. If I use full sheets in the sections then I use only starters in the frames. The reason is that if bees do not have some place to build comb during a good honey yield much wax is wasted.

G. W. DEMAREE, CHRISTIANBURG, Ky.—I use full sheets of foundation or readily drawn combs in the brood nest of my hives. My only reason for wishing that I could get good all worker combs without full sheets of foundation is because good foundation is costly, and I would be glad to avoid the expense of buying so much foundation.

J. F. DUNN, RIDGEWAY, ONT.—Sometimes full sheets, but usually starters—I think it pays to use full sheets—but I can, with proper management, get about as much surplus honey with starters (in brood-chamber) as with full sheets. I want full sheets of very thin foundation in sections.

J. ALPAUGH, ST. THOMAS, ONT.—No, for the last three years I have used starters in the brood frames. I prefer them to full sheets, taking into consideration the price of foundation, it would require an article too long for this department to explain all my reasons for not using full sheets.

J. K. DARLING, ALMONTE—Yes, leaving a small space at the side for stretch as well as an inch or two at bottom that can be used for drone comb if the bees require it, that prevents the destruction of foundation to make room for drone comb and keeps the drones where they can be cut out without spoiling the combs.

J. E. POND, NORTH ATTLEBORO, MASS.—Yes, and I find them very advantageous. Some very ingenious theories have been evolved by those who argue in favor of 1/4 or 1/2 sheets, but these theories have not only not impressed me as being practical, but rather as being nonsensical. It must be borne in mind that I don't mean to set myself up as an authority, but I give my views, gained from my own experience; they may go for what they are worth.

D. A. JONES.—If you are taking either comb or extracted honey from supers or second stories, put your swarms on starters, then as fast as the combs are drawn out the queen lays in them and the honey is carried above them as the brood hatches out at the top, the bees fill and seal the honey above the brood nest where I like to have it.

DID NOT RECEIVE NOTICE.

F. A. GEMMILL,—Will you kindly inform the Brant. Bee-Keepers Association that the reason why I did not attend the meeting on April 14th at Brantford was because I did not receive any notice of the date of such meeting, although I had previously arranged with Mr. Anguish, the Secretary to say something on Foul Brood when they held their spring meeting. You can, therefore, imagine my surprise to-day, April 9th, at seeing for the first time, in your issue of April 1st, that I was in the programme for such meeting.

Stratford April 9th.

We are sorry that Mr. Gemmill did not get notice in time to forward a paper on the above subject. We presume the notice miscarried in the mails. We often receive post cards wondering why we have not sent the JOURNAL, when they have been mailed in the ordinary way, and have gone astray by some means. We have just learned from a private note from Mr. Gemmill, that he is yet suffering from his late illness. We hope that the fine spring weather now approaching will restore him to his usual vigor.

HIS BEES WERE CUT IN TWO.

ROBERT CAMPION.—Last spring I started with six colonies, increased to nineteen and extracted about 550 lbs. honey. I packed 16 colonies in one single clamp 24 feet long, a space of about 8 inches filled with chaff all around. I don't know how they will come out. I packed the same way last winter and they came out all right. If they do well I will begin the season with over sixty, as I purchased 48 last fall, which are being wintered in the cellar. My neighbors within a mile and a half and three miles got no honey, very little increase, and had to feed their bees for winter. One man says something killed his bees in the fall, each bee being cut in two. What was the cause?
Kilsyth, Ont.

We do not see any necessity for putting six inches of chaff between the hives. One or two inches ought to be sufficient if properly packed. This plan would allow more bees in the same clamp. If the hives could be put tight enough together they would not need packing between, as the warmth from one hive would benefit the other. We do not know what cut the bees in two. When mice get into the colonies they often cut all the dead bees on the floor in two, which gives the bees a chopped up appearance on the bottom board. We do not know of any other reason. If mice have been present, by smelling in the hives a mousy odour will be detected.

CAPPINGS.

CUT FROM A VARIETY OF COMBS.

Contraction and Comb Honey.

