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

V<sub>OL</sub>. VII, No. 4.

BEETON, ONT., MAY, 15, 1891

WHOLE No. 288

# THE CANADIAN BEE

Devoted exclusively to the interests of the Honcy Producer.

Seventy-five Cents per annum in Advance.

## ADVERTISING

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

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Stract advertisements may be changed to suit the Transient advertisements inserted in the black accordingly. All advertsements received for The board Bee Jouenal sie insert d, without extra in the Canadian Poultry Journal.

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

#### **PUBLISHERS** NOTES

We will always be glad to forward sample copies to

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.

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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.

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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 meighbors should know it, tell them through the medium of the Journal.

Errors. — We make them: so does every one, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write tojus 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.

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want aneary 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 ahould 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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Who reads the BEE-KEEPERS'S REVIEW one year, or even a few months, is almost certain to become a regueven a new months, is almost certain to decome a regular subscriber. As an inducement to non-subscribers to hus become acquainted with the REVIEW, I will send t during the three succeeding months for 20 cents in stamps, and I will also send three back numbers, secting those of which I happen to have the most, but

of different i sues. A list of all the special topics the have been discussed, the numbers in which they go be found and the price of each will also be sent; member the Review has been added to be sent; member the Review has been enlarged, cover added, and the price raised to \$1.00. **Eutchison**, Fliut, **Michigan**.

## Muth's Honey Extractor.

Pertection Cold Blast Smokers, Square Glass Honey jars, etc. Send ten cents for "Practical Hints to Bec-Keepers." For circulars apply

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The Dovetailed Strongest, Best and Cheapest BEE-HIV & for all purpose.

Please serveybody. Send your address to the Largest Hee-Hive Factory in the World for sample copy of tileanings in Hee Culture (a il illustrated semi-monthly), and a 4tp. Illustrated semi-monthly), and a 4tp. Illustrated on the Company of Hee-Keepers Supplies. Our A B C of Hee Culture is a cyclopedia of 4th pp., 6x10, and 500 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 500 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10, and 6x10 culture is a cyclopedia of 4th pp., 6x10 culture is a cyclopedia of 4th pp., 6x10 cultur

ALLEY'S IMPROVED AUTOMATIC

#### SWARM HIVER

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

H, ALLEY, Wenham, Mass.

## Michigan Lands For Sale! 12,000 'ACRES GOOD FARMING LAND

TITLE PERFECT

On Michigan Central and, Detroit & Alpena and Loon Lake Railroads, at prices from \$2 to \$5 per acre. These ands are close to onterprising 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.



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 wil!" Catalogue and price list free. Address W. F. & JOHN Ruby st. Rockford, Ill.

BEE MEN Should send ave contracting graphed honey Labels. The D A Jones Co., Beston

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CARNIOLANS, GOLDEN ITALIANS

CARNO-ITALIANS SEND TO

## WALKER & HORT FARGO, ONT.

Untested May \$1 50 June 1 00 July 75 August 75	Tested \$2.50 2.00 2.00 1.50	Select Tested \$3 00 8 00 2 50 2 00	Bees by ib.fr il Virgin May 8 60 50 50
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# BE SURE AND GET GOOLD & CO'S

-PRICE LIST OF-

HIVES, EXTRACTORS, FOUNDATION, &C.

elsewhere. Address E. L. GOOLD Co., Brantford, Ont. before ordering elsewhere.

OF BEES CHEAP 25 COLONIES

will sell 25 colonies of bees of that choice he gathering strain that are so near perfection in all qualities. I colony \$5. 2 colonies, \$9, 3 or more each. Look out for then, they are second to nose also bred a very fine class of Cooker Spaniel dos finest I have everseen. Price of pupples \$5 each, L., Dexter P. O Ont.

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

# OVER . TWENTY . PENS

SPLENDID BREEDING STOCK of the following varieties:

Yandottes, Minorcas, Leghorns. Plymouth CUT IN PRICE Rocks. Hamburgs and Brahmas

Eggs, \$2 per 13. \$5 per 39.

-SEND FOR CIRCULAR.-

W. T. TAPSCOTT, Brampton, Ont.

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#### MOTTLED LEGHORNS.

Grand Exhibition Birds, a limited number of beggs, \$5.00 per 18. Silver and Golden, Black and White Wyandottes, Derbyshire Red Caps, Light Brahmas, B. Javas, Partridge Cochin. Black Leghorn and Pekin Duok Eggs, \$2.00 per 12 White and Red Malay Bantams (just imorned). Silver and Golden Sebrights, Pekin and Japanese Bartam Eggs, \$3.00 per 13.

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

#### CHAS. R. BACHE

472 Parliament St., Toronto.

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DER KREPERS, I am making a specialty of the orders for the same. I warrant it a No. 1 article made really worked out, free from any taint of foul brood. I warrant it a No. 2 article made really worked out, free from any taint of foul brood. I worked out, free from any taint of foul brood. I would be suffered and I will give you satisfied. Brices from 48 cts to 58 cts.perib. Write me ity walked, and I will quote you prices. Foundation grants in the suffered provided prov

#### $\mathbf{B}\mathbf{E}\mathbf{E}$ HIVES.

lake manufacture the Mod? Bee Hive, a goo. I serleaded in the well mads from pine lumber, rabbitted
frames, (size of L.), movable bottom with
strains alighting board, division board, and quilt flat
also painted \$1,7 line, deep. Sample painted \$1, with super
flat inc. deep. Sample painted \$1, in. Foundation
hive for corning some as abov. In flat, in luding
satisfies a frames and sections 20 cts more. Complete
flat of the for covering corner, \$1 lo. In quantistes slightly less. This is a goo! hive and very cheap
from \$1 in. Sections \$4 so, 8 mokers \$1 by mail. Bees
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FRANK W. JONES BEDFORD, Que.

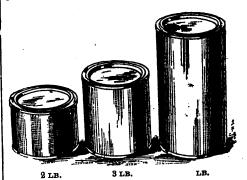
## SMOKERS!



Since our Catalogue was issued, we have made a contract for a large number of smek'rs by piece work, at such figures as will enable us to reduce the prices. Here after the price of the No. 28 moker will be \$1, (formerly \$1.25,) with goods; \$1.25 by mail,

# HONEY TINS.

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



PRICES.

PER 500. **PER 100** EACH NO. LBS. PER 1000 \$6.75 5.25 \$60.00 47.50 40.00 **832.00** 25.00 21.00

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

# APIARY FOR SAL

TN ONE OF THE BEST LOCALITIES IN CANAda, havin wi'd and cultivated land, alsike clover, white in abundance, fully 50,000 basswood trees, within three miles, fall pasture gave over 100 pounds from some colonies fall of '89. Distance from the lake prolongs the honey season of each flower several days. Almost no bees in the locality. Will sell 60 colonies bees wintered outdoors in splendid conduion; 24 Lang stroth hives in flat, half for comb and half for extracted 4 frame Stanley Extracto, Langstroth frame; 5 o surplus combs, Langstroth; 2000 sections, 41 x 41 Dadant brood and section foundation, about 100 pounds 15 hives made up with supers.

Will sell the above in bulk or scparately, at low; prices. A rare chance to locate an apiary. Apply to

## R. F. HOLTERMANN ROMNEY, ONT.



ESTABLISHED 1876 -

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ONT.

Largest variety, Best Quality, Low st priors. Althe worthy old and promis ug new Fruu. Nut and Ornamental Trees, Bushes. Vines; Roses Plants, Bulb., etc. Best improved Pumps for spraying trees, bulbes, sidwalks, floors, bees. etc. and wasnir glungs s. window, etc. Galvanized Iron, \$3.50, Brass, \$4.0. Wibon's improved Woven Wire Tre Guads, for hind ring Rabits, Mice, etc., 50 cts. per dez. \$4 i or 100 cfre t Dame and St. Bernard Dogs, 8 weeks old, \$20 to \$25 each, smooth-coated Pox Terrier, 8 wee sold, \$20 to \$25 each, Above dogs are from the best blood of Europe and America and won the best kennel prizes in To ont-Greatest Bench shows in '89 and '90, where there were hundreds of competitors,

#### TERMS:

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

> F. W. WILSON, Chatham, Ont.

Nurseryman

MENTION THIS JOURNAL.

BEES WAX FOR SALE—Crude : nd Refined. We have constantly in stock large quantities of Beeswax, and surply the stock large quantities of Beeswax, and surply the state of Beeswax and surply be stated on the state of Beeswax and surply surpless stated on the state of Beeswax and surply surply stated on the state of Beeswax and surply surply surply stated on the state of Beeswax and surply stated on the state of Beeswax and surply the state of Be prices, stating quantity wa ted.

ECKERMANN & WILL.

Bleachers, refiners and importers of Beeswax Syracuse, N.Y.

#### CONDENSED DIRECTORY.

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

MICHIGAN LANDS, be tin the State for \$5 per acre; some at \$2, \$3 and \$4 Write R. M. Pierce. We t Bay City, Michigan

J. PUTNAM, Leominster. Mass. has for sell several fine cockerels and pullets, B P liocks won 1st 2nd and 3rd on pullets, and 2nd on pen at Aff Jan. 14 to 16 1890. Eggs \$2 per setting.

W . COLE'S Black Minorcas. I have bred those birds for 5 years and the bred those W. birds for 5 years and they are as good as any in Canada, United States or England. 1889 pullets 944, 944, 96, 96, 96, 961, cockerel 953, J Y Bicknell, judge 1898 for ratching \$1.25 per 13. WM. COLE, Bran. ptop.

TESTED ITALIAN QUEENS bred from selected mothers, rincipelly of Doolittle stock. Prices selected follows;—for those under 1 year \$2.50 each. shipped the 20th of April, or 2c. less each day until 10th. Queen under 2 years old one-fifth less. DEADMAN Druggist & A; iar st Brusseis, Ontario.

END your address on a postal card for samples of Dadaut's foundation and Dadant's foundation and specimen pages of sol Hive and Honey-bee," revised by Dadant & seldition of '80. Dadant's foundation is kept for seldition of '80. Louid & Co., Brantford Ontario, is Canada by E. L. Gwild & Co., Brantford Ontario, and Dadant's Son. Hamilton Hancock Co. 111.

Early Italians for Business. Read this read pay when your queens arrive. Each \$1,6 \$4.00.

N. H. Laws, Lava.a, Sebastian Co. Ark.

A FEW Trios, Buff and Partridge Cochins, \$5 to \$10 a tr., as othree br eding pens of Br. Leghorn, 50 a pe. Eggs from Cochins and B. P. Rocks, 5r. Legherns, \$1.50. BARTLETT & GEORGE, Clarence St., London.

POULTRY Netting.—See our advt. in another column with prices. Also for shipping and exhibition coops, with owner's name printed on the canvas. Tribing fountains and poultry supplies generally.

D. A. JONES CO. Ld. Recton

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

FIRE HAS DESTROYED MY BEE HIV we will try and fill all orders if possible. Foundation, sections, frames, hives, smokers, honey knived queens, bees, &c., at bottom prices. Address CHRYSLER, Box 450, Chatham, Ont.

# special Offer for May

WILL SELL EGGS FROM MY BEE Breeding Pen of White Leghord or Langshaus for the month of May at the lowing prices lowing prices :-

> \$1.50. 1 Setting (13) - -

> 2 Settings (26) - \$2.00.

This is a grand offer as my birds are good

J. L. MYERS, Box 94, Stratford, Och



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

Vol. VII, No. 4.

BEETON, ONT., MAY, 15, 1891

WHOLE No. 288

# E CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. JONES, F. H. MACCHURSO A.

EDITOR IN CHIEF.
ASSOCIATE EDITOR.

## EDITORIAL.

F we could have plenty of bright Sunshine and warm weather now, bees would progress much more tapidly. Fruit bloom is just coming in, in many localities in Ontario. As soon as it is over, bees that have not plenty of stores and to spare should be fed liberally till the white clover or some other bloom furnishes them a continuous Wield. Getting a little fruit bloom honey Starts them to breed very rapidly, if the weather is at all favorable, then a cessation of the flow after that is over seems to discourage them, and it takes some time for them to regain their former certions. In some localities there is plenty of ground maple, sheep burr and other clover other plants that bloom between clover and Plants that Dioon perwonic lives it is alms will not be necessary, but it is hays better to have five pounds too huch than an ounce too little in the hives. It is bad economy to see how the little. little bees can do with. We have hown beekeepers to open their hives, and a few cells of honey scattered here there in the combs, sealed or unas the case may be, and say,

"these are all right, I see honey there," and pass on to the next hive. It will take from ten to fifteen pounds of honey to carry strong colonies over from fruit bloom to clover bloom and bees carry on brooding largely in proportion to the amount of stores in their hives. Take a strong colony with say five pounds of honey scattered through their combs, and another of equal strength with fifteen or twenty lbs., both to have young virgin queens. At the end of three weeks there would be more than double the progress made in the well supplied colony than there would be than in the one scarce of food. If it ever pays to turn honey or sugar syrup into young bees, it surely doubly repays to do it just before the honey season. It would be better economy to feed honey or sugar syrup at a cost of 15c. per pound just before the honey harvest than it would after the honey harvest was over, to feed them at a cost of 3c. per pound.

Reports from many localities say that bees have wintered splendidly. Some of our best bee-keepers have had slight losses, but from what we can learn where bees were properly wintered with plenty of stores they have come out in fine condition. In other localities we hear of very severe losses. Reports indicate the loss among beginners or inexperienced bee-keepers has been about one-third. As further reports come in we will be better able to judge.

It appears that our English bee-keeping friends find a difficulty in getting pure came sugar, so much so that the edito of the British Bec Journal has been forced to make special arrangements. We fear something of the kind will have to be done in this country soon, as we do not always have the best. The amount of adulteration practiced in the manufacture of sugar is little dreamed of by the majority of people. Much of the granulated sugar is put on the market in a very adultered condition. Bad sugar fed to bees will give bad results in wintering. Perhaps this may have a good effect on some of our bee-keepers who practice the feeding of honey or sugar to too great an extent. The good honey if left in the combs after it is well ripened will give good results and there will be no necessity of feeding sugar except in a time of scar-

The question arises with some beekeepers whether it will pay an ordinary bee-keeper to re-queen his hives every year or two. We believe it will pay well in most instances to re queen every year, except when the old queens are very fine and are kept to breed from. Let any person practice re-queening in hives in the proper season, when everything is most favorable for the production of the best, and test an equal number in the ordinary way and see the Try some one year and some two, especially if you have any combs to build. All combs should be built in colonies containing young queens just fertile. Old and worn out queens mean plenty of drone comb, while young, vigorous, fertile queens mean almost no drone comb.

Dr. C. C. Millar in Stray Straws, in Gleaning, says: "No new Bee Journal has started for a week." He should have added "and if any more do start, unless they have some superior specialty about them they had better invest their money in something else, as they will find it very up-hill work.

We have received many letters asking if we thought there was any danger in buying comb foundation, as foulbrood might be started from it. We re-

plied in every instance that there was not the least danger, when it was bought from manufacturers who understand their business.

\* \* \*

Since our last issue we have had some very cold, disagreeable weather and considerable frost, and those who have not had their bees well protected will reap the usual reward, viz: "Spring dwindling." On the warm days the maples, willow and other bloom seemed to yield abundantly, and if this continues throughout the season many bee-keepers will seek an increased storage capacity.

Bevelled roofs or covers for Beehives are fast giving way to flat covers. Those who have used both for years, we that will readily decide which they prefer The bevelled roof is not as warm in spring, and we like the board lying closed to the frames in order to hold the head down among the combs as much as post We are not sure that even cushion, unless moderately thick, will retain the hear retain the heat as well as boards, imme diately over the frames. It prevents passage of air, while a cushion allows a passage of air, and some have laughed at us when we told them to put a board directly over the closure, preventing Then put your cushion top of the board, to prevent evaporation ventilation. of heat through it, but try it friends be convinced from practical experience which is the kind of proof we like best

We are receiving the most cheering reports from our friends. Almost every letter that arrives indicates that the bees are in fair condition, and pushing ahead vigorously, and it is gratifying to know that those who have succeeded in wind tering, are now beginning to see a good profit in the distance. A good many after sending in their orders, write again in three or four days to human them on, as their bees are getting strong on truit bloom, they are afragated when they are going to swarm.

We hope our Foul Brood Inspect and his assistants will be on the ale as now is a good time to search out disease and apply the remedy much better, and gives the bees an portunity to build up before the season is over.

#### GENERAL.

For THE CANADIAN BEE JOURNAL.

The Weather Again--Elementary Bee Culture, Etc.

HIS is the 20th May, and although it is nearing the end of the last spring month, the weather has been hardly worthy of the name spring. For the past month and upwards it has been wind, high and dry, and hardly any hing but wind, with every now and then frost at night, and so cold through the day that it was not fit for the be s to fly at all, let alone gather honey or pollen. If fact this has been the worst spring for bees up to date that we have had in this section for many years. But they are standing it well on account of winter quarters

And not only has the weather been cold and windy, but dry, amounting now to a drought as there has been no rain of any account for six or seven weeks. Nothing, however, of vegetation is suffering much yet except the meadows and pastures. The hay crop will be light.

Whether the fruit crop has been hurt much by the frosts is doubtful as the blooming is backward. The plum trees are out but the apple bloom is apparently some days off. Of course the cold dry spring has had its effect on the clover, which at present is not very promising, but a good warm rain will change the face of nature.

THE NEW RECEUITS WANT THE RUDIMENTS.

We hear complaints occasionally that there is too much professional disquisition in the journals and too little elementary information for the amateurs and beginners. New recruits are continually joining the ranks and becoming Subscribers of the Canadian Bee Journal, where they expect to find all they wish to know just in a few numbers. This is an unreasonable expectation. Such ought to get a textbook to acquire the elements, and also read The Journal where they will get the latest and the best just for the asking. There is the query department which is intended for the anateur as well as professionals, to which they can send their questions and get answers from those who are experienced. The novice must also bear in mind that much of his apicultural anowledge must come through experience and experience alone. There are three ways of acquiring bee lore. The first is through actual Practice and experience; the second is oral and ocalar instruction under a teacher; and the

third is the study of text-books and journals. Although the first-named method is the most important of all it ought usually to come in after the other two, else the knowledge acquired through that medium may be bought too dearly. The embryo bee-keeper ought not only to read up before undertaking to handle many colonies, but he ought to go to an old hand at the business in the honey season and look how things are done, learn the why and wherefore, and then try his own hand and head.

A few years ago (five I think) a beginner came to me in June to buy a colony of bees, and also to learn all he could. He took away his colony determined to learn and succeed, and he did succeed. Although he was a working mechanic and not able to attend very closely to his bees, they multiplied, and under good management, yielded him excellent returns. His winter loses have been very light, and he now has. I believe, about eighty colonies. This is an example of what the amateur may do who sets about it right and in earnest. The JOURNAL will recognize his name, A. Wagar, Napanee, as a subscriber the past four or five years.

COMB HONEY AND SWARMING.

In running for extracted honey it is comparatively easy to keep the swarming fever down, but not quite so in running for comb honey. The main point is not to allow the fever to get started. To prevent this, put on the supers in good time, and give plenty of room and ventilation. Just before the surplus honey begins to come in remove from the broad chamber any excess of honey which may be present over immediate requirements. In fact. this ought to be done before, provided the honey is in the way of the queen, which ought to have ample room up to the time of the honey flow. The brood chamber in the spring ought to be large enough to hold a good supply of honey in addition to ample space for brooding.

ALLEN PRINGLE.

Selby, Ont.

P. S.—May 21st—The "good warm rain" has come, whether because of the above grumble or not, depondent saith not. The bees are booming.

A. P.

For THE CANADIAN BEE JOURNAY..

Beport from Strange.

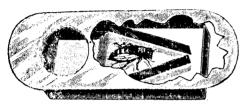
AST vear I commenced the season with about twenty colonies; took 1,000 lbs, extracted, and 100 lbs. comb honey; have 19 stocks mostly in splendid condition; weather dry and windy at present; clover in good condition.

E. Marshall.

Strange, May, 1891.

#### The Porter Spring Bee Escape.

HE Porter Spring Dee Escape, manufactured by R. & E. C. Porter, Lewiston, Ill., is a simple, durable and inexpensive device, which, when fitted in a suitable board and placed between the surplus apartment and the brood chamber of a hive of bees, cutting off all means of exit from this spartment except through the escape, permits the bees to pass down through it into the brood chamber easily and rapidly, but prevents their return, thus reducing the labor of harve sting the surplus honey on the hive at any time to merely that required



in adjusting the escape-board and removing the honey after the bees have passed cut, and dispensing entirely with that most disagreeable and vexatious of all work known to the apiary—getting bees out of supers of honey by the old methods when robbers abound. B sides there advantages, the honey is at all times secured in perfect condition, its delicate flavor being untainted by smoke and the beautiful cappings uninjured by the gnawing of the bees.

The Porter is not an untried escape. It was invented early in 1890, and through the whole of the season was put to the severest tests, in comparison with all other kinds of escapes by actual use in a number of large apiaries, and proved itself far superior to all others and equal to every practical and reasonable demand. It not only frees the super of bees quicker than any other, getting out every one, but absolutely prevents their return, no matter how long before the super is taken from the hive. It does not become clogged with dead bees and requires only a bee space under the escape board, a large number of which when not in use thus occupy. ing but little storage room. Wherever tried it is universally commended.

#### Making Queen Cell Protectors.

G. M. DOOLITTLE.

CORRESPONDENT writes thus: "Please tell us something in the American Bee Journal about queen cell protectors. How are they made? How do you put in the queen cells? How do you fasten or hang them

to the brood frames: position on frame, etc.?"

If I am right, the idea of caging queen-cells so as to keep the bees from destroying them, and at the same time allowing them to hatch in the hive and let the queen walk right out among the bees, the same as if the cells were not cased originated with me; and was brought about by the loss I sustained in trying to make something work which others said was a success, but which proved a total failure with me, namely: The placing of a nearly mature queen-cell in a colony, or nucleus, at the time of taking away a laying queen.

Many still say that they have no trouble the thus giving queen cells, and if they tell the "whole truth and nothing but the truth," this article will be of no benefit to such. The cell protector is made by rolling a small piece of wire cloth around a V-shaped stick, and while in place, fastening the side which is out, sewing in a wire, so that a small, but not a very flaring, funnel is made, the hole in the small end being as large as an ordinary lead-pencil.

Some of the supply dealers kept them for sale in the stamped form, but as I have used both I prefer the home made ones, as above, for reason that the points of the wire cloth, which stick out all around the hole in the small end stem to prevent the bees working away at end of the cells as much as they do with others; for at times, with the pressed of they seem to think that the cage should not there, and as the end surface is smooth, 80 d not to discommode them at their work, the bite away at the wires and the cell until end of the cocoon covering is eaten through, After having severe the queen destroyed. failures with those tought, and none with thou made at home, I studied into the matter came to the above conclusion, which, I think, right.

Having the protectors made, we are ready to the queen cells. If the cells are built from the wax cups (my book on Queen-Rearing the how these cups are made), there is no trouble in picking the cells off the stick they are built on, and slipping them into the protectors; if they are built in the ordinary way, on surface of the combs, a good deal of trimming will have to be done to have them go well down into the point of the protector, as they should be the protector of the protector, as they should be the protector of the protector, as they should be the protector of t

The ends of the cells should go down to with in three-sixteenths of an inch of the small of the protector, or to within that much of extreme outside points of the wires, so when a bee goes in to attack the end of the these wires are continually "pfinching" the about the thorax as she moves around.

any cell will not thus go down, trim it until it does.

If you cut through the cell at or near the base, so you can look in and see the queen, it will do no harm, for when the cell is caged, the bees cannot get at these open places to tear the cell to pieces and drag the queen out, as they always will where a cell is mutilated and left unprotected. This one item alone, of being able to save all cells, no matter how closely built together, will pay all to make and keep a few of these protectors on hand; for who has not destroyed many cells in years gone by, in trying to separate two or more built together?

If the cell is not hatched when I think perhaps it should be, I take it out of the protector, cut a hole or slit in the side near the base, to see if the pupa is all right, sometimes taking them out in my hand and looking at them until I am satisfied, putting them back in the cell again, putting the cell in the protector, and the protector back in the hive; the bees nor the queen being none the wiser for the curious eyes that have peered inside the sacred domain, she hatching out as perf ctly, in due time, as she would have done had the cell been left on the comb where it was first built.

After the cell is in the protector, I use a piece of a corn-cob to keep the bees away from the base of the cell. I formerly used a cork, but I like the cob best, as the roughness of the cob bees would sometimes work out the cork, unless it was fastened ir. To keep them in place where I wished them in the brood chamber, I through the meshes above the cork, and twisting the wire to keep the cork from sliding out. The upper end of the wire was now bent so as to hook over the tops of the frames, and thus the cell and protector were kept where I wished them.

Some seem to prefer this way still, but instead of doing this now, I take out the comb I wish the cell on, and at the place I wish it to stay, I make an indenture in the comb with the side and end of my little finger, and into this indenture I place the big end of the cell protector, and by pushing against the cob stopper the cage is so imbedded in the comb that it is a fixure there. When this comb is placed in the lace side of the opposite comb rests against the protector, and thus it is kept in place, should the bees desire to work it out.

If the weather is cool, or the bees few in a hive, I insert the protector so that the point of the cell comes near the place of termination of

the highest part of the brood in the comb, for at this place there is the most heat of any place in the hive. If the weather is warm, and there are plenty of bees in the hive, I push the protector into the comb at any place where it is the most convenient. The piece of wire cloth used in making the protector is about  $2\frac{1}{2}$  inches wide by 3 inches long, but it can be varied to suit.—American Bee Journal.

Now friends, Mr. Doolittle tells you just how it is done, and you ought to be able to do it without any expense, or very little trouble. It is always a pleasure to us to read an article describing minutely any operation in connection the manufacture of an article. such description enabling the novice to thoroughly understand it. Now, this is finished so car, apparently, as the hatching of queens is concerned, and where you want to re-queen a colony; but where you wish to save a lot of queens bred from very fine mothers, and use them when desired, it would be advisable to make some addition to these instructions, because it frequently occurs that we find a lot of very fine cells which we wish to have in a colony that has proved its superiority in many respects, and at the same time we may not have colonies where we could place them in. If we place them in a colony with a queen, one of the queens will be destroyed, and in queen rearing where they have not plenty of nucleus or second stories to mate queens in, instead of placing the nucleus as soon as they are hatched, it is often convenient to keep them till they are four or five days old, as they can be introduced at that age at the rate of one per min, without caging in queenless colonies. these queens may be hatched and kept in an ordinary colony containing a queen in this way: By making a wire box cage without a lid and cutting out the corners so that the four sides may be doubled up at right angles. Ravel out a little bit of the wire along the edge so that the points of the fine wire will pierce the combs easily. This cage should be about 4 inch deep. Cut an opening on one side of the cage that will fit over the point of the queen cell protector tightly after it has been placed into the combs until the wires go down nearly, or quite to the section. should be a few cells of hopey under the cage so that as soon as the queen

hatches she can move about and get food as she requires it. A large number of cells may be thus caged on each side of a single comb, and as they hatch let them remain there until they are required. They might be kept there from three to six days, until you have a nucleus to pass them into for fertilization, or a queenless hive to introduce them into. In this way you may always keep a stock of vigorous young queens on hand so that as soon as you sell a queen out of a colony you can put another in. If queens are put in as soon as hatched, they will probably not go out of the hive for mating, say for five or six days, sometimes longer, whereas our plan of introducing after they are sufficiently old, they generally go out the next day, and it is not an uncommon thing to have them mated for shipment in less than 24 hours after they have been introduced.

FOR THE CANADIAN BEE JOURNAL.

#### Report from Bothwell.

N the spring of 1890 I had 20 colonies from which I had 10 swarms, took about 150 lbs. extracted and comb honey in fall, took up or brimstoned all but 2 or 3 which I doubled (don't like doubling), divided the honey of the brimstoned ones amongst the others, with the addition of a dollar's worth of sugar, which I gave the most of te a colony. With about 8 lbs. honey it came through, but is weak; have now the exact number I had last spring. No honey or fruit in this district, but lots of empty hives. This spring what is left are doing well; now abundance of blossom that is yielding honey.

ALEXANDER DUNCAN.

FOR THE CANADIAN BUE JOURNAL.

## A Report From Bridgen.

EES of 1889 in this locality did not do much more than keep themselves, and some not that. 1890 was some better in the fore part of the season, but later on everything dried up. I had about forty colonies and took about 1000 sections, which we very good. I sold the choice for 20c., econd for 15c., and perhaps 400 at 10c.

I wintered in clamps last winter and although the winter here was mild, my bees only had about three flights. I put fifty eight in clamps and took out fourty four, had four with queens and so few bees they were no use, four starved and the remaining six died from some cause or

other that I cannot account for, as they plenty of honey and were in good condition.

I set them out on the 10th of April and they had carried pollen a few days before that and for about ten days they worked hard and stored some honey, it being fine and warm. From end of April to the 6th of May it was so cold and dry that they did nothing. On looking them over on the 8th, as it then got warm enough for them to fly, I found four gone up They had dwindled away. It has now got warm again but it is so dry that there will be po dandelion honey if there does not come rain I never saw it so dry at this season of the year. If rain comes there will be a good yield of dandelion as the fields are just yellow and have just commenced to bloom and will last a long time. We had some very hard frosts, but it being cloudy and cold they may not have done as much harm as we expect. Shall see what luck I have this season and report later. 1 have not had much success for two years as honey season was always short.

1. V. B.

Brigden, Ont.

For THE CANADIAN BEE JOURNAL.

## He thinks the Jones Case Just the Thing.

DEAR SIR:—Yours to hand, and would say in reply concerning the bees that I packed them their support their summer stands in cases large enough of admit of three inches of packing all around and eighteen inches on top. Packed them p good dry wheat cheff; al were in eight and farmes; honey boards were left on; left then on to provide bee space over frames, and have always found it to work well. I don't advood! outdoor wintering very strongly, though I have lieve it to be safe when bees are in proper divisor with ' dition with plenty of stores. Concerning stores my experience has been that each colony with tered outside requires at least five pounds not honey, and consider it safer to give them for I have wintered some outside each season it five years, but I always selected colonies with young queens, and abundance of stores, and withstanding three out of the five years and decidedly in form decidedly in favor of cellar wintering; and kell think that if there think that if those wintered inside were parket when set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set out they would do the best every that I consider it has a set of the best I consider it highly important that bees should be protected in highly important that bees should be protected in the state of the stat be protected, in spring time—especially wintered indoor wintered indoors; and consider the Jones or Clamp to be just the thing.

> Yours, &c., Frank Tier,

Arva.

#### The Bees of the Old World.

F WE draw a diagonal line, beginning at Genea, Italy, and ending at Tripoli, Africa, across the Mediterranean, we find the bees east of this line inclining to the yellow race—Italy, Greece, Turkey and Egypt having the banded bees, while Tripoli, Tunis, Algeria, Morocco, Spain and France have the black bee. the banded Italian differs from its fellow-insect in Egypt, so does the black of France from that of Tunis and Tripoli. On the north of the Mediterranean the Alps are the limits, while on the southern shore the Lybian Desert forms a barrier. Again, if we compare all countries where Mohammedism has had its sway for any length of time, we find those countries lying like a big crescent, one tip beginning at the Pyrenees, the concave line running down below Italy, and mounting again to the Bosphorus, including Greece. These have hives lying horizontally, and, as a general rule, worked more humanely than those in the region of the "cross." Italy forms the vertical axis; the hives stand upright, and the bees are sulphured every autumn, to take away all wax and honey. In southern Europe the bar-frame hives are finding their way with great difficulty.

In the south of France the bee-keeper; (or, rather the keepers of bees, for there are none that are real spiculturists) possess between five and one hundred hives, which they keep in long square boxes about three feet high and one foot The top is nailed with a board, while the bottom is open, and put simply on a flat rock or stone, the uneveness of which forms different flying beles. Some are also kept in hollow tree trunks with big flat stones on the top, on an inclined plane for the rain to run down, and, at the same time, by its weight to keep the hive from falling in case of wind. Generally they place them against a wall to shelter them against the north and west winds. They expose them to the south and east.

It is a very curious sight to see a number of those hives standing upright and irregular, just as a flat rock may be right or left, up or down, in crooked trunks, with huge stones on top. I confess the apiaries away in Palestine or on the borders of the Nile, or in the wild recesses of the Atlas Mountains in Algeria, do not present such a novel and altogether savage aspect as does such an apiary in a civilized country, where everything is flourishing except apiculture. How often since I have been wandering about the Provencal Alps, and finding such neglected apiatries, have I put the question to others as well as to myself, "Why is apiculture

so low in such a beautiful country abounding in fruit trees, red and white clover, thyme. rosemary, heather, and a deal of other plants too varied to enumerate? They are free from The only answer I invariably got was. "The cruel winter kills so many bees, thus discouraging the farmers." I came across an old bee-book, written by an "Abbe Della-rocca," in Syria, in the Grecian Archipelago, and printed in Paris in 1790. The book is very ably written -or, rather, the three volumes-and it seems that, more than a century ago, the bees were treated here just the same as they are now: and the desolate priest says the cause of neglected apiculture in France is because the noblemen had a certain right on bee hives; and. second, when the farmer could not pay the heavy taxes asked for the treasury, the taxgatherers would take away his hives to fill up Disgusted with such robbing they finally gave up bee-keeping. Since then the French Revolution has put a stop to all these abuses; but, still, apiculture has not come to itsbloom. It was inevitable that this discouragement should then become so general that a century has not sufficed wholly to wipe away the bitter feelings that have so fast taken root in the French country people.

The way they now work the hives is as primitive as can be imagined. The swarms are lodged in a box or trunk of a tree, as above de-In autumn all hives scribed, and left alone. are visited and 75 per cent. are left untouched "for seed" as they call it. The other 25 are sulphured, and the combs, with the honey, sold to dealers who come yearly to buy all they can. The 75 are the stock left to swarm the following Such hives are full of honey and pollen, and are capable of giving good swarms. This part is very humane, but not very remunerative to the owner. If the 75 have wintered safely, a good stock and strong apiary follow They never (but in a very few pext spring. cases) take out a part of the honey. quence of such treatment they want no smokers, no veils, and, generally speaking, no bee-The honey and wax merkeeping utensils. chants are experts in this kind of apiculture, and take the hives destined to be sulphured to death, and weigh them. They then deduct the possible weight of the empty hive, and pay for the wax and honey per pound. scrape out comb, honey and dead bees, and put the whole into wooden tubs, taking as much as 150 lbs. of comb. The hives are then covered, and they thus go around from one api-When the wagon is well leadary to another. The comb is now broken: ed they drive home.

up into the smallest possible pieces, and put into a stone trough having a wooden sieve at the bottom, thus permitting the honey only to pass; and by an outlet into a receptacle, such a trough may easily take over a thousand pounds. This first honey is sold on the market as virgin honey, mostly stored away in wooden barrels holding between 140 and 190 lbs. of honey. The residue of the trough is now put in.o flat baskets, having a small opening at the top to in troduce the comb; and half a dozen such flat round baskets are now put under a large press. with a big wooden screw acting on the pile of On top of the baskets a board is laid to produce equal pressure. The honey from this pressing is impure, and is sold as second rate honey in the same receptacles the virgin honey. A good deal of honey is sold to the factories of Montelimar, Ardies, Aix, Nimes, Narbonne, etc., where honey cakes are made. No Frenchman will pass his Christmas without having a taste of these honey cakes, called "nongeats." Hundreds of thousands of pounds are consumed yearly. They are made of honey, sugar and almonds. The trouble is, they keep only during the cold season. As soon as the hot weather comes on they begin to flow. Thus they are sure to be fresh every year. The comb pressed out is now put into a big cauldron, and boiled. When it is well fluid this is put into the same baskets again, which are now furnished with long straw, and, as quickly as possible, put under the pressagain, and received in wooden receptacles. While the pressing is going on, boiling water is poured over the pile of baskets to keep the wax flowing. cases the farmers do the whole work themselves, pressing out the honey with their hands, and putting the boiled wax into a sack, and twisting at both ends to get the wax out. wax is general y of a nicer color, as being better strained, while the honey is not as pure, having nuxture of pollen, wax, etc.

The tee in the south of France is black, howing some white bands at the first and secand rings. The fuzz is strongly inclined to yellow; a slight tinge of orange marks both sides of the first ring. Very few men (as a rule no bee-keepers) have any movable - bar - frame hive, either Langstroth, Abbott or Bastain. None of them have an extractor. They can have only a very little more honey than the About Toulon, Cannes, and Nice, they move their been on mule back to the higher Alpine regions in summer, putting the hives individually in sacks, tied at top. in autumn they bring them back again, and then take the honey in the manner above described. In Nice

a single woman had a bee hive in a cork oak trunk, only the bark being used as a hive. was selling comb honey right out of the hive. The bees, naturally enough had been sulphur The hive was well filled with ed previously. sealed comb, and might have contained 40 lbs. of honey. No robbing was going on, as the hives are kept some distance from town; and even Nice had such weather in January as to keep They seldom have ice here bees at home. Flowers are sold all the year round. though. Foreigners from England, and even America fleck here in winter.

PH. J. BALDENSPERGER.
Marseilles, France, January 11, 1891.

[And so, friend B., honey cakes are not a modern invention after all. We are very much obliged to you for the birds-eye view you give us of bee-keeping in the Old World; and we hope our riends mentioned by you will soon get into the modern ways, and throw aside their brims stone and rude hives.]—Gleanings.

The above from our esteemed friend Ph. J. Baldensperger, is interesting. We notice Mr. B. has got as tar as Mar. seilles, France, and we wonder if he will get out to see us. When we visited Palestine in '87 and '50, among the pleasant acquaintances we met at Jeru salem, was Mr. Baldensperger. selected him as likely to make the best and most thorough bee-keeper in that He assisted us in making section. movable comb hivesin a little workshop belonging to the English school, outside the walls of Jerusalem, at the south-west corner, near the tower of David. In the garden there, belonging to this school was transferred hom their amount invest We recollect the first colonies of pees. when we commenced the operation, how doubtful many of the scholars were, as well as the teachers, as to the success of our After we had transferred undertaking. one or two colonies, however, they took hold and assisted, exhibiting great Mr. Baldensperger has terest. advantages that many have not had and he can give very valuable in orma tion in reference to Palestine, or, in fact, about all of that section of country around the Mediterranean sea. pleasant to know that the new mode of bee keeping into bee keeping introduced in Palestine ten or twelve years ago, is being made good use of, and that through the influence of Mr. Baldensperger, many have come quite expert in the business.

#### CAPPINGS.

CUT FROM A VARIETY OF COMBS.

#### Vaseline for use in Bee Hives.

HAVE been a diligent student of the Bee Journal for some years, and about two years ago one of your correspondents advised the free use of vaseline to prevent bees from glueing everything up with propolis. I im-mediately made experiments with it, and a very great comfort it has proved.

Very few things are more annoying to a beekeeper than inability to manipulate frames without jerking, and sections without breaking

them owing to propolisation.

I have used it freely and cannot find any objection to it, and the comfort and pleasure in being able to move all the working parts of the hive and freedom from stings is very great. I use metal ends, which I thoroughly rub over with the vaseline, and also the sides of the hives, and everywhere where the frames touch edges of the sections and bottom of section rack, I have learned many valuable hints from the Journal, but none, I think, that have been more serviceable than the use of vaseline. Like many more of your readers, I have lost fully half my stocks this vinter, in most cases with plenty of natural stores and ample covering and every care. I suppose the severity of the weather is the chief cause. Everything here is extremely backward, and although I have fed my bees for some days, they seem to take but ittle of the syrup. What we seem to require is a freedom from north-east wind, and some nice warm showers. I say seem, because grumbling about the weather is only an indirect way of grumbling against Him who sends it, and 'we are of yesterday and know nothing,' or at least nothing to speak of.—Edward H. LEENEY, Becoroft, Hove, Brighton, in British Bee Journal.

We shall keep this in stock; our Prices will be found in another column and from experience we are convinced that it is one of the most valuable things that can be kept about a place. There are so many uses it can be put to where it is more valuable than any other thing for the same purpose in connection with the hive. Where the ends of the frames and the rabbit is slightly coated with it, no propolis will be found there, and in setting one hive on top of another or super, as the case may be. When the edges are slightly moistened with vaseline, no water will enter nor will they be glued together with propolis. tubbed on the hands will prevent pro-Polis sticking to them, and keep them soft and free from chap. injure clothes when it comes in contact with them, like greese, oil or similar substances.

#### CHAFF PACKING VS. AIR SPACE.

There has been a great deal of comment on this question, and I think the reason is that it has never had a fair test. The proper way to test it is to take a cold winter, not such winters as we have had in the last three years, and take colonies of all sizes from weak to strong. Usually they take colonies so strong that they would winter in a paper box. My experience is, the warmer and dryer you can get your hives the better bees will winter; and it looks very reasonable that five or six inches of chaff, well packed, will keep out more cold than two } hoards, if not, why is a log house plastered and sided warmer than a frame house with the same thickness of wall? Let some of the dead air men take a hive and pack in on one side and they will find the first cold snap they have their bees will be clustered against the side packed. I winter in chaff hives, and left one good colony without a cushion on and examined it often and never found it clustered at top of frame, while the others would be clustered against the cloth at all times.—Geo. W. ABEL, Kilgrove, O., in American Bee-keeper.

Friend Abel: We agree with you that the warmer and dryer you keep a swarm during the winter and spring the safer you can keep them, but we believe it is not dry cold but dampness that is most fatal to the swarm, and for that reason we believe a double walled hive without packing on sides is superior, for the moisture certainly passes off much more rapidly. Your example of a log and double walled house is good as an argument against cold, but not so when we consider moisture. A stone house everyone knows is very warm, but it is also very damp.

#### MICROBES AND FOUNDATION.

Mr. Cook, in/Gleanings, thinks Friend Corneil is usually about right, but says that without doubt he drew it too fine when he was going to have, Foundation sow microbes broad-cast. Long experience says "no no." On the same page he remarks, "why does our usually correct friend in speaking of Mr. Doolittle, speak of scouts looking up a new home while the bees are clustering? As I stated in my Beekeepers' Guide, I think the bees constered to give the queen a rest, after trying her wings which are unwonted to labor. I supposed you settled that bees look out a home before the swarm issues. they certainly do sometimes, and if so, I guess always.'

We know from experience that bees do not always select their homes before they swarm out as we have found bees clustered on fences and little bushes and sometimes after clustering in that way for hours or until the next day, they will search out a home.

#### ALLEY'S SELF HIVER.

Mrs. Sallie E. Sherman writes as follows in reference to her experiment with Alley's Self Hiver in the A. B. I:

On Saturday, March 28, 1891, I placed one of Mr. Alley's Self Hivers at the entrance of a hive from which I knew the bees would swarm in a few days; near this hive was one prepared to receive the swarm when it issued. On Sunday afternoon about 4 o'clock, when walking through the apiary, I saw the bees at work in the new hive. They had swarmed and hived themselves, and were working nicely, without any assistance whatever on my part, except to make the necessary preparations for them, This self-hiver will certainly be a wenderful help to bee-keepers. Mr. Alley, the inventor, should receive the heartfelt thanks of all who are interested in bee-keeping, and something more substantial in the way of our liberal patronage.

By the use of the drone-trap and queen cage combined, which was invented by the same gentleman, I secured 48 swarms out of 49, in 1888, without so much as having to cut a single

twig in hiving them.

The above is a further proof that Alley's self-hiver will work well. We are making a large number of them this season and sending them out to various parties. We think our Bee friends are determined to give them a good trial. We have more faith in them than in any particular kind of bees, that will winter irrespective of care or consequences. There are very few of our ordinary bees, that will not winter safely, if properly prepared for winter, and we think there is some risk in paying high prices for queens that are supposed to have some special feature about them, as it is questionable in our opinion whether they possess 't or not.

#### ROBBER BEFS IN SPRING.

Dr. C. C. Miller, writing in Gleanings in reference to robbers, says:-

Robbers sometimes "clean out" a weak colony in Spring. Whatever you do, do not take a hive away, that the robbers are at work on. If you do, they will only attack a neighboring colony. Take most of the contents out of the hive, but leave at least one comb with a little honey to finish. If you must take the hive away, put another in its place, with something for the robbers to work on.

We might add to the above that if you wish to take the hive away and will put an empty hive there, and use one of Porters Spring Bee Escapes you will put a damper on their robbing pro-Leave the bees fooling around in the empty hive until night You speak of bees getting honey from peas not

and then open it and let them go home just about sundown and they will come to the conclusion that there is very little profit in that kind of business. won't be caught there more than two days in succession, as that cools off their ardor for robbing. It does not take bees long to become satisfied to get an honest living, and this will do it very readily. Every Bee-keeper should have some of them, because if one or two colonies in a yard begin to rob, it seems to demoralize others, because as they fly to and from the hive they are robbing, they make a peculiar noise that indicates to the other colonies that they have struck a gold mine, and in turn, others commence hunting for honey as well. Now just try this Bee Escape, or any other invention, which will trap them into an empty hive and leave them there all day without anything to eat. Bees have no more desire to be placed in penitentiary for dishonesty. any more than human beings have, and while it does not always cure human beings, it has a most salutary effect on bees.

BROOD CANNOT CAUSE FOUL CHILLED BROOD.

Prof. Cook in Gleanings says .-

Chilled brood can no more give rise to foul brood than can la grippe to whooping cough. La grippe might leave an enfecbled condition that could ill bear the shaking up of whoopingcough, or vice versa. So, chilled broad may imply a weakened state that would find it impossible to resist an attack of foul broad microbes. Chilled brood, then, may open the door for for! brood, but can never cause it.

The spring has opened very auspiciously. Three days of fine weather during soft maple bloom, even more time given for the bees to extract sweets from hard maple, and now the early fruit bloom is well out. Last night gave us a severe frost. The thermometer registered 18° F. We fear this may play havoc with the fruit crop as well as bloom, and we also dread its effect on the white clover, which is very abundant, and big with promise. Yet we hope some hidden power will make them proof a gainst even such frigidity.

I fully believe that bees are very necessary to a full fruit crop. I hope all will notice; and see whether trees are in bloom only during a time when, from ocld or storm, no tees are flying,

and note the result. If no fruit sets, while of other trees which bloomed a little earlier or later, and which were freely visited by bees, a full crop of fruit is borne, we shall have an argument that shall even reach our present legislators. Our intelligent fruit men are already convinced.

in bloom. The partridge pea, as stated in my book, yields much nectar to attract bees and wasps, which serve the plants in frightening away insect pests, that might destroy the plants. This makes me bold to say that my book contains much that is found in no other one. It contains the latest science—all that is found in Cowan—and now, all for a dollar. Should not all your many readers own and read this latest edition? Could it but be of many dollars advantage to them? If all the kernels on this last nubbin are blasted, throw it in that convenient compost, the editor al basket.

We once thought that, we could produce foul brood, but have entirely given up that theory, as long experience and many proofs to the contrary have convinced us that it cannot be done. certainly think that Cook's Manual should be in the hands of every beekeeper. The scientific pare has been nearly all re-written, and it contains many good things, is practical, and Written in that pleasant intelligible style, which makes it so valuable to beginners. We are glad to know that Prof. Cook has lowered the price to \$1. It does seem wonderfully cheap at that, considering the additional pages which have been added to it, as it now contains about 500. Every person should have one, amateur and scientific beekeeper, alike. About ten pounds of honey will add one to your library, and the book in all probability will add more than ten times that amount every Year, without additional expense, to your income.

ANQTHER SIMPLE WAY OF TELLING ADUL, TERATED WAX.

#### From Gleanings:

On page 334 I notice that a correspondent wishes to know how to tell adulterated wax. Although the way you give is good, I now give a more simple plan which was told me by a person who was for a long time employed in a large wholesale drug house in Albany. I have tried it frequently, and find it correct, as far as my experience goes; and if it is new to your readers, I hope they will experiment and report.

It is to simply take a piece of common white chalk or school crayon, which should be resonably soft, then break your cake of wax that a to be tested, and it the chalk will leave a plain mark on it, it is pure; but if adulterated the chalk will leave no mark. The above may be old to many, but I do not remember seeing it in print.

T. I. Dugdale.

West Galway, N. Y., Apr. 20.

The above test, if I am correct, depends on the spurious wax being softer than the genuine. While this is usually the case, I believe it is not always true. Nevertheless your test is probably a valuable one j—Gleanings.

We tear that the adulteration practiced by some parties would deceive a person relying on this experiment. Only a few days ago, we bought 1,000 lbs., of wax from a reliable firm. The appearance was all that could be desired; the cakes all had more or less sediment on the bottom, which indicated that it was from farmers or bee-keepers, and looked just as if it came direct from After weighing, we remarked them. that we never saw a lot of wax like that. There were about six different shaped cakes, and the color was very uniform. The thought struck us, that even though it looked nice, and smelt like bees-wax, that no bee-keeper or set of bee-keepers would be liable to have the same kind of dishes to cake their wax in. After taking a piece of it in out hand, and rubbing it until it became quite The odour indiwarm, we smelled it. cated that it was bees-wax, but it did not seem to be quite strong enough. It had a very mildbees wany smell. Taking another piece of about the same quality and rubbing and smelling, the odour was much more distinct, and this roused our suspicions and after making a careful test found it was adulterated, to such an extent that it would break down in the hive, with the heat of the We returned the wax to the party at their own expense, getting our Station Agent to take it back, and put We would on the charges both ways. be in favor of having a law enforced to inflict a severe punishment on all adulterators. Of course there are some innocent parties that might sell adulterated wax, and we would not like to see an innocent party punished, but the law could be so framed that the adulteration could be traced back to the He should then receive adulterator. such a severe lesson that it would be a warning to others.

THE DOOLITTLE SOLAR WAX EXTRACTOR.

The following from Gleanings is another recommend for the Doolittle extractor.

I want to thank you and Mr. Doolittle for the description and cut of the solar wax extractor in November number of Gleanings. I have made one and it works well. Heretofore whenever I undertook to make any wax I got myself and everything else smeared and stuck up with it; but with the extractor I have no trouble at all. W. W. Young.

Worthington, Ky., Apr. 20.

#### SELECTIONS.

#### An Amateur's Experience.

OHN KAY, Toronto.—You ask for a statement of my season's work. As a bee-keeper I am only an amateur. Year before last, I am only an amateur. mice got into my hives and ruined them, so last spring I started with only three colonies, and during the season got 250 lbs. of honey, and had eight hives to put away. I wintered them outside and unpacked them last Saturday, and examined them. All are in good shape; one is a little weak. Had I known of this cold snap I would have let them remain under cover, but do not suppose it will do them any serious harm. Should I give them any tood, or can they find enough for themselves at this season. them a few combs of honey when they began to fly early in spring, which they devoured greedily, and carried the balance to their hives.

You might continue to feed them until fruit bloom just enough to keep up Sugar syrup is better than brooding. honey, and is less liable to cause them to You certainly have been very successful in getting nearly 100 lbs to the colony, and an increase from 3 to 8. The honey season must have been better in your locality than in some others, or your bees were exceedingly strong in the spring, otherwise you could not have received such favorable results in a season like the past.

#### HE APPRECIATES THE JOURNAL.

JOSHUA BULL, Seymour, Wis.-Gentlemen,-Enclosed herewith I send the required dollar to renew my yearly subscriptions for the C. B. J. and P. J. I find upon their pages much that is interesting and valuable. If it would not be out of place, I would like to suggest that you place the name of the writer at the head of each article in your Journals, then we who read may have in mind who it is that is addressing us, and not have to wait until we reach the closing sentence before we know who is writing. For some reason or another, which I may not be able to explain, I always enjoy reading an article and can seem to understand it better, if I know the author's name before commencing.

What has become of our good friend "Amateur Expert," whose contributions used to be so deeply interesting to the realers of the C. B. J? We have not heard from him for a long tim. hope he has not laid by his pen in disgust. Can he not be induced to renew his correspondence for the benefit of his many unseen, and to him unknown, friends; for I am sure he has many such in this wide world, and we should be much pleased to hear from him occasionally through the bee journals.

We hope to hear from "Amateur Expert" again, and just here let us say, that our visit to his place in 87 was

greatly enjoyed by us. He entertains his guests with a kindness not to be excelled. We hope that ere long he will favor us with more communications.

#### HEAVY LOSSES IN OHIO.

C. E., ASHTABULA Co., OHIO.—Reports from various parts of the county would indicate the probable loss of fully one-half of all the colonies in Ashtabula county. The losses are not confined to the novice in bee-keeping, but fall very heavily on some of our oldest and best informed Bees in this section are generally wintered on the summer stands in the Root A few colonies starved, but the greater part of the loss resulted from dysentery. While the temperature of the winter was mild, there was not a single pleasant day between November and April when it was warm enough for the bees to take a general cleansing flight.

We are sorry to hear of the loss in vour locality. There seems to have been a greater loss in the temperate part of the country than there has been in the North or South. The weather has been cold, but reports from many points say that bees have wintered well. the reports are not in yet, but appearances are in favor of cold, and especially dry weather for wintering bees. They seem to do better when given an opportunity to have a purifying flight, on days when it is sufficiently warm for them to do so.

#### DID HE WINTER AN EMPTY HIVE?

ANGUS BLAY .-- As I am writing, I thought I would drop you a few lines to let you know bow my bees came out, I put 82 colonies in my cellar last fall, and seventeen of them starved, the rest seem all strong. I put them out on the 1st of May. It has been very cold since. of my hives I thought dead, but upon opening it found not a bee dead or alive, and it was full of Can you kindly tell me the reason. Please let me know what honey is selling at now as we sell a few pounds now and then at 121. and the buyers think it very dear.

We do not know why there was neither a dead or a live bee in your hive, without they had swarmed out in the fall, being queenless. Such things do sometimes occur. You may have set the hive in, having seen some of the bees flying in and out a short time before, and feeling it was heavy with honey, imagined the bees were in all right. We think you should get 12c a pound for honey, unless you sold it in large quantities, when you might make a slight reduction.

\* Subscribers who fail to receive their copies of the Journal promptly, will kindly advise us. Missing numbers are always replaced where possible.

## 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 mayer 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.

#### Effect of Close Spacing.

QUERY No. 297.—If close spacing were resorted to in the brood chamber, would this, or would it not, increase the mortality in the bees, owing to less honey being stored in it, and the bees starve for want of stores, which the beekeeper intended putting in but put off until too late.—T. J.

Prof. A. J. Cook, Lansing, Mich.—I doubt if it would make any practical difference.

H. D. CUTTING, CLINTON, MICH.—Yes, if it all turned out as you suggest.

J. K. Darling, Almonte—I do not see the practical side of the question. Bees will starve at any time without food, and if they have enough to eat they will not starve with close spacing.

EUGENE SECOR, FOREST CITY, IOWA.—Possibly it might, yet I think those beekeepers who were so careless as to let their bees starve would not be likely to adopt the close spacing, which is a modern idea.

- G. A. Deadman, Brussels.—I think the beekeeper (so-called) who would allow his bees to starve from reasons given above, would likely neglect them from other causes. It would therefore not increase the mortality of bees as suggested.
- J. E. POND, NORTH ATTLEBORO, MASS.—Not in the least. I am the originator of the plan, have made use of it for years and have never found any trouble in this respect. One thing though, is sure, If bees are keep in a "slip shod" style, and from time to time, no plan can bring about success, but instead failure will always result.
- G. M. DOOLITTLE, BORODINO, N. Y.—Theory would say that less honey would be stored where close spacing was used, but facts would prove little difference in my opinion. Anyone worthy of the name of bee-keeper would know whether the bees had honey enough for winter or not, however, so close spacing should play no important part in this matter.

Jas. Hedden, Dowagiac, Mich.—Yes, it would have a tendency to do just that thing. Over damage.

Every seria ago we made extended and careful width and depth of top bars, and demonstrated to our entire satisfaction that no style of top har will prevent brace combs as we desire, and as a good honey-board will do, and also that a for this latitude.

hive should have a permanent frame space for both winter and summer, and the result is we put 8 frames in  $11\frac{1}{2}$  inches, and never make any top bar, (no matter how thick) more than  $\frac{7}{6}$  inchwide.

- G. W. DEMAREE, CHRISTIANBURG, KY .- It makes me tired to read so much about bees refusing to work promptly in the surplus cases. My bees under any management are prone to store too much of the honey they gatherin to the surplus cases, leaving the brood chamber empty of honey when all the brood has hatched out in the fail. Close spacing and every species of contraction is certain to bring the dirty, massy, bee irritating and demoralizing unsticky, welcome job of feeding for winter stores. a 10 frame undersized "L" hive, and yet half of my bees would starve before spring if they were not supplied with stores from the surplus Of course close spacing would starve the bees if not fed, in all localities where there is little or no fall honey to gather for winter sup-
- D. A. Jones, Beeton, Ont.—Of course if they were allowed to go into winter quarters with too little stores the bees would starve, but this would be avoided if the combs were closer as there would necessarily be more combs in the hive, but we see no reason why the bees should not get enough irrespective of spaces, but the bee-keeper who puts off the feeding of his bees until too late will learn a lesson he will not wish repeated.

## Is Outside Wintering Growing in Favor-

Query No. 298.—Is outside wintering growing so much in favor on account of having had a series of open winters? or is it gaining so very much ground after all?—J. K.

- G. M. DOOLITTLE, BORODINO, N. Y.— Neither gaining or losing ground in this locality.
- G. A. Deadman, Brussels.—I believe outside wintering is growing in favor; at least it is with me. I may change my belief, however.
- J. K. Darling, Almonte.—It may be gaining some, but if so, it is with those who are experimenting by improving their methods of packing.
- H. D. CUTTING, CLINTON, MICH.—Open wintering, better preparation and several other considerations have much to do with it. Poor honey and hard winters is what does so much damage.

EUGENE SECOR, FOREST CITY, IOWA.—I cannot answer, but can say that I still "cellar" my bees, and think there are advantages to be derived from the practice, even in mild winters for this latitude.

PROF. A. J. Cook, Lansing, Mich.—No doubt the warm winters are pushing or booming this system. One old freezer and the cellar will some rapidly to the front, where it has been with me for years and is likely to continue.

Jas. Heddon, Dowagiac, Mich.—I credit the increasing tendency toward wintering out doors to the late succession of open winters. I winter both ways, about 350 to 400 colonies, and shall continue so doing, and when old Boreas hits us real hard the cellar will be ahead.

- G. W. Demaree, Christianburg, Ky.—I do not know what the prevailing sentiment is on the subject. It is clear to me, however, that if it is proved, as I think it will be in future experiments, that bees can be wintered ontside the cellar, that plan will be adopted very generally. With a large honey producer, the loss of a few colonies is not a very serious thing, as the hives and combs are the most expensive part of the investment. With my large stock of bees and very soft, genial climate, I can get bees a great deal faster than I can get hives and combs.
- J. E. Pond, North Attleboro, Mass—Who can toll? So much depends upon local surroundings, that each must determine for himself. I have always wintered on summer stands; temperature from 40° above to 20° below zero, with not two per cent. loss in twenty five years. No better showing can be shown in my locality by inside wintering. I think as bee-keeping becomes better understood, outside wintering is abscoming more and more in favor.
- D. A. Jones. Beeton, Ont.—We think outside wintering is gaining ground by those who practice packing. To the inexperienced, no doubt, they would make success of packing out doors as it requires no skill for setting in and out, and unless they are unpacked in spring after being set out they would be left packed, which would give them an advantage in spring over those not packed.

#### Punic Queens.

WE are now booking orders for these wonderful Punic Bees brought to England by "A Hallmshire Bee Keeper," at the following rate:—Imported Queens \$40.00 each; Tested Homebred \$5.00 each; Virgins \$1.00 each, \$5.00 per 1 doz, \$10.00 per doz. Send for Punic circular. Address, E. L. Pratt, Pratt Bee Farm, Beverly, Mass.

"." Please send us the names of your neighhors who keep bees, that we may forward copies of the BEE JOURNAL to them. A postal card and five minotes time will do it.

## THE CANADIAN BEE JOURNAL

ISSUED 1ST AND 15TH OF EACH MONTH.

D. A. Jones, - Editor-in-Chief.

F. H. Macpherson, - Associate Editor.

BEETON, ONTARIO, MAY 1ST, 1891.

We have constantly on hand a supply of vaseline in 2 oz. cars, 10c.; 4 oz. cars, 20c.; ½ lbcars, 30c.; 1 lb. cars, 40c.

Geo. A. Stockwell has issued a pamphlet called his "Non-Swarming System," which Dr. Millar considers a hum-bug.

Many beginners are going into the bee business this season in Canada and we anticipate a bright future for the supply business. The prospects for the coming season are good. Although the weather has been very cold for the last few days, judging from the way in which the bees have worked on the fruit bloom we think the apple and pear bloom is saved from the frost.

Now is the time to subscribe for the C. B. J. When you sell a few colonies of bees to your neighbor, starting them in the business, be sure you get them to take the C. B. J.

There has been such a great demand for the back numbers of the C. B. J., that we would like to get Feb. 1st and 15th, March 1st and 15th, and April 1st. Any person having these numbers in fair condition and forwarding them to us, we would be pleased to allow them for them.

We have just received a large lot of combination hives and frames, fitled with nice works comb, from a party who was quitting the business, and can sell them very cheap. There are about 71 hives, more than half with no stories, others with supers, for comb honey with queen excluding honey boards and reversible hone boards and reversess. We will sell the entire lot at a bargain, or in any quantity that put chasers may desire, either with or without combs. The hives as good as new, some painted and some not. Write us stating quality tity, and whether you want combs or not. This is a rare chance for any one wishing to get fine stock of combs all ready for the bees work on.

Our readers will perhaps wonder what has happened the Bee Journal this week. Well friends, just as we were in the midst of printing the last issue of the C. P. J., our boiler collapsed, and inspection showed that nothing short of a complete set of new flues would remedy the trouble. The delay caused by this piece of repairing has thrown us out more than a week. We are working hard to catch up again however, and hope to be on time next issue.

The number of this Journal is 288, as will be seen by noticing the figures in the right hand Corner just under the heading. The number Opposite your name on the label is the number of the Journal you are credited as paid up to on our books. There are twenty four numbers in each year, so you can easily figure out how you stand and any time know if you are properly credited. For instance, if the number on Your label is 264, then you are a year in arrears, and if it be 312 you are paid for a year in advance, and so on. Whenever your number is less than the number on the Journal you are behind and should remit at once if you desire the JOURNAL continued, and if not, at once notify us. If after remitting your subscription you do act immediately see a change on your label number, notify us at once and we will feel obliged to you.

A great many subscribers to the Journal are Considerably in arrears for their subscription. We have, during this month, sent out over a thousand dollars worth of accounts, which we trust will meet with a ready response. In this large number there may have been some errors made and if so we will gladly correct any mistake on our part when brought to our notice. A number of our readers who are some years behind with their subscriptions, in reply to our request to pay up have simply ordered us to top their paper without sending along the cash for what they have had. We are always willing to mark off from our list any who do not wish longer to continue the Journal, though we Prefer to have them remain with us, but we dinnot do so until we have received our dues. Some over sensitive ones who have received Our circular have become quite offended and seem to be laboring under the supposition that be have made them a special mark by dunning them. This, of course, is foolish; we have imply sent an account to every subscriber in arrears and trust we shall meet with a prompt and satisfactory reply. A dollar or two does much, to the individual subscriber, riends, please pay promptly.

## EXCHANGE AND MART

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

JUNE 1ST.—Orders booked now to ship June 1st or after. Tested Italian Queens, under 1 year, \$1.25; under 2 years, \$1.00; selected stock. Order now. G. A. DEADMAN, Druggist & Ariar st, Brussels, Ontario.

LIGGS, EGGS—Silver Wyandottes, Black Minorcas, White Wyandottes and Langshans; good stock; good value, \$1.50 per setting after May 15th. JOHN GRAY, Todmorden, Ont.

POR SALE OR EXCHANGE—A very fine pen of Langs ans, Cockerel, large vigorous bird, and three good hens, for cash or offers. JOHN GRAY, Todmorden, Ont.

FOR SALE—A nice lot of Silver Wyandottes, Yearling Hens, White Wyandotte Cockerel and other stock. JOHN GRAY, Todmorden, Ont.

FOR SALE, CHEAP—10 hives of bees in comfination hives, in lots of one or more. Also one 6 inch comb foundation mill (Roots make), good as new, used very little, \$10. Great bargains. Address G. C. ALLAN, Churchhill, Ont.

WHITE P. ROCKS—First Cockerel, first Pullet Industrial, Toronto, 1893; second on Cockerel first on Hen at Ontario show. Bcwmanville, 1891, also prize winning White, Brown. Black Leghorns, G. P. Hamburgs. ergs from these birds guaranteed fresh and true to name, \$100 per dozen for balance of seaso.. THOS. HAWES, Whitby, Ont.

COLONIES OF BEES FOR SALE—Bees in Langstrot, single walled, and Jones Porous Palace Hives. Price, Langstroth. \$5.00; Jones P.P., \$5.50. Bees in prime condition. Never any foul brood in this part of Ontario. Will ship on C. P. R. or G.T.R. as preferred. J. H. MANNING, Tyrone P. O., Ont.

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Brood Foundation, 50 cts. per 1b.

Section Foundation, focts. per lb.

L. JONES,

DEXTER P.O., ELGIN COUNTY, ONT.

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-AND USE-

# MYERS' ROYAL GAME AND POULTRY

## \* SPICE \*

FOR EVERY DAY USE.

Keeps the Game and Poultry in a nice healthy tone, making the plumage exceedingly beautiful and ensuring a large quantity of eggs all the year round. The SPICE is nitrogenious, and feeds while heating, giving a more lasting internal heat than any other Spice ever invented. It is known to be the greatest egg producer and fattener of ducks and poultry yet known, and stands unrivalled for raising young Pheasants, Ducklings, Chicks, etc., giving stamina against colding and damp weather. It is relished and enjoyed by every species of the feathered tribe.

Game and Poultry fed upon the Spice (which is different from the Horse and Cattle Spice) will be found entirely free from Gapes and all other diseases. It brings them quickly through the moult; in fact, from its use domestic fowl are

scarcely ever out of condition.

Twenty Years in Use, Six Highest Class Med Is awarded, Thousands of Testimonials, Patronized by the Queen, Prince of Wales and nearly all the Crowned Heads of Europe.

SOLD IN PACKETS OF 2 LBS. EACH, AT 25cts. PER PACKET.

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-FOR-

# HORSES, CATTLE, SHEEP, PIGS, ETC.

The value of Spice, whether as regards keeping Stock in a healthy condition, or as a stimulant for those out of sorts, is generally acknowledged by the best Breeders and Feeders.

The ingredients are pure vegetable and botanical products, compounded with skill and care only attainable by years of incessant study and practice. Without wishing to prejudice any other condiments in the eyes of the purchasers, it behooves him to guard against buying Spice compounded by unskillful makers.

The manufacturer holds thousands of testimonials testifying to the successful manner in which animals have improved on this celebrated Spice, and the success of animals fed on food seasoned with this condiment, has been sufficiently attested at local and other cattle shows.

Established now ever a Quarter of a Century, and has the Largest Sale in the World.

N. B.—Ask your Grocer, Druggist or Flour and Feed Merchant for it and is the has not got it send direct to us.

HEAD OFFICE, - 1782FRONT ST. EAST, TORONTO

#### ADVERTISEMENTS.

## EXCHANGE AND MART

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

#### BEES

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

FOR SALE—100 Brood Foundation 10; x 123, 45 c. per lb. F. O. B. here. Cath with order. Lindsay Poul try Farm and Apiary, Lindsay, Ont.

E have about 75,000 more sections on hand of the 2nd quality, which we will sell for \$1.50 retail. Co. Beeton.

TALIAN Bees and Queens for sale. Comb founda-tion a specialty. Agent for the D. A. Jones Co sup-plies. Bees wax wanted Ship either by G. T. R. or C. P. R. H. COUSE, Cheltenham

LBS. OF BEES, at \$1.00 per lb. 50 colonies of bees for sale. Comb toundation and sections, and everything you want cheap. Send for price J. A. Foster, Tilbury Centre, Ont.

BEFS, REES, yes all the bees you want, 2000 lbs. for Roney Extractors, Sections, Hives, and all kinds of all lines at rick bottom prices. Send for price list for low out. PETER BUSSEY, Cottam, Out.

DitA Ell. Cedar Grove, Ont., is prepared to fill hecessary bee-keepers suprlies. Write him for prices before ordering elsewhere..

BEE-SUPPLIES—No. 3 Honey Knife, 85c. Very large stock just to hand. Bee Veils, can ship in contity b return mail. Second hand Jones and Write for special quotations. D. A. J()NES Co., Beeton.

OR SALE OR EXCHANGE—For anything I can Flow SALE OR EXCHANGE—For anything I can use about one hundred empty bee hives, very bees, glass boxes, sundries, etc., etc. Also a first class each incubator by the very best maker, cost \$40, and the control of the

## LOOK HERE !

if you want Hybrid or Black Bees from March 16th and May 13th at \$1 Per lb or Hybrid Queens at 50 cents in April, \$1.00, May and after, 75c. My breeding yards occur on the prairie at safe distance Send me your shipped bees successfully for 10 years 10 Northe n Batteriand Set Low prompty I will fill them Have Satter and Canada. Safe arrival and satisfaction leg. Mrs. JENNY ATCHLEY, Farmersville,

#### POULTRY

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

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

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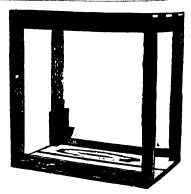
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