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VOL. V, NO. 4

1889

APRIL 17

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$

WEEKLY

IN THE WORLD

ONE DOLLAR PER YEAR

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See advertisement on another page. We have just arranged for the sale of these machines, and we can quote a price F.O.B. cars at Toronto (duty and freight paid thereto). On application we will forward catalogue and price list free.

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Send us the names of three subscribers, with \$3 in cash and receive as a premium one C. B. J. Binder.

Send postal card for sample of leaflet, "Honey, some reasons why it should be eaten."

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We can supply Binders for the JOURNAL 55 cents each, post paid, with name printed on the back in Gold letters.

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TO CONTRIBUTORS

Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited.

Beginners will find our Query Department of much value. All questions will be answered by thorough practical men. Questions solicited.

When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both any, 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.

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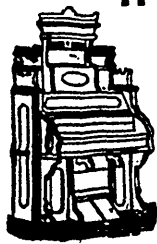
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Muth's Honey Extractor.

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

CHAS. F. MUTH & SON.

Cor. Freeman & Central Avenues, Cincinnati



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Unapproached for
Tone and Quality.

CATALOGUES FREE.

BELL & CO., Guelph, Ont.

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Is all it will cost you to get three copies of the *BEE KEEPERS' REVIEW*. Of the year 1888 we have several hundred volumes, and so long as the supply holds out, we will send free to each applicant THREE copies selected from those back numbers. This is done to allow bee-keepers to become acquainted with the *REVIEW*, with the hope that the acquaintance may prove of mutual benefit. Price of the *REVIEW* 50 cts a year.

The Production of Comb Honey!

is a neat little book of 45 pages. Price 25 cents. This and the *REVIEW* one year for 65 cents. The book and the *REVIEW* two years for \$1. Stamps taken, on her U. S. and Canadian.

W. Z. HUTCHINSON

613 Wood Street, Flint, Mich.

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Single and double-walled Hives, Frames, sections, etc., at lowest prices. Quality and workmanship of the best. Send for price list to

W. A. CHRYSLER, Chatham, Ont., (Box 450).

YOUR name and address on a Pen and Pencil Stamp only 40 cents, name 25 cents. Agents wanted everywhere. Catalogue free with every order.
T. W. G. BRIDGWATER,
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A 16-page Monthly devoted to Queen Breeders and Queen Rearing. Price 50 cents a year. Send your name on postal and receive a sample copy of this bright new journal. Address, The Q. B. Journal, 175 Main St., Marlboro, Mass.

FLORIDA!

Land for Sale in the County of De Soto, Lat. 26° 40'.

Twenty acres of good dry pine land on the Myakka River with over 500 feet of water front, 12 miles from the terminus of the Florida Southern Railway at Punta Gorda, with deep water all the way. Was selected for an apary, for which it is very suitable, being within easy reach of black mangrove, cabbage and saw palmettoes, and pennyroyal, the great honey plants of Florida. It is also suitable for growing lemons, guavas, pine apples, and all kinds of vegetables. The Myakka is a tidal river running into Charlotte Harbor, and steamers drawing eight feet of water can go right up to the property. At Southland, 13 miles down stream, a large canning establishment is just about starting.

Price for the whole \$12.50 per acre, or in 5 and 10 acre lots, \$15 per acre, cash. ALSO

Forty acres of first-class high pine land on Shell Creek; water front; 4 miles from Shell Creek station, miles from Cleveland, and 9 miles from Punta Gorda, all on the Florida Southern Railway, and with water carriage for sail boat to all these places. This land is 15 feet above the creek, rich in phosphates, and will grow oranges and all kinds of citrus fruits without fertilizing. Price per acre for 10 acres and upwards, \$10 cash—a great bargain.

The climate is splendid; heat rarely extends 90° in the summer and very mild in winter, and is exceedingly healthy—no malaria or yellow fever.

Apply to T. B. KNOTON,

Punta Gorda, De Soto County, Florida

BEEES FOR SALE.

About twenty colonies, good, strong and healthy, in two storey hives, at \$3 per colony. Cash with order.
W. H. SANFORD.
Tottenham.



BEEES FOR SALE.

Colonies, Nuclei, Queens Tested and untested, at living rates. Send for circular and price list to

C. C. VAUGHN & CO.
Columbia, Tenn.

1889 19th YEAR IN QUEEN REARING 1889 ITALIAN QUEEN BEES.

Tested queen in April, May and June \$1.60
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Untested Queens 0.90

Sent by mail and safe arrival guaranteed; also nuclei and full colonies. Eggs of Pekin ducks and White and Brown Leghorn chicks, \$1.00 per setting of thirteen.

Address: W. P. RENDERSON,
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GOOD, reliable men can find permanent employment for Maple Grove Nurseries of Waterloo, N. Y. Good SALARY and expenses paid weekly. Liberal inducements to beginners. Outfit free. Previous experience not required. Established over 20 years. All goods first-class. Write at once for terms. Address J. W. MACKAY, Gen. Manager, St. Thomas, Ont. (Mention this paper) 51-12t

WHO WANTS BEES.

100 COLONIES for sale or exchange for anything I can use. All kinds of bee supplies for sale also queens for sale in season.

JAMES ARMSTRONG,
CHEAPSIDE, ONT.



Runs Easy NO BACKACHE
BY ONE MAN. Greatly improved. Also TOOL for holding it, whereby those least experienced cannot make a mistake. Sent free with machine. To others, for common cross-cut saws, by mail \$2.00. Hundreds have saved \$5 to \$1000 daily. We want all who burn wood and all interested in the lumber business to write for our illustrated Free Catalogue. We have exactly what you want, the greatest labor-saver and best-selling tool now on earth. First order from your vicinity securest. No duty to pay. We manufacture in Canada. FOLDING SAWING MACHINE CO., 303, to 311 to, Can. J. Street, Chicago, U. S. A.

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

CHAS. DADANT & SON,
Hamilton, Hancock Co., Illinois.

PRICES CURRENT

BEEESWAX

Beeton, April 17, 1889,
We pay 33c in trade for good pure Beeswax, delivered at Beeton, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 25 per cent. on Wax coming into Canada.

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Brood Foundation, cut to any size per pound 500
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Section Foundation cut to fit 3x4 1/2 and 4x4 1/2 per lb 600
Brood Foundation, starters, being wide enough for Frames but only three to ten inches deep 480

EXCHANGE AND MARR.

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 they will be inserted in our regular advertising columns. This column is especially intended for those who have bees or other goods for exchange for something else, and for the purpose of advertising bees, honey, etc. for sale. Cash must accompany advt.

FOR sale.—36 hives' bees and working belongings, or bees by the hive. Apply to H. O. FITZGERALD, Box. 296, St. Catharines, Ont.

BEEES FOR SALE—15 colonies, good and extra strong, in Root's winter chaff hives. Must be sold, as the owner is giving up bee keeping. Inspection invited P. R. SHAVER, Box 85, Stratford.

FOR SALE.

OUTFITS for making Two-Ounce Shaving Sections, consisting of one Pair and a Simple Frame of 20 sections made up ready to lift off the form; also enough wire to make 1,000 Sections. All packed and delivered at the Express Office, for \$2.50. Address: W. HAEMER,

411 Eighth St., MANISTEE, MICH.
In responding to this advt. mention the C. B. J.

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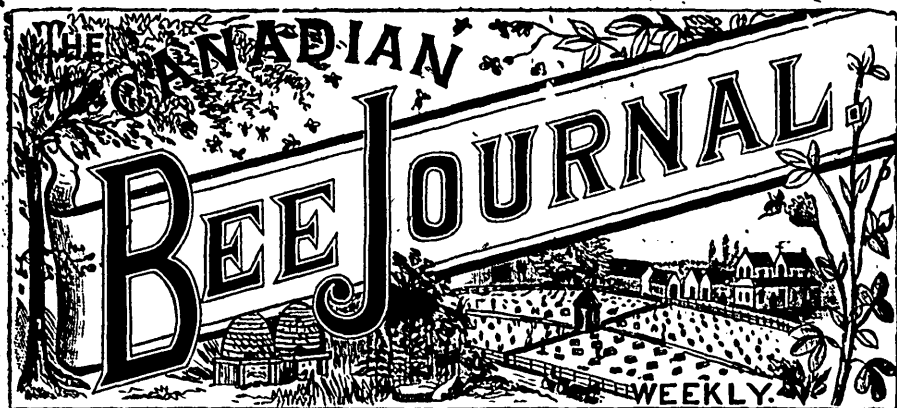
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For putting together one-piece sections. Every section square and a smart boy or girl can fold 100 in six minutes! Try one and you will never regret it. Send to your supply dealer or to

WAKEMAN & CROCKER, Lockport, N. Y.