Mr. G. M. Doolittle gives his views on the right and wrong kind in Gleanings as follows :—

"I wish every reader of Gleanings would turn again to page 167 of the present volume and read the first part of C. W. Dayton's article on contraction. It is a rare thing that so much truth is brought out in so little space. I know nothing about his "queen-restrictor," and do not refer to that part. I have been very much surprised to see the grounds taken of late in Gleanings by its managers, to the effect that contraction methods tend to give only a medium force of bees in the honey harvest, while all that I have ever written on the subject, and the most I have seen, has been to prove that the contraction plan, if rightly worked, will give a "rousing colony" during the honey harvest, as Mr. Dayton says, and as few bees at all other times as is consistent with having this rousing colony just when we want it. For the benefit of the younger readers of Gleanings, and to brush up your memory a little, Mr. Editor, let me say a few words as to how I manage bees on the contraction plan to secure a large yield of comb honey. As the older readers of Gleanings will remember, I formerly worked my bees on the side and top-box plan combined, therefore all my hives are two feet long inside, while the brood chamber proper is only 13½ inches inside, 5½ inches on either side of this being set apart for the side boxes, which, added to the 13½ inches, makes the two feet. Since I adopted the lateral plan of working for comb honey, as described in a late number of Gleanings, each of these side-box apartments is filled with chaff, or has a chaff cushion in there, so as to shut the bees out and protect them for winter. When spring arrives, the bees in these hives thus fixed are stimulated to rear the greatest amount of brood possible, by one or all of the known plans to accomplish this object, till the nine frames which fill the brood chamber proper, are filled with brood. As the weather is always changeable in the spring and early summer, the chaff packing is a great help to the bees, by way of enabling them to maintain an even temperature, and thus the hives are filled with brood a little earlier in the season than they otherwise would be, as all know who are now recommending chaff-packed boxes or single walled hives as soon as set from the cellar. To digress a little: I must say that I think those who are telling that an air-space is as good as a space filled with chaff or straw are making a great mistake. Let me prove it to you. On several occasions, from ants working in my packing, and for other reasons, the chaff or fine straw was taken out of one side, or perhaps one side and one end during the summer and left out till cold weather came in the late fall or early winter. At this time, when I came to pack these vacant spaces I invariably found the bees clustered up against the side or sides which were packed, and away from those where the packing was removed. If

the packing was removed from one side I would find the bees clustered in a half-sphere against the opposite side; if removed from a side and an end, the bees would be clustered up against the inside opposite corner, lying right up against the wood along the two packed sides as far out as the cluster came. If all four sides were packed, then I found the bees clustered in the centre of the hive in all directions. If this does not show the value of chaff packing, then I was wrong in allowing it to convince me that it were better to have my bees, all of them, in fully chaff-packed hives, as they are now. But to return: When these nine frames are filled with brood, it is generally too early for swarms to issue to the best advantage for the production of honey; and desiring all the bees possible at this season of the year (these bees are in reality our crop of honey), I remove one of the chaff cushions from one of the five-inch spaces, and place three frames of brood, taken from the brood-chamber beyond the slotted ¼-inch division board (which was placed there when I used side boxes, the bees passing through this slotted board to the boxes) when empty combs are placed in the brood nest in place of the removed frames of brood. In a week the other end of the hive is served in the same way, which gives me, as will be seen, 15 frames in the hive, thus securing a large force of bees right at the commencement of the honey harvest, with little disposition to swarm thus far. As the brood in the frames set over in the five-inch spaces should be as nearly all sealed when set there as possible, it will be seen that, in 12 days, the brood from these combs should be all matured; and as the queen rarely goes into these spaces to deposit eggs, I have these combs empty of brood, or nearly so, by the time the wide frames of sections used on the lateral plan need to come out over these side apartments. They can now be taken out and reserved for new swarms, or used for tiering up for extracted honey. If any of the combs I wish to take out still have brood in them, they are just as good for the extracting super over a queen-excluder, or they can be used in forming nuclei or building up those already formed. As the frames are taken out, the chaff cushions are returned, they having been stored in the hive all the while, and the wide frames of sections allowed to go right on out over them, as I gave in my former article. When this hive swarms, the brood, with enough adhering bees to care for it, is set in a new hive on another stand. Six frames of comb foundation, or empty frames, as I think best according to the time of year, together with dummies to take the places of three frames, are set in the brood-chamber, and the swarm allowed to return, or hived back in the same hive (when the queen's wing is not clipped) when the work in the sections goes right along without interruption on account of the swarming. I need not enlarge on this matter. All will see at a glance that colonies treated as here given will far surpass in numbers, *at just the time we want numbers*, those kept in an eight-frame hive, and restrict the "mouths to feed" after the harvest is past, and yet give us sufficient bees for winter. What we want is a rousing colony *at just the right time*, and I know of no plan that will give such, equal to the contraction plan as outlined above.

HOW TO FILL EMPTY COMBS WITH SYRUP.

Mr. Hooker in the British Bee Journal tells us how to fill empty combs with syrup. He says:

"Bees are given too much work to do too late in the year. They might be saved a lot of trouble if good combs filled with syrup were supplied to them. A ready method of filling the combs was to take a box which would hold three or four and put the combs therein, and slowly pour syrup through a tube into the bottom of the box. If done slowly, the food would rise by degrees, and as it rose the air would be ejected from the cells, which would fill with syrup."

We see no reason why this plan might not be adopted with profit to bee-keepers. The combs by this method after being lifted out of the dish, would have to be placed in a hive to drip or hung on a rack with a dish under them to catch the drippings. Our way of filling combs with syrup is to hold them slantways and pour the syrup on, filling first one side and then the other. The filling can be done very rapidly in this manner. The vessel from which you pour the syrup, however, must be held high enough above the combs to cause the air to be driven out of the cells by the fall of the liquid.

GOOD NEWS AT THE HOME OF THE HONEY-BEES.

Just at the last moment as we go to press, all things are brought to a standstill to announce the advent of a grandson to the founder of the Home of the Honey-bees. Ernest is going around full of smiles, and is as proud as—well, as proud as a young man ought to be when he first feels the thrill of being father to an eight-pound boy. He arrived Easter Sunday, March 29.

A. I. R.

We gladly give place to the above item as we have never had to occupy space in our own journal with a similar notice about ourselves. We congratulate E. R. R. on being a pa, and A. I. R. on being a grandfather, and we trust that the boy may prove to be as great a public benefactor as A. I. R. has been and E. R. R. gives promise of being.

ADVANTAGE OF YOUNG QUEENS.

Dr. Millar seems to be afraid of hiving swarms without using full sheets of foundation for fear of drone comb. With young queens and proper sized brood chamber, we are not troubled in that way. We wonder when bee-keepers will learn all the advantages of young queens.

THE CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

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

BEETON, ONTARIO, APRIL 15, 1891.

The April number of the *Api* has much information regarding queens, and queen raising.

Orders are arriving rapidly for cases for packing bees in the spring. We are glad to see our friends taking hold of this matter.

We should like to see all the Bee Journals trimmed. It is very inconvenient when reading such interesting articles as Bee Journals usually contain, to have to use our knife before finishing.

We shall be glad to hear from any one having beeswax for sale, and will be pleased to give you our best prices by return mail; or should you know of any one who has it, kindly advise us.

We regret to state that the index for Volume VI., which was promised with the issue of April 1st, is not yet ready, unforeseen circumstances having delayed its preparation. We hope to have it ready shortly, however.

Mr. Heddon thinks too highly calendered paper hard on the eyes to read. We fully agree with him, it may suit some eyes admirably, but we frequently have to lay down journals printed on very highly calendered paper at night, and take up something printed on a different surface.

We have had enquiries from some of our friends in reference to boxes for strawberries and small fruit. Will some of our friends give us their lowest quotations for such boxes. As many of our beekeepers grow small fruits, we think it would be to the advantage of manufacturers to advertise in the BEE JOURNAL that our patrons may know where they may be procured.

We can supply perforated zinc in any quantity, having just received a very large shipment of the different widths. We shall be pleased to fill your order by return mail. Last year we made a very large number of smokers, but did not anticipate the demand for our popular smoker was going to be so great, and we were sometimes forced to delay orders on that account.

This year, however, we do not anticipate any such difficulty, as we have as many on hand as we expect to sell during the entire season, ready to ship by return mail. We have also received a large shipment of bee veils. The only thing we are likely to be behind in now is comb foundation, and we will endeavor to keep pace with orders in that, still we would not advise our friends to delay their orders with the expectation that they can get any goods at any time, as a big rush of orders might run our stock down so that we would be forced to delay our customers. Those who wish to receive prompt attention had better forward their orders on at once. If you do not want the goods shipped immediately, say when you would like to have them in readiness to go promptly.

The price of foundation until further notice will be as follows:—Brood foundation per lb., 55c.; brood foundation starters per lb., from 3 to 10 inches wide, 53c.; section foundation, out, to fit any size section, per lb. 65c.; section foundation in sheet, per lb. 60c. We are prepared to accept any quantity of wax at 37 cents, delivered here, per lb., (sediment, if any, deducted) in exchange for supplies at our catalogue prices.

Mr. J. F. Dunn sends us a correction for his advertisement, which was overlooked till too late to change for this issue. His price for eggs is \$1.50 per 13, and he is prepared to ship from Buffalo, N. Y., to American customers.

A bill is now before the Michigan Legislature making it unlawful to spray any fruit or other trees, shrubs, vines or plants with paris green or other virulent poisons while such trees, shrubs, vines or plants are in blossom and may be visited by honey bees in quest of nectar of pollen. If this bill be a necessity or a benefit in Michigan, it should do like good in Ontario, and it might be advisable to take steps in the matter.

Catalogues Received.

T. & E. H. Dudley, Westfield, Mass., Italian bees.

Chas. Dadant & Sons, Hamilton, Ill., comb foundation and bee-keepers' supplies. We believe Mr. Dadant is one of the largest comb foundation manufacturers in the world.

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

TABLE OF CONTENTS.

About extractors.....	488
Advantage of young queens	495
Automatic swarmer, The	491
Bees and Odors	485
Contraction and Comb Honey.....	494
Chapter for Beginners, A	489
Did Not Receive Notice	493
English vs. Canadian Foul Brood.....	483
His Bees Were Cut in Two.....	493
Good news from the home of the honey bee	495
How to fill empty combs with syrup	495
Not a good plan to fly bees.....	481
Not advisable to import Syrians	487
Process for detecting paraffine in beeswax	490
Report from Campbellford	483
Rearing an artificial colony.....	481
Sterilizing wax	488
To keep tools bright.....	490

* * Secretaries of Poultry Associations will confer a favor on us by sending us promptly all items of news in connection with their Associations, as dates of meetings and shows, and reports of the proceedings at each.

WANTING—a situation by a practical Beekeeper, one who has had experience in all branches. Good references given. Address Box A., Mellis Corners

FOR SALE—I am compelled to make room, and will sell six S. L. Wyandotte Pullets for six dollars. All score over 90 by Jary's. Will send score cards. S. M. CLEMO, in Perfection Fanciers Club, Dunnville, Ont.

EGGES FOR SALE—From my Champion Light Brahmas, \$3.00 per setting; also White and Brown Leghorns, Langshans and Partridge Cochins, and Pekin Ducks at \$2.00 per setting. JOHN COLE, 151 Hughson st., Hamilton, Ont.

IMPORTED

Cornish · Indian · Games

—AND—

MOTTLED LEGHORNS.

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

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

CHAS. R. BACHE

472 Parliament St., Toronto.

EXCHANGE AND MART

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

BEES

WAX WANTED—Say with return mail how much you have and color. Price in cash. CHARLES MITCHELL, Molesworth, Ont.

FOR SALE OR EXCHANGE.—One Black Langsham Cockerel. Will exchange for equally as good Black Langshan Pullet. Pullet must be best strain. Black Langshan Eggs, cheap. Apply F. H. FLINT, 52 Cherry st., Toronto, Ont.

FOR SALE—2 Hens, 2 Pullets, good birds, and a nice Cockerel. Black Minorcas for \$6.00, only half price. Eggs from extra large Pekin Ducks, \$1.25 per 13. W. COUSINS, Stratford.

WANTED—An experienced hand to work in the beeyard, and to take charge of an out apiary if required. Also good beeswax wanted, and B. Leghorn eggs for sale, \$1.50 per 13. JACOB ALPAUGH, Box 704, St. Thomas, Ont.

GREAT CHANCE for the Beekeepers—For sale very cheap, one 10 inch comb foundation mill, (W. Pelham make), new and used very little. Will sell for \$20 cash. L. Deslandes, P. O. Box 10, Acton Vale, Que.

FOR SALE OR EXCHANGE—50 colonies of Bees in 8 L. frame hives, for lumber wagon, doubt a set of harness, or bob-sleigh, or anything useful on a farm. Address W. ELLIS, St. David, Ont.

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

D. RAMER, Cedar Grove, Ont., is prepared to fill all orders for bee hives and sections and all necessary bee-keepers supplies. Write him for prices before ordering elsewhere.

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

FOR SALE—Pair S. S. Hamburgs, good birds, \$2.00. Buff Cochins Cockerel, \$1.50. One pair Blue Owls, \$2.00. One breeder's show case for Pigeons, \$2.00. Also eggs from pen of high class Buff Cochins, \$2.00 per 13. H. N. HUGHES, Box 97, Barrie, Ont.

LOOK HERE!

If you want Hybrid or Black Bees from March 15th to May 15th at \$1 Per lb or Hybrid Queens at 50 cents and Blacks 25 cents. I have untested Italian Queens, in April, \$1.00, May and after, 75c. My breeding yards are out on the prairie at a safe distance. Send me your orders, and see how promptly I will fill them. Have shipped bees successfully for 10 years to Northern States and Canada. Safe arrival and satisfaction guaranteed. Mrs. JENNY ATCHLEY, Farmersville, Tex.

POULTRY

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

THE following birds for sale—a good trio of Pekin Ducks, \$3; Silver Wyandotte Cockerel, \$2.50 Golden Wyandotte Cockerel, 2.50 and other stock. JOHN GRAY, Todmorden, Ont.

FOR SALE—Eggs from my prize stock of Blue Andalusians, \$2 per 13. I will give a silver cup for the best pair of Andalusian chicks from my eggs at the Ontario show at Bowmanville 1892. W. H. DUSTAN, Bowmanville, Ont.

IMPORTED INDIAN GAME—Poultry Pigeons, Rabbits, Ferrets, Guinea Pigs, Shetland Ponies, Maltese Cats, Dogs, Garden Seeds and Flowers. Send for my Circular. Address Col. J. Lefel, Springfield, Ohio.

FOR SALE—Langshan Cockerels and Pullets from imported stock, or will exchange for Bremen Geese or Bronze Turkeys. Langshan, Dark Brahma, White Leghorn and Pekin duck eggs, \$1 per setting. AYLWIN & HAMILTON, Hamilton, Ont.

EGGS from choice W. Wyandottes, R. C. B. Leghorns B. Plymouth Rocks and S. C. W. Leghorns at \$2 per 15, or \$3 per 26. Fine Pekin duck eggs at \$1 per 11. My birds win at Canada's largest shows. Satisfaction guaranteed. R. J. GRACEY, Wellandport, Ont.

R. BLOYE, Todmorden, has eggs for hatching from grand pens of White Wyandottes (Knapp) White Plymouth Rocks (Empire) and White Javas at \$2 per 13. Pekin duck eggs, \$1 per 12. Correspondence a pleasure.

FREE 1 pack Mam. Russ. Sunflower seeds with each order. Dark Brahmas and Toulouse Geese. Eggs 10 and 40 cts each, respectively. From best prize-winning strains. Price reduced one half, owing to large numbers. Mention this Journal. S. R. B. SMITH, Brighton, Ont.

FOR SALE—Four White Leghorn Cockerels, scoring from 92½ to 95½; 4 Black Leghorn Cockerels, scoring from 92 to 95½ by Smith and Jarvis; 3 Black Minorca Cockerels, Picknell's strain, also one pair of White Bearded Poland Chicks. I guarantee satisfaction. JOHN PLETSCHE, Shakespeare, Ont.

FOR SALE—My entire stock of Black Leghorns, one Cock, 3 Cockerels, 10 Pullets and four hens, for twenty dollars, with following score cards, Cock, 95, Cockerels, 93, 95, 92½, hens, 93½, 94, 95½, 99 Pullets from 94 to 96. Have to sell for want of room. Eggs from White and Brown Leghorns and Black Minorcas for \$2 per setting. JOHN PLETSCHE, Shakespeare, Ont.

White Wyandottes Exclusively

MAINGS:

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

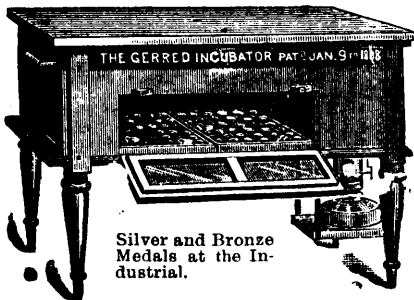
PEN No. 2—Headed by the First Prize Cockerel at the "International," score 96. Mated to hens that have proved themselves good breeders.

In these pens are females scoring 95½ and 97 points, and more just as good. Stock for sale after Oct. 1st.

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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 warrant my remedy to Cure the 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, 166 West Adelaide Street, Toronto.



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All sizes 50, 100 and 200 egg machines. Send for descriptive circular. MENTION THIS JOURNAL.

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EGGS, \$1.00 for 13.

- Light Brahmas**—Six yards. Fletcher, Duke of York, Williams and Bucknam strains
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- White Plymouth Rocks**—Four yards
- White Wyandottes**—Two yards
- Silver Wyandottes**...Two yards
- Barred Plymouth Rocks**...Twelve yards. Drake Upham and Corbin strains
- Houdans**—Two yards. Pinckney strain
- White-Faced Black Spanish**—Two yards McMillan and McKinstry strains
- Rose-Comb Brown Leghorns**...Two yards Forbes strain
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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 show the best kennel prizes in Toronto Greatest Bench shows in '89 and '90, where there were hundreds of competitors,

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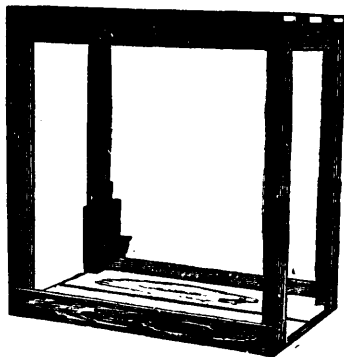
CASH—small but sure profits. Send your address now for my large catalogue and Guide to Fruit Growers, which will be issued about March—free to intending purchasers,

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Nurseryman,

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Each	10	25	100
Skeletons, only,	30c.	\$2.75	\$6.25
With Canvas,	40c.	3.75	8.50
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Skeletons, only,	50c.	2.50	5.00	18.00
Name and address printed on canvas 5c. each extra,				
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For Exhibition purposes, where coops are not furnished by the Fair Associations, strips are supplied which are tacked on one side of coop, at 4c. per coop.

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

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For shipping and exhibition coops, to hold one pint water. Price,	Each	10	25	100
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The water cannot slop out or become dirty. Larger sizes made to order. Ask for Prices.

MAKE YOUR HENS

Earn their living by scratching for it.

—TRY—

Christie's Improved Feeder

It gives the fowl constant exercise and saves you the trouble of feeding them—they feed themselves automatically.

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Each, by	\$.50	\$.60
Per doz.,	4.00	4.80



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BEETON ONT.

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I am selling eggs this season from one of the finest matings of Mammoth Bronze Turkeys in America. I have spared no pains nor expense to bring my flock up to the highest standard of excellence, to do which I have made several costly importations of eminent prize-winners. The Cock that leads my pen is a famous prize-winner, having won several first prizes in strong competition. Mated with him are the largest and handsomest pullets and hens I could procure: notable among them being the first prize hen at the great Cleveland show (score 98). Eggs from this grand pen 35cts. each; \$3 per nine. To those ordering one or more settings before April 1, I will send one extra egg for each setting ordered. Free circular.

Prices to suit the Times

A FEW pairs of Silver Laced Wyandottes and a few Plymouth Rock cockerels for sale cheap. Brown White and Black Leghorns, White and Barred Plymouth Rock, White and Silver Laced Wyandottes. Eggs of any of the above varieties, or mixed, at \$1.50 per setting, or two settings or \$

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Dunville P. P. Stock

3rd Exhibition

1st and 2nd on S. C. B. Cock. These birds are for sale
2nd on S. C. B. Hen, 96; 1st on Blk Minorca Pullet, 94
1st on S. C. B. Leghorn, B. P.; 1st on Blk Minorca B.
P.; 1st on Pekin Duck, 1st on Pekin Drake, drake for sale. A 1 birds for sale now.

C. H. McRae

Park Poultry Yards, Dunnville.

Poultry Netting & Fencing.

We can now furnish the best Poultry Netting at the following low prices for 2 in. mesh No. 19 wire, in the various widths, in full roll lots (150 feet to roll):

24 in.	30 in.	19 GAUGE.	48 in.	72 in.
\$3 10	4 00	36 in.	00	9 50
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\$3 25	4 00	18 GAUGE.	6 30	9 90
		00		

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

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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.

BLACK AND WHITE LEGHORNS

IMPERIAL - PEKIN - DUCKS.

Will be able to spare a limited number of eggs from the above varieties. My Black Leghorns have always won highest honors wherever exhibited and have genuine standard legs, "no artificial coloring about them," my whites are headed by "Snowball," recently purchased from R. H. Marshall of Dunnville, Ont., having scored 96 1/2 points last winter at the Ontario and 94 1/2 again this winter at Dunnville as a cock. I have him mated with Hens and Pullets, scoring from 94 1/2 to 97 I consider this as grand a pen as there is in Canada to-day. My pen of ducks comprise the 1st prize Drake and 2nd prize Duck at Industrial last fall, owned then by Aller Bogue, London, Ont., also 1st prize Duck at Milton this winter. Leghorn eggs \$3 per 13 or settings one of each, \$5. Duck eggs \$2 per 11, packed carefully in baskets with handles. Address F. H. Hamilton, Hamilton.

ATTENTION FANCIERS!

I shall soon import from England a large number of

BUFF LEGHORNS

AND Indian Games.

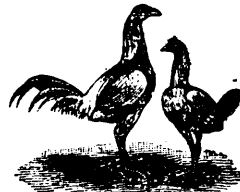
Orders received until Nov. 20th for imported birds. Buff Leghorns are all the rage. Send for prices. I have some fine BLACK LEGHORNS for sale.

A. W. GARDINER
Box 1293, Springfield, Mass.

GAME

Bantam Fanciers

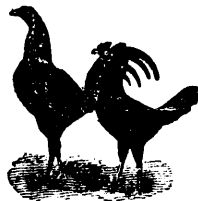
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Brown-Reds at \$4 to \$5 per pair; also a good Pile Bantam Cockerel, (yellow legged), bred from a great English winner, fine station, color, etc. Price only \$3, these are sold on account of having too many birds; also large Game fowls. All are in fine health and condition. First money gets the best. E. F. DGTY, 47 Wellington Place, Toronto

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3 months..... \$3 00

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Payable in Advance.

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

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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.

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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, 64 Ruby st. Rockford, Ill.

BEE MEN Should send five cents for Samples of our lithographed honey Labels. The D A Jones Co., Beeton

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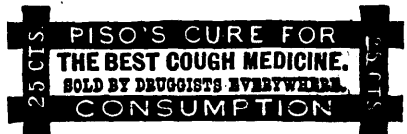
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