BROTHER BEE-KEEPERS

If you wish any supplies or Fdn. made, please drop me a card before you ship, as I am not certain that I can get it out for you. Only brood fdn. made this season. A few Hives, Supers, Brood Frames, and Bees for sale. "Empire State" Potatoes for sale.
WILL BELL,
St. David's, Ont.



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

VOL. V. No. 4

BEETON, ONT., APRIL 17, 1889.

WHOLE No. 212

EDITORIAL

FRRIEND Heddon must be as popular in his own town of Dowagiac as he is amongst the bee men, for at the late municipal elections, though he ran on the Democratic ticket and the Republicans had a total majority of 76, he was elected to the mayor's chair. Mr. A. M. Moon was also elected Justice of the Peace at the same polling. He is the son of Mr. A. F. Moon, formerly publisher of Moon's Bee World, and originator, we believe, of the first bee association in the United States.

Prof. N. W. McLain has been appointed to the charge of the Minneapolis Experiment Station at St. Anthony.

A NEW DEPARTURE.

THE CANADIAN POULTRY WEEKLY TO BE INCORPORATED WITH THE CANADIAN BEE JOURNAL.

WITH our next issue the JOURNAL will be enlarged, the present cover being dispensed with, and a new department will be added under the name of THE POULTRY WEEKLY, to be devoted, as the name implies, to the interests of lovers of fine fowl.

The space devoted to the poultry will

not encroach in any way on, or decrease that now given to bee matter, so that for the present subscription our bee friends will in reality receive two papers. That the addition will prove of interest to our patrons we are confident, for rare indeed is the man who has not great admiration for the occupants of his own or neighbor's poultry yard.

Mr. W. C. G. Peters, of Angus, who is known the continent over as an extensive breeder and an authority on all matters pertaining to fowls, will have editorial charge of the POULTRY WEEKLY. This is a guarantee of the excellence of the contents.

The additional expense and outlay incurred in making the enlargement will, we trust, result in a much larger number of readers.

Every subscriber has at least one friend who is *not now* a regular reader of the JOURNAL, but should be. To bring these into the Family we want every reader to send us the names of such, that we may mail them a specimen copy. Any assistance thus given will help to widen the already extended influence of the BEE JOURNAL and POULTRY WEEKLY and strengthen it in maintaining its grand position as champion of every moral and legal right of our friends in apiculture and poultry culture.

Any one can in a moment think of a score of good people, and quickly jot down the names on a postal card, and mail to us, thereby being the means of

adding many new readers, thus widening the influence of the JOURNAL, conceded to be the most complete and practical in its several departments of any apicultural journal in British America. Sample copies sent free on application.

For the CANADIAN BEE JOURNAL.

POLLEN NECESSARY FOR BEES AT ALL TIMES.

IN Gleanings for March 1st I stated that bees cannot continue to digest sugar syrup, for any considerable time, without nitrogenous food. In previous discussions the necessity for this kind of food in winter has been assumed to be confined to the demand for the repair of tissues; but in addition to the renovation of the tissues it is required to form a constituent of the secretions, for all secretions which possess active properties owe them to the presence of a nitrogenous principle. That this principle is also essential for other purposes, in supporting life, will appear further on.

It is admitted that the digestion of cane sugar depends upon the action of ferments in the secretions of certain glands. These secretions are nitrogenous, and their active principle is obtained from the nitrogenous constituents of the food through the blood, or, in its absence, by absorbing this element from the tissues, a process which it is evident can be kept up for a limited time only. That the digestive secretions are nitrogenous; and that a constant supply of nitrogenous food is essential for their production, is apparent from the following: Dr. Parkes says, "Even the non-cellular liquids passing out into the alimentary canal at various points, which have so great an action in preparing the food in different ways, are not only nitrogenous, but the constancy of this implies the necessity of the nitrogen, in order that these actions shall be performed; and the same constancy of the presence of nitrogen, when function is performed, is apparently traceable through the whole world. Surely such constancy proves necessity." (Manual of Practical Hygiene, vol. I. page 204.) Dr. Pavay says: "We have seen that nitrogenous matter forms an essential part of the living structures. It holds the same position in the case of the secretions. These owe their active properties with which they are endowed, chiefly, if not entirely, to a nitrogenous constituent. This is drawn from the blood by the glands, just as it is drawn by the tissues; and on passing from the blood it is modified or converted, by the agency of the gland, into the

special principle encountered. Nitrogenous-matter is thus as essential to the constitution of the secretions as it is to the tissues. And as the amount of the secretions required is in proportion to the general vital activity, a corresponding demand for nitrogenous matter is created. (Food and Dietetics, page 26.) Under favorable conditions the vital activity of bees is reduced in winter, but not to the same degree that it is in the case of animals whose hibernation is most profound. The extent to which this reduction takes place may be measured either by the amount of respiration or by the temperature, because, between these and vital activity, there is, in every case, a constant relation. "In the case of the marmot (woodchuck) whose hibernation is complete, the pulse falls to about fifteen beats in a minute, and the respiration to about fourteen in an hour, while in the waking state these are respectively 150 and 500." (Todd and Bowman.) Its temperature in the waking state is say 98°, but during its sleep it falls to 38°; its burrow, to which it retires, is warmly lined with moss and fine hay, and the apertures leading to it are closed up very solid. The temperature of 38°, in such a case, is probably little if any above that of the adjacent walls of its dwelling. If animals in this state are exposed to a very low temperature, they freeze to death without waking. Speaking of bees in cluster as a unit, we have a maximum temperature of say 95°, and a minimum of 65°, and this latter temperature is kept up, no matter whether the surrounding medium is at 40° above or 40° below zero. In the case of the marmot, the heat-producing material, which is appropriated involuntarily by absorption, is stored within the body. No nitrogenous matter is now required for digestive secretions, the digestive act having been completed during the waking state. Its sleep, from which it is awakened with difficulty, continues unbroken from September until April. Not so with the bees; when the rations which their honey stomachs contain are consumed, they are obliged to wake up and renew the supply, and we learn from the observations of Prof. McLain and Dr. Tinker that this occurs at intervals of about a week. Instead of one long deep sleep, they take at best only a series of light short naps, from which they are easily aroused. To maintain their elevated temperature of 65°, a corresponding quantity of food is consumed, requiring for its digestion copious secretions of nitrogenous fluids, and for its combustion, active respiration, rendering necessary a proper supply of air. From all these it is not difficult to see that their nervo-muscular, as well as their vital activity in general, is comparatively active. Since the dis-

tegration of tissues bears a direct relation to the degree with which they are exerted, it follows that their waste, between the periods of pollen-gathering, must be considerable; and for their renovation as well as for a constituent of the secretions, "a corresponding demand for nitrogenous matter is created."

After the carbohydrates have been digested and absorbed into the blood current, nitrogenous matter is still essential for starting in motion the changes which result in heat and motion. Carbohydrates do not of themselves readily undergo these changes, without the aid of nitrogenous matter. Prof. Foster says, "Fats and carbohydrates differ essentially from proteid (nitrogenous) food, in that they are not distinctly provocative of metabolism. (Chemical changes of transformation which occur in the living tissues.) The characteristic feature of proteid food is that it increases the oxidative metabolic activity of the tissues, leading to a rapid consumption, not only of itself, but of the non-nitrogenous food as well." (Text book of Physiology, page 599.) Dr. Parkes says, "Late researches, which have much modified our opinion of the direction in which the potential energy of the dietetic principles may be manifested, (as heat, or electricity, or mechanical movements), and of the mode in which the nitrogenous substances, in particular, aid or restrain this transformation, do not impeach the proposition that the presence of nitrogen in an organized structure, and its participation in the action going on there, is a necessary condition for the manifestation of any energy, or any chemical change." (Manual of Hygiene, vol. I, page 204.) Dr. Pavay says, "Whenever vital operations are going on, their nitrogenous matter is present, forming so to speak the spring of vital action. Although non-nitrogenous matter contributes in certain ways toward the maintenance of life, yet it is nitrogenous matter which starts, and keeps in motion, the molecular changes which result in the phenomena of life. Nitrogenous matter, it may be said, forms the basis without which no life manifests itself. Life is coincident with molecular change. In non-nitrogenous matter the elements of the molecular are not, of themselves, prone to change, whereas in the molecule of nitrogenous matter there exists a greater complexity of grouping among the elements, and these cohere so loosely, or are so feebly combined, as to have a constant tendency to alter, or regroup themselves into simpler combinations. By this change in the nitrogenous, change is induced in the contiguous non-nitrogenous molecule, and, occurring as the whole does in a definite or prescribed order, the phenomena of life

are produced. Nitrogenous matter, forming in this way the instrument of living action, is incessantly being disintegrated. Becoming thereby effete and useless, a fresh supply is needed to replace that which has fulfilled its office." (Food and Dietetics, page 26).

From the foregoing the thoughtful reader will be apt to conclude that the opposition of some bee-keepers to the use of pollen as a part of the winter food of the bees, is not based on sound physiological principles. The conclusion of the whole matter is that bees must have a supply of nitrogenous food at all times, or they will certainly die of starvation, although they may be well supplied with carbohydrate stores. Exposure to severe cold will hasten this result, because it has been shown by experiment, that the immediate cause of death from starvation is a decline of the animal temperature. "The operations of life can only be carried on within a certain range of temperature, and if from any cause this range is passed, death is the inevitable consequence." Fortunately for the bees, it is just about impossible to entirely deprive them of pollen; in fact, I believe it has never yet been done; and for this reason they often live, not on account of, but in spite of the intended kindness of their owner.

S. CORNELL.

Lindsay, Ont., 1st April, 1889.

FOR THE CANADIAN BEE JOURNAL.

WEEKLY REPORTS DESIRED.

I HAVE often thought it would be a good plan to have regular weekly reports from different parts of the province during the season from April to November inclusive, of condition of bees, state of weather, results, prospects, etc. As it is now, unless some one volunteers a report we may not know how other bee-keepers are faring for weeks or months after. Such reports are most interesting. If you put the idea into operation, I am sure the reports will be the first thing I will look for each week and believe the majority of your subscribers would say so too. The reports you had sent in last season during the drought interested me very much. Somehow after reading them I felt better to know I was not alone in a scant harvest. It was also profitable to me, for after reading reports of short crops all over the country, I raised the price of what little honey I had 2½ cents per lb and got it too, and this is where regular reports would be valuable, every reader would have a guide for prices. In your letter you say once in two weeks would be often enough for reports as correspondents would tire

of it, but I would have weekly reports from different parts, but so arranged that each correspondent would only be required to send a monthly report; in this way, have, say 20 or 25 correspondents in different parts of the province, get four or five from different localities to send in their report the first week in each month, another four or five also from different parts the second week in each month and so on, in this way we would have weekly reports and I don't think any of the correspondents would tire of sending a short report each month for seven or eight months. It would not cost you much Mr. Editor to furnish necessary stationery and each one would feel you had a claim on him. I would have each correspondent's name and address with his report, as all would like to know where the report is from and who is the writer. I would not limit each one to a postal card, of course that might do for the report proper, but if a chance is given, many an interesting idea or circumstance would be reported which a person would not bother writing about separately. I don't think I need say any more about this now as the reasons given are sufficient if the idea is any good at all. If you see fit to adopt this *baby* of mine, you can book me as correspondent No. 1, just let me know when and how you want my reports and I will do what I can. I believe the weekly reports department will become as popular as the question and answer department, and hope to see it in good running order soon.

GEORGE WOOD 7, 24, 48.

Monticello, Dufferin Co.

P. S.—I make use of Dr. Miller's *baby* and wish all your correspondents would do the same, viz., No. of years in business, No. colonies last spring, and No. last fall, or fall and spring as case may be.

FOR THE CANADIAN BEE JOURNAL.

NEXT EPISTLE OF JOHN.

DELOVED Bretheren I rite not of mi self, but to persuade you at all times to be strong in the faith, abiding ever in oncommon sense. & especially wood I beseach yo to never say bee keepin aint no bonanza. hoo has said it was. y the ones as now say it aint of course. the woods is full of hibernatin people ho is sways sayin that aint no bonanza in nothin. bonanzas aint as plenty as some things, still there is a few left yet, but yove got to take um bi the handle if yo pick um. Whats the sense in cryin 'cos honey is cheep. What aint cheep? I can bi as much with a pound of honey now as I could 20 year agoe, & sell it far quicker

& more of it. the bees nor the season nor prices aint all to blame, its us thats a little off our belts. there ought to hav been more honey raised the two last years, for I never new a year that dident have a few days of honey-secreting weather. it cant be this locality is so much better than others, for the two past years has been blamed by bee-keepers here generally, & no honey has been the cry. the spring of 1887 found me with only medium colonies. The season proved rather poor. The result was what every one might expect. Only got 30 lbs. of comb honey per hive. thats the smallest average I ever had of section honey. Of course there wasent enough bees in the hives in the following fall. There wont be in eny poor year. Wal, youd a fed um I spose. but I dident. I jist opened all the port holes and fired all the light ones into the heavy ones. I contracted 59 colonies down to 25. talk about superseedin queens! I superseed the hole hive if I find a week one, & let me say rite here Im teatotley absquintically horrified at hearin so much horse mire mud-puddle flounderflatin scullpalgaly about feedin & pettin & packin & poken & contractin a poor little hive with about a pint of bees in it. I simply wonder you git eny honey atoll. No I had just as many bees as I did before, & they was in better condition. & they all come through & was on hand for bisness in spring. Now if I had put the hole 59 yn cellar without uniting I probably would a lost the most of them & then went round with tears in my fists & my eyes doubled up hollerin no bonanza in bees. Now for that bugbear season of 1888 which probly was the poorest weve had here. Wal, I had to give mi bees room bi the first of May to prevent swarming. bi the 30th of May some colonies had built seven square feet of come & stored the most of it full of honey. then it was some bad in June, but the bees had got ahead cos they was up & drest. other folks said their bees wasent doin nothin. My bees kep bredin rite along through june & al summer & give me 50 lbs. come honey per colony spring count. they increased to 56 & I united them back to 51 which are in cellar just roarin. My bisness was such both poor years that I could give my bees only about haf the attention they needed. If I had tended them more I am confident I cood have increased the average in 1888 to 70 or 75 lbs. Now, Ive been partickler in describin these facts to ye cos if I had meerly said—the hole secret of success lies in keeping your bees *verry strong* in numbers so that they will be able to gather honey when it is abundant in the fields—youd probly smiled. and said youd hurd that ni onto 20 year agoe. & you now wanted something more moderin. I

have been trying for years to entirely prevent my bees from swarming, and with the partial success obtained in this direction, uniting, have managed to keep my bees down to about 50 colonies, which number is all I care to have of small colonies. Have some larger ones which I winter on summer stands that I am trying experiments with. Have taken 110 lbs section honey per colony from small hives when kept from swarming.

JOHN F. GATES.

Ovid, Erie Co., Pa.

LINDEN HONEY.

MOVING BEES TO SECURE HONEY FROM BASSWOOD.

A CORRESPONDENT wishes me to answer the following questions:

"1. I am thinking of moving my bees, the coming summer, a few miles to where there is an abundance of basswood, hoping to secure a greater yield of honey than I at present receive, as I have no basswood near me. What do you think of the idea?"

"2. Are not the blossom-buds formed on the basswood trees a few weeks previous to the time of their opening, so that I can know by this whether there is a prospect of honey from that source, in time to make preparations for moving?"

"3. Are there, any seasons when basswood blooms in profusion, when there is no honey-yield from it?"

In answering the first question, I would say that the plan is a good one, and I can see nothing against it, except the expense. I believe basswood to be the greatest honey-producer in the world. In fact no report has ever been given (if I am correct) of an average yield of 20 pounds per day from a single colony for thirty days in succession, except from basswood. Mr. Gallup had a colony do this. I had one which stored that for about ten days, the best yield being 66 pounds in three days.

Now, if the questioner can move his bees to the basswood, and return them at an expense of \$1 per colony, it will be seen that 10 pounds of honey from each colony will pay the cost, counting honey at a very low figure, if he should get that much surplus; and if the cost should even come up to \$2 each, 20 pounds would make it good.

By going back over my account with my bees for the past sixteen years, I find that from basswood alone my yield of honey has not been far from 60 pounds, on an average, from each colony, each year; the lightest yield being about 35 pounds and the heaviest 120 pounds. This is

the average yield of the yard, not the yield of an individual colony.

Now, if you call 60 pounds what we can expect one year with another from basswood, and that it will cost 20 pounds of honey for moving the bees to the basswood, we shall have 40 pounds left for profit; 6r, if honey sells at 15 cents per pound, as it does at present, that when sold will give us \$6 per colony as clear money on each colony, over what we should have had if we had not moved them. So if 100 colonies are moved, we have \$600 over all the expense for our undertaking.

In answering the second question, I will say that the fruit-buds and leaflets of all trees with which I am familiar, are formed in June and July of the preceding year, so that the results of the next season's honey yield, as far as buds and flowers are concerned, are already formed in embryo, on the apparently bare and lifeless branches of the basswood trees. They wait only for the warmth of spring, to bring this dormant life into growth.

As soon as these buds unfold (the latter part of May) then we can see and know whether to make preparations for moving the bees or not. By examining closely we can find the bunch of buds at the base of each leaf, curled up, looking like the half of a very small pea, or perhaps a little fuzzy caterpillar would explain it better. With each week this bunch of buds grows till at the end of about seven weeks from the time the trees put on their green in the spring, they open their flowers, filled with nectar to invite the bees to a sumptuous feast.

Of course, a cool season will retard the time of their blossoming a little, and a hot season advance it; but the above is the rule. Thus the practical eye can tell nearly two months ahead the promise of a yield of basswood honey.

In replying to the third question, I will say that I never knew a season when the basswood did not furnish some honey. The shortest yield which I ever knew gave a three days' yield in which honey was so plentiful that the bees could not prepare room fast enough to store it, with a gradual tapering off of two days more, making five days in all. The longest gave a yield of 25 days, with three of them so cold that the bees could only work a little in the middle of the day.

The state of the atmosphere has much to do with the secretion of honey in the basswood flowers. The most unfavorable weather is a cold, rainy, cloudy spell, with the wind in the northwest. If basswood bloomed at a time of year when we were liable to have much of such weather, there might be such a thing as an entire failure of honey from it. But as a rule, we have very little such weather at this time of year.

The condition most favorable to a large

yield is, when the weather is very warm, and the air filled with electricity. At times when showers pass all around with sharp lightning and heavy thunder, the honey will almost drop from the blossoms, providing no rain chances to come within a mile or two of it. At such times as this, I have seen honey in the blossoms after they had fallen off on the ground, so that it sparkled in the morning sunshine. Then, this nectar is honey and not sweetened water, which makes basswood doubly valuable over most of the other honey-secreting plants and trees.

One bee-load of nectar from the basswood, in a dry, warm time, is equal to three from the white clover, or five from some other of our flowers. In a rainy time there is not so marked a difference. At times when basswood was yielding its best, I have seen more than a bee-load of honey in a single flower. I have taken one stem of blossoms, when the yield was great, and jarred it over my hand, when I would have several drops of nice honey in it. At such times as this, 1,000 colonies of bees could find all the honey which they could carry, if all were left in one place; at all other times, I think from 100 to 200 colonies would be ample for any locality.

—G. M. DOELITTLE in Rural Home.
Borodino, N. Y.

THE WAXY BEE.

FINDS SOLACE IN THE APRIL SUN, AND LOADS HIS LEGS WITH POLLEN.

HERE we are again watching the bees as they sport about the hives these April days. The fields are bare and brown, and the trees have scarcely awakened from their winter's rest as far as apparent to the eye. This early April sun is warming things up considerably, and already the bees find something to turn their attention to, for as early as Monday, the 8th, the Carniolans came hurrying in from somewhere with little pellets of pollen on their thighs. Where they found it is something of a mystery, as the willows are not advanced enough to furnish pollen, and if they were it would be a golden yellow instead of the dark-colored samples so charily gathered by the bees.

In this respect the bees are nearly two weeks ahead of last year. Reports of how bees are doing or how wintered, are very scarce this spring. How have the bees wintered, friends? The winter has been mild and where bees were properly prepared for wintering in the fall, we judge have come through well.

A GOOD REPORT.

One of the best reports we have heard this spring comes from our friend, the legal bee-keeper of Auburn, Hon. W. W. Bolster. He put in the cellar last fall twenty-seven fine colonies, and the other day placed that number, lively and

combative upon their summer stands. Whether that is according to Blackstone, Hoyle, Quinby or Langstroth, we can't say, but we know it is according to Bolster, and makes a good "Maine Report," Bolster vs Bee, and decidedly in favor of the plaintiff.

In justice to ourself we'll say we wintered the usual number of hives and they have come through first rate.

—L. A. ABBOTT in Lewiston Journal.

PURITY OF QUEENS.

THE truth of the "Dzierzon theory" is universally admitted, and while its development has been of great advantage, still it has been the means of causing some injury; not necessarily so, to be sure, but because more is claimed than is really admitted by the author. I refer to pure mating of queens. It has been claimed that because an unfecundated queen does produce drone progeny, that the drone progeny of an impurely mated queen cannot be affected by fecundation, and that no ill effects can be produced by allowing a pure queen of any race to mate with drones from a queen mated. Some claim this idea to be correct. I deny it. I do not believe that the worker progeny of a queen fecundated by a drone from a mated queen can be absolutely pure, consequently the queen progeny cannot be relied upon as pure. I do not propose to argue the question here; it is enough for my purpose that there is a doubt on the subject; and, such being the case, the remedy is simple.

I deem it as necessary to carefully select the mating drones as it is to select queens from which to breed, and I believe that until as much care in selection is taken in the one case as in the other, queen breeding will not advance as it ought, and any given race of bees will deteriorate. But even if I am not correct, the fact remains that blood will tell, and that breeds can only be kept pure by mating among themselves. The queen breeder to-day who desires to gain a name for himself must do as do the breeders of horses and cattle, viz.: select the best possible specimens from which to breed, and must pay as much attention to the male as to the female line, taking no chances and running no risks. Can any of them say they are doing this when they allow the drone progeny of a mated queen to fly among his queens? I think not, so long as there is any doubt on the subject; and I believe, too, that bee-keepers are so waking up to this matter that only those queen breeders who run no risks at all in mating their queens will gain paying patronage.

—J. E. POND in Queen-Breeders' Journal.
North Attleboro, Feb., 1889.

THE BEES OF BORNEO.

THE genus *Apis*, the honeycomb builders, may be conveniently divided into three parts,—the small bees, the big bees, and the medium-sized bees.

1.—The small bees, whose workers are less than three-eighths of an inch in length; their nest is exposed, attached to a twig from six to fifteen feet above the ground, it consists of a single small comb, which the bees, when frightened, temporarily forsake. The queen is at once distinguished by the comparatively enormous size of the thorax; the drones too are very different from the drones of other bees, the dense velvet down on the throat being wanting, and the abdomen narrower and more curved but the most curious are the large blunt lobes or pegs on the tarsal segments of the posterior legs, arising from its anterior upper margin and passing downwards, no rudiment or trace of which can be seen in ordinary drones. These bees are found only in tropical Asia and the islands of the Malay Archipelago; owing to their small size they are of no use to bee-keepers or to bee-hunters. Only one species is known, *Apis florea*.

2.—The big bees, whose workers are more than five-eighths of an inch in length; these too have their nest exposed and composed of only a single comb, but this is a large one and generally placed on inaccessible cliffs or large unclimbable trees, though occasionally in more accessible places. Owing to the position of their nests and the size of their stings these bees can successfully drive off all enemies by day. They too are found only in tropical Asia and the islands of the Malay Archipelago. Owing to the quantity of wax in their large comb, it is highly valued by natives, but these bees are not domesticated. *Apis dorsata* is the common, well-known species, found as far eastward as the Isle of Timore. *Apis zonata* is a little known species, found only, I think, in the Island of Celebes.

3.—The medium-sized bees, whose workers are more than three-eighths of an inch and less than five-eighths of an inch in length; their nests are always sheltered in hives, in hollow trees, in roofs of houses, or some such places; they build several parallel combs, they consist of species, varieties and races, scattered over the whole of the habitable old world.

Apis indica, the smallest and one of the most distinct, is found in tropical Asia and the islands of the Malay Archipelago.

Apis unicolor, small, dark in color, and distinct from others, is found in Madagascar.

From Africa comes *Apis adansonii*; from

Egypt, *Apis fasciata*; from Europe, *Apis mellifica*; from China, *Apis sinensis*. Almost every country has a special variety or race; sometimes these, when brought together, inter-breed, but sometimes two can be found in the same country which appear to keep distinct.

Up this Sarawak River are four species of *Apis* :—

1.—*Apis florea*.—I saw this bee in Ceylon, it seemed rare in the hill country, but very common near Anuradhapoora, where, on their nests being disturbed, the bees fled without stinging so that Cinghalese boys have no difficulty in eating their honey, and Mr. Davison tells me that the same is the case in the south of India; but here, although the bees readily leave their combs, they will sting as well and more effectually than their size would lead one to expect. I have not yet caught a drone here as the wet season is on, and there are no drones now. The workers of these bees vary greatly in the color of their abdomen, the most common thing is for the two basal segments of the abdomen to be colored, and the others black, but in the same nest will be found some without a bit of color in the abdomen, and some in which nearly all the segments of the abdomen are colored. Has Mr. Benton been guilty of this atrocity, or will some amateur detective find another culprit in this matter?

2.—*Apis dorsata*.—I have not noticed any difference between this bee and the one like it which I saw in Ceylon, except that in Ceylon it was quite absent from the flat country round Anuradhapoora, but here is common both in the low country and in the hills. The workers usually have the two basal segments of the abdomen colored, the other segments black, except for a gray band quite at their base; but some workers have the third segment colored, and some have the whole upper surface of the abdomen colored. I saw quite a number of these last on a nest I examined through a telescope but could see no drones, I suppose because it is the wet season, yet swarms of these bees are frequently seen flying overhead.

3.—*Apis indica*.—The commonest bee here, length of the worker seven-sixteenths of an inch; these bees do not vary much in the color of the abdomen, in the majority the scutellum is colored, but in many it is not. At this time of year here are no drones. The bees do not store much honey, they have no winter to go through, and many enemies, so they prefer breeding and swarming. They are very quiet bees, quieter than two colonies of *indica* which I examined in Ceylon; they can be easily manipulated without smoke, but they readily take

to the wing—the queen as well as the workers—so that it is impossible to drive them. Four times I have tried transferring to bar-framed hive, and once the simple removal of the queen, in every case they forsook the hive and all their brood a few days after, but the wet season was on, and the quantity of their brood not large. Amongst the enemies of these bees is a species of *Trigona*, yellow and black, and small in size, this, finding its way through the cracks in a Dyak hive, establishes itself in the upper regions of the comb, builds a wall between itself and the owner of the honey, behind which it eats the honey, leaving the midrib of the comb quite bare, and in places destroying this too. I opened two hives attacked by this small bee, and in neither case did I find any of their brood, but the Dyaks thought they sometimes had brood in the hives, but say that a few months after the *Trigona* comes, the *Apis* generally forsakes its hive.

4.—*Apis flava*.—The proper name of this bee I do not know, so for the present I will use the above name; the workers are at once recognised by their bright yellow color; their head is yellow, their thorax densely clothed with long yellow hairs, and the ground color of the thorax is yellow, their length is nine-sixteenths of an inch, slightly larger, I think, than an English bee. The drones are not very yellow, the queen not at all so, she is but little larger than a queen of *indica*. I have examined three nests of these bees, in one were drones hatching and hatched, the drone-cells, though larger than the worker cells, and furnished with the convex capping, were mixed irregularly with the worker-cells, not together on a special portion of comb. The colonies are small, and not quite so good tempered as those of *Apis indica*, but with the help of smoke are not difficult to deal with. Whilst manipulating I have noticed *Apis flava* trying to rob from *Apis indica*, and I have seen *Apis indica* trying to rob from *Apis flava*, but I have not found *Apis dorsata*, or any wasp out here, trying to rob, though *Apis dorsata* frequently comes to drink close to my colonies of *Apis indica*.

Malays, Chinese, Kings and Europeans here all give bees a wide berth. Dyaks alone keep them. Their knowledge of their habits is much like that of the old Romans, they talk of the Rajah, though probably few have seen him. The drones they call *badorken*, but have no idea that they are the males, or that the rajah lays eggs.

A nest of *Dorsata* the Dyaks highly value. They eat the brood, but sell the wax, and the

honey too if they can to Malays, who trade up the river. They take the nests by building ladders up the tree or cliff. Ascending these on a moonless night, they hold a torch beneath the nest and drive off the bewildered bees before cutting down the comb. Next day the bees leave the place and try their fortunes elsewhere. There is a right of ownership of nests on favorite trees, or cliffs. Colonies of *Apis indica* they keep in hives made of bark, or hollow logs of wood, narrow, but two to three feet long, with the entrance in the middle suspended lengthwise from the floors of their houses, which are raised many feet from the ground on poles. They take the honey and brood at night, driving the bees out of their hives by means of smoke. Next day the bees leave the place. *Apis flava* they seldom put in hives, for they say it gives less honey and brood than *Apis indica*. *Apis florea* I believe they usually avoid.

The Malays call *Apis florea* 'Peniangat,' a word which is applied to small social wasps also, and is their name for the sting of an insect. The Dyak name is 'Titi,' which is also used for small solitary bees. *Apis dorsata* is called by Malays 'Lanyee,' by Dyaks 'Bunye.' Dyaks cannot pronounce L except at the end of a word, so when speaking Malay they say 'Ranyee.' *Apis indica* is called by Dyaks 'Newaan,' or often upon other rivers 'Ranewaan.' The proper Malay name is 'Lebah,' but I have not heard it used here, the Malays commonly using the Dyak name *Apis flava* is distinguished by Dyaks as 'Newaan pscheir' (?), or the 'yellow Newaan.'

—G. D. HAVILAND, III B B. J.

Sarawak, January 29th.

HONEY-BEES.

HONEY-BEES are not natives of America. When John Elliott translated the Bible into the Indian language, there was no word expressive of honey and wax. There is a native species in Brazil, but destitute of a sting, and different from the bee we have. The traditions of the Indians concur with ours, that the honey-bee came from Europe, and they regarded it as the harbinger of the white man, and believe that as fast as it advances, the red man must retire.

How early bees were introduced into this country is not definitely known. They were imported into Florida by the Spaniards previous to 1763, and appeared in New York 1793.

There were many flowers on this continent before the introduction of the honey-bee, but they were of a kind not dependent upon it for fertili-

zation, like the clovers and fruit trees. At the first glance, it appears that the apple blossoms need no further agency for their fertilization, as the pistils and stamens are in the same flower; but on a closer examination we perceive that the stigma comes to maturity before the anthers, and bees passing from bloom to bloom carry pollen from the older to the younger, and secure fertilization, without which, no apples can be produced. There are very few insects so early in the season as when apples bloom, and honey-bees have to be depended upon almost entirely for their fertilization.

Strawberries, blackberries and raspberries, have a stigma for each little rounded mass, which an insect has visited, or there would be no perfect fruit. To produce a single perfect berry, from one hundred to double or triple that number of independent fertilizations must be accomplished, and this is done by bees walking over the bloom, seeking honey, and carrying pollen to the stigmas.

It would insure more perfect fertilization of fruits and flowers, if the bees were more evenly distributed throughout the country and not confined to specialists. In England, a large class of bee-keepers, known as cottagers or farm-hands, keep from two to a dozen colonies in the old-fashioned straw skeps. In the fall they take up all the swarms, either brimstoning the bees or returning them to their old stands. Horticulturists, agriculturists, orchardists should feel kindly towards these industrious insects.

—MRS. HARRISON in *Prairie Farmer*.

(Read at the Fremont Farmers' Institute by A. M. Alton.)

The Adaptability of Bee-keeping to the Farmer.

THIS is a subject which has been assigned me by our Secretary, and it is one which is receiving considerable attention at the present time. One question is, will it properly develop the intellectual and moral nature, so that the worker will develop all his faculties while striving to earn a comfortable subsistence?

"It is not all of life to live, nor all of death to die."

As to bee-keeping, there can hardly be a question as to its moral and intellectual tendency, for proof I have only to cite you to shining examples (both living and dead), who are, or have been, engaged in the pursuit. Who ever heard of a bee-master being guilty of a crime? Then it will be congenial to those fitted by nature to follow it, just as a natural treacherous feels at home with the tools with which he cheerfully earns his living.

There is no use saying that every man will make a successful bee-keeper any more than to say every man is by nature an artist, or every woman is a musician. Unless a person possesses certain qualifications, either natural or acquired, he would very likely make a failure of bee-keeping. Among the necessary qualifications are perseverance, industry, the love of home more than riches, a talent for looking after details, promptness, and last, but not least, reasonably good health.

As a rule I believe that bees should form a part of the surroundings of every ideal rural home, not only because it adds to the beauty of the landscape, but because in the economy of nature bees are necessary to the perfect fertilization of the vegetable kingdom. And then you can take your enjoyment as you *g.*, mixed, it is true, with pain and toil, but still a life of enjoyment. You have one important advantage over the merchant: Your outdoor life gives you a physical vigor he cannot enjoy, you have better food than he, even if he eats from the same dish, for he has not the same hunger to spice it. The man who eats his food with a thorough relish is the better man for it physically and mentally, and perhaps morally and spiritually.

Let not one suppose that bee-keeping connected with farming is a pleasant pastime which lazy and incompetent people can take up with success; for the lazy and incompetent there is no place anywhere. It would be well for them to die at once if they were fit to die. But any man or woman who will learn the business and begin wisely, can find in bee-keeping mixed with farming a healthful pursuit. If farming were conducted in a better way than it usually is, and a few colonies of bees kept in connection with it, the two pursuits would be found to harmonize. As a rule farmers attempt to work too much land, and the consequence is a low grade of farming, poor crops, their crops of both grain and fruit are inferior, and if there is a bee-keeper near they are apt to try to make themselves believe that the bees are the cause of the poor crops. If instead of trying to farm 200 acres they would put the same amount of labor on 80, and keep about 50 colonies of bees, sowing alsike clover, buckwheat, etc., the investment would be much less and I think the results more satisfactory. And then at times if the farmer was not well balanced he would almost go crazy with so much to see to.

Perhaps this question might be asked, what branch of farming would be best to unite with bee-keeping? I would advise stock and poultry raising. Whatever branch the farmer may

take up he must expect to forsake all for

"When the loud clear notes of the dinner horn
Are heard by the farmer while plowing the corn
With the day just begun on a fine summer morn

To him it is warning

That the bees are swarming

And the interest is equal to a new baby born.

Old Doll is left standing alone in the row

In the spot where the dinner horn prompted the
"Whoa,"

And off to the house in a sweat he must go,

For when bees go frolicking

Like bobolinks collicking,

No time must be lost in delays, you know."

QUERIES AND REPLEIS.

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.

Moving Bees by Boat.

QUERY 228.—Keeping as I do a few bees on the shores of Georgian Bay, would it pay me to hire or buy a boat to move them along the shore to favored locations? I don't own many hives, but if you think it will pay me to keep moving them I intend going into it more.

H. D. CUTTING, CLINTON, MICH.—Please ask Bro. Jones, he can tell all about it.

G. M. DOOLITTLE, BORODINO, N.Y.—Have no experience along this line. Hence am incompetent to answer.

W. M. BARNUM, ANGELICA, N. Y.—I do not think it would pay, though my answer is purely theoretical.

WM. McEVoy, WOODBURN, ONT.—No, it won't pay you; you better save your money.

H. F. HUNT, VILLA MASTAI, QUE.—If you have no other occupation, and can certainly clear \$1 per day, it would pay.

J. K. DARLING, ALMONTE, ONT.—Have had no experience and can give no advice. See answer to 223.

S CORNEIL, LINDSAT, ONT.—I don't know the locality, but it is not likely it would pay.

DR., C. C. MILLER, MARENGO, ILL.—If it pays you it will probably be the first case of the kind on this continent. Still there is a first time for everything.

A. B. MASON, AUBURNDALE, OHIO.—The editor of the C.B.J. can answer this query better than any person I know of, and I will give him the privilege of answering for me.

G. A. DEADMAN, BRUSSELS, ONT.—Only those acquainted with the honey flora of the shores of the Georgian Bay could speak with any positiveness on this question.

J. F. DUNN, RIDGEWAY, ONT.—Many experiments have been conducted along this line with such conflicting results, owing to difference in localities that all I feel warranted in saying is, try it and then decide for yourself.

EUGENE SECOR, FOREST CITY, IOWA.—I very much doubt if it will pay to hire or own a boat to keep the bees on, but if you mean simply to move them to a new location on the shore as other out apiaries are moved, I think it would be a nice way to transport them.

PROF. A. J. COOK, LANSING, MICH.—I should say no. Mr. Jones is the man to answer this question. Of course it would depend much on the country and vegetation along the shore of the bay. If raspberries and clover were in one place, bass wood in another and fall flowers in yet another, then yes.

ALLEN PRINGLE, SELBY, ONT.—Whether it would pay you to move them or not depends upon various circumstances. Is the pasturage to which you propose to go sufficiently good to warrant the move? Could you make more money at something else during the time you would spend in moving, adding of course the expenses incurred to the time? Of what value would the experience thus gained be to you?

J. E. POND, NORTH ATTLEBORO, VT.—It may or it may not. It used to pay in olden times, so Egyptian history informs us. The locality and other conditions must be known to enable me to answer intelligently. It pays to move bees from one place to another when the supplies give out and others can be found near by. To make it pay in moving as above, the supply should be continuous, and advance made as it fell short.

JAS. HEDDON, DOWAGIAC, MICH.—I think not. Of course I do not know under just what circumstances you would be placed. I have always disfavored migratory bee-keeping in this country. Before C. O. Perin sunk \$15,000, experimenting with the migratory system on the Mississippi river, he came here and counselled with me about it. He stayed three days. I told him then that I did not think that the storage and price of honey were such as to make it pay. I told him that I thought the poor cottager who kept his bees in one place, in a cheap economical manner, could profitably raise and sell him the honey cheaper than he could produce it with the migratory system. After testing it he found out that what I told him was true.

G. W. DEMAREE CHRISTIANBURG, KY.—This is a subject of deep interest to me, and has been for several years. I live on a great railroad thoroughfare which passes through a great variety of country, and I have taken the pains to survey in person the bee forage lands along a portion of its route. I have been convinced that it would pay me to move my bees, or rather a part of them from place to place along this line. In the early spring I might move a part of my bees to immense maple sugar groves, and some in the vicinity of mighty apple orchards, etc. Then in the summer after the white clover

ceases to yield, I could move a limited number of colonies to the hill country, where golden rod and the asters abound. It is only a question of cost. If I live many years longer these plans will be carried out, and the experience made a success or failure. I would have tested the matter before now if the three past years had been more favorable. I repeat, it is only a question of cost, and every apiarist must be the judge of that.

R. McKNIGHT, OWEN SOUND.—It will not pay you to either buy or hire a boat for this purpose. It would not pay you to use a boat if you got it for nothing. I fancy I see you adrift with a dozen or so hives of bees in your boat, you make for your chosen point, and when near the shore you find there is a surf running on the beach (as there usually is even in calm weather.) If you are not an expert boatman, before you can say Jack Robinson, your boat is thrown broad-side-on and your hives go thumping and bumping about with every recurring wave. If you are a good boatman you will run it ashore "bow on" and keep it so either by the aid of an oar, or by jumping into the water and keeping it in position while your companion goes ashore, tow line in hand, only to find that your united strength is not sufficient to drag your boat and its load out of the water. What then? Of course there is nothing left but for you to "hang on" while your companion wades out and carries the hives ashore. To do this he may have to go up to his arm-pits in water before he reaches the hives in the stern. Let us suppose you have your hives on the beach and your boat out of the water. You don't propose leaving your hives where they are, do you? That would be folly. They ought to be placed at least a mile and a half back from the lake, else half the range of their flight will be a "barren waste of waters." How, then, are you to get them a mile and a half or two back from the lake? If a road runs down the bank to where you land you may have on hand or you may hire a spring wagon and move them on it, but you cannot carry them. If you live on the south shore of the Georgian Bay you will know that all along the margin of the lake the land is more or less hilly and precipitous; you cannot carry your hives up these hills and back into the country. If you are ready to undertake this job you have more courage and more muscle than most men are blessed with. No, it will not pay you to either buy, borrow or hire a boat for this purpose. A better plan by far is for you to move your bees on a spring wagon along the roads running parallel with the lake, that is if it pays you to move them at all. If your present location is a good one you should keep them where they are for the character of the bee pasture is very much the same all along the bay.

If your present location is a good one for fall pasture it would not pay. But are convinced it would pay better by boat than by wagon. We have moved our bees from one island to another in the Georgian Bay and found it much easier than using a wagon near Beeton. If we had put our bees on the cars after

basswood ceased to yield here and taken them to Muskoka it would have paid us, in fact we would have cleared \$500 or \$1,000 thereby. There are many locations around the Georgian Bay with large tracts of willow herb or fire-weed and many other nectar-secreting fall flowers. In such a location bees should be able to store sufficient surplus to remunerate the owner for moving them there.

CIRCULARS RECEIVED.

We have before us a circular form Messrs. Garani, Bonaghi & Co., printed in three different languages, referring to the bee-establishment under their management, and in charge of Mr. Neppi-Modvna, Porta S. Balogue, (Italy).

L. L. Hearn, Frenchville, Mercer Co., W. Va. sends us his five-page folding circular—Italian queens only.

Andrews Lockhart, Pattens Mills, Wash Co., Mo.—8 pages—Carniolan bees, queens, etc.

For 1889, M. Richardson and Son, of Port Colburne, issue a 20 page catalogue of all requisites for the apiary, which include the hives so recently mentioned in the papers on "Practical Bee-keeping."

Martin & Macy, North Manchester, Ind.,—12 pages—bees, supplies, poultry, small fruits, etc.

J. W. K. Shaw & Co.,—Loraville, Iberia Parish, La.—4 page folding card—specialties, early southern queens.

From Dr. S. W. Morrison, Oxford, Pa., we received a four-page circular, regarding Carniolan queens, in which the doctor deals specially.

A. Gilchrist, West Toronto Junction, Ont., (formerly of Guelph), sends out an artistic catalogue of evergreens, roses, climbers shrubs, dahlias, hardy plants and bulbs,—his specialty is the Norway spruce.

W. E. Clark, Oriskany, N. Y.,—24 page circular,—Quinby hives, bees, queens, etc

SUNDRY SELECTIONS.

W. A. CHRYSLER.—My bees gathered natural pollen on 24th of March.
Chatham.

W. H. KIRBY.—Bees commenced carrying in pollen to-day. Five days earlier than last year.
Oshawa, April 9th, 1889.

S. CRAWELL.—I notice the soft maple buds pushing the anthers through on sunny slopes.
Lindsay, April 9, 1889.

N. LUSH.—The weather is fine and warm days with frosty nights. My bees are doing well, I

saw them bring in pollen yesterday, the 7th April, the first I saw this season.

Peterborough, April 8th, 1889.

J. E. POND.—I need not praise or flatter "C. B. J." it speaks for itself and speaks well too. It is worthy of support, and every bee-keeper in North America ought to subscribe, pay for, and read it. It would do them "lots of good."

North Attleboro, Mass., April 9th

REV. D. BEATTIE.—My bees were so restless I took them out of cellar on the 27th ult. They are all alive and doing well, save one that had no queen, most of last fall. It has dwindled considerably—bees too old I think. They gathered pollen on Sabbath last. To-day they are at it strong.

Campbellford, April 9, 1889.

J. F. DUNN.—Our bees are rolling in the pollen from skunk cabbage every day that they can fly. I think indications are for a fair season. Bees are light in stores on account of heavy breeding during the unusually warm winter we have had, and unless they are looked after sharp, many will starve in this part of Ontario.

Ridgeway, Ont., April 8th, '89.

JOHN A. NOBLE.—My bees have wintered all O. K., 9 hives of bees, I have not lost a colony for five winters. I have been laid up all winter. I am afraid I shall have to sell out as I do not get much better, I will be sorry to part with my bees. I saw a drone fly out of a hive yesterday. Bees have been carrying in pollen 3 days. I winter on summer stands in chaff hives.

Norval, Ont., April 10th, 1889.

LOST ALL BUT ONE.

T. HODGSON.—Commenced last spring with four colonies of bees, increased to eleven. Took two hundred pounds extracted honey. Packed in clamps in October with flax chaff. All dead but one. Do you think it was the chaff that killed them? They had plenty of stores. St. Mary's, Ont.

We scarcely think the chaff was the sole cause of the mortality. A careful examination would, we think, indicate other reasons. Never used flax chaff nor know it to be used with good results. It is not as good as other chaff or sawdust.

BUSINESS DEPARTMENT

We wish to say that the prices as found in our catalogue issued last season hold good for 1889. We have a large lot of our last issue yet on hand, and there is no little change in them that it is not worth while throwing them all to one side. Those who have this catalogue will please note this, when ordering, and those who wish a fresh one, please drop us a postal.

QUEEN-BREEDER'S DIRECTORY.

It will be observed that we have added a Breeder's Directory to our other modes of ad-

vertising. In this we are prepared to publish standing cards giving the name, address and specialty engaged in, up to the space of three lines, at the very low rates of \$1 one line; \$1 50 for two lines and \$2.00 for three lines per year. The advantages of a standing card are very nicely put in the following taken from an exchange:—"Even if a breeder has nothing to sell, the publication of his "card" is of use to him. It keeps the name of his goods and his own name before the public. It is virtually an invitation to anyone interested to call and examine his breeding stock, and when he has stock to dispose of he will find that they are not strangers to the buying public."

GOOD BOOKS

—FOR THE—

Farm, Garden & Household.

THE FOLLOWING VALUABLE BOOKS WILL BE SUPPLIED FROM THE OFFICE OF THE CANADIAN BEE JOURNAL. ANY ONE OR MORE OF THESE BOOKS WILL BE SENT POST-PAID DIRECT TO ANY OF OUR READERS ON RECEIPT OF THE REGULAR PRICE, WHICH IS NAMED AGAINST EACH BOOK.

FARM AND GARDEN.

Allen's (R. & L. F.) New Am. Farm Book	\$2 50
Beal's Grasses of North America.....	2 50
Brackett's Farm Talk, Paper, 50c. Cloth	75
Brill's Farm Gardening and Seed-Growing.....	1 00
Barry's Fruit Garden. Now and revised	2 00
Farm Appliances.....	1 00
Farm Conveniences.....	1 50
Farming for Profit.....	3 75
Fences, Gates and Bridges.....	1 00
Fuller's Practical Forestry.....	1 50
Gregory on Cabbages.....	30
Gregory on Onion Raising.....	30
Harris' Gardening for Young and Old	1 25
Henderson's Gardening for Pleasure...	2 00
Henderson's Gardening for Profit.....	2 00
Johnson's How Crops Feed.....	2 00
Johnson's How Crops Grow.....	2 00
Johnson's How to Plant..... Paper...	50
Long's Ornamental Gardening.....	2 00
Onions—How to raise them Profitably	20
Our Farm of Four Acres..... Paper...	30
Quinn's Money in the Garden.....	1 50
Silos and Ensilage.....	50
Starr's Farm Echoes.....	1 00
Stewart's irrigation for the Farm, Garden and Orchard.....	1 50
Ten Acres Enough.....	1 00
The Soil of the Farm.....	1 00
Thomas's Farm Implements and Machinery.....	1 50

Treat's Injurious Insects of the Farm and Garden	2 00	Jennings on the horse and his diseases	1 25
Waring's draining for Profit and Health	1 50	Law's Farmers' Veterinary Adviser....	3 00
Waring's Elements of Agriculture	1 00	Manning's The Illus. Stock Doctor....	5 00
Weld's and Others' A.B.C. of Agriculture	50	Rarey and Knowlson's Complete Horse Tamer.....	50
		Riding and Driving.....	20
		Saddle Horse, The; Complete Guide to Riding and Training.....	1 00
FRUITS AND FLOWERS.		HUNTING, SHOOTING, ETC.	
Bailey's Field notes on Apple culture	75	Amateur Trapper and Trap Makers' Guide, pa. 50c.; boards.....	75
Elliott's Hand Book for Fruit Growers Paper, 60c	1 00	Batty's Practical Taxidermy and Home Decoration.....	1 50
Fuller's Grape Culturist	1 50	Bumstead's Shooting on the Wing.....	1 50
Fuller's Illus. Strawberry Culturist ...	25	Murphy's American Game Bird Shooting	2 00
Fuller's The Propagation of Plants....	1 50	Practical Hints on Rifle practice with Military Arms.....	25
Fuller's Small Fruit Culturist. new ed.	1 50	Smith's Law of Field Sports.....	1 00
Fulton's Peach Culture New ed.....	1 50	Thrasher's Hunter and Trapper.....	75
Henderson's Practical Floriculture....	1 50		
Husmann's American Grape Growing & Wine Making.....	1 50	POULTRY AND BEES.	
Parsons on the Rose.....	1 00	Burnham's New Poultry Book.....	1 50
Saunders' Insects Injurious to Fruits.	3 00	Cooper's Game Fowls.....	5 00
Vick's Flower and Vegetable Garden.	1 25	Felch's Poultry Culture.....	1 50
		Johnson's Practical Poultry Keeper	50
CATTLE, SHEEP AND SWINE.		Poultry: Breeding, Rearing, Feeding, etc.....	Boards..... 50
Armsby's Manual of Cattle Feeding...	2 50	Profits in Poultry and their Profitable Management.....	1 00
Cattle, The Varieties, Breeding and Management	75	A Year Among the Bees, by Dr. C. C. Miller.....	75
Clok's Diseases of Sheep.....Paper...	75	A.B.C. in Bee Culture by A. I. Root. cloth, \$1.25, paper.....	00
Coburn's Swine Husbandry. New ed.	1 75	Quinby's New Bee-Keeping, by L. C. Root, Price in cloth.....	1 50
Dadd's American Cattle Doctor. 12mo	1 50	Bee-keepers' Handy Book, by Henry Alley. Price in cloth.....	1 50
Guenon on Milch Cows. New ed	1 00	Production of Comb Honey, by W. Z. Hutchinson. Paper.....	25
Jennings on Sheep, Swine & Poultry.	1 25	The Hive and Honey Bee, by Rev. L. L. Langstroth. Price, in cloth.....	2 00
Jersey, Alderney and Guernsey Cow.	1 50	A Bird's-Eye View of Bee-Keeping, by Rev. W.F. Clarke.....	25
Keeping One Cow. New edition.....	1 00	Success in Bee Culture, paper cover...	50
Martin's Hog Raising and Pork Making	40	Cook's Bee-keepers' Guide in cloth...	1 25
Miles' Stock Breeding.....	1 50	Foul Brood, its Management and Cure by D. A. Jones. price by mail.....	11
Powers' The American Merino for Wool and Mutton. A practical and valuable work.....	1 50	A. B. C. in Carp Culture, by A. I. Root, in paper.....	50
Stewart's The Dairyman's Manual....	2 00	Queens, And How to Introduce Them	10
		Bee-Houses And How to Build Them	15
DOGS, ETC.		Wintering, And Preparations Therefor	15
Dog, The; Its Varieties and Management. Boards.....	50	Bee-keepers' Dictionary, containing the proper definition of the special terms used in Bee-Keeping.....	25
Dogs of Great Britain, America and other countries.....	2 00	Standard of Excellence in Poultry....	1 00
Floyd's Hints on Dog breaking.....	50	Stoddard's An Egg Farm. Revised....	50
Stables' Our Friend The Dog.....	3 00	Wright's Practical Pigeon Keeper....	1 50
		Wright's Practical Poultry Keeper.....	2 00
HORSES, RIDING, ETC.		Any of the above clubbed with the CANADIAN BEE JOURNAL at 75 cents extra.	
Anderson's The Galop.....	1 00	TO THE DEAF. —A person cured of Deafness and noises in the head of 23 years standing by a simple remedy, will send a description of it FREE to any Person who applies to NICHOLSON, 177 McDougal Street, New York.	
Armatage's Horse Owner and Stableman's Companion	1 50		
Battersby's The Bridle Bits. Valuable	1 00		
Chawnet's Diseases of the Horse.....	1 25		
Dadd's American Reformed Horse Book. 8vo	2 50		
Dadd's Modern Horse Doctor. 12mo.	1 50		
Day's The Race Horse in Training...	6 25		
Du Hays' Percheron Horse. Revised and Enlarged.....	1 00		
Heatley's Every man his own Veterinarian.....	2 50		
Herbert's Hints to Horse Keepers.....	1 75		
Howden's How to buy and sell a Horse	1 00		
Jenning's Horse Training Made Easy.	1 00		

REDUCTION LAWN MOWERS

LAST season the prices were almost above reach, but they are down again, and we can now furnish them, shipped direct from the factory at the prices which follow:

10 inch cut	\$4.75	14 inch cut	\$5.25
12 inch cut	\$5.00	16 inch cut	\$5.50

The open cylinder mowers will be sent where no special instructions or the contrary are received. The "Close" cylinder may be had by those who prefer it.

THE D. A. JONES Co., LTD.
BETON, Ont.

BEES - BEES

YES, all the Bees you want by the pound. Will be able to ship by May 5th to 10th if weather keeps fine. All kinds of Bee Supplies at rock bottom prices. Send for Price List for 1899.

R. E. SMITH,
Box 72, Tilbury Centre.

BEES FOR SALE.

BEST IS CHEAPEST.

I HAVE a few colonies of my improved Italian bees for sale at ten dollars per colony, also a few colonies of Hybrids and ordinary pure Italians at from \$5 to \$7 per colony. Send 10c for a sample of my best bees and be convinced that they are the best in Canada. Address

LEWIS JONES,
DEXTER P. O., ONT.

IMPORTED QUEENS.

In May and June, each	\$2 00
In July and August, each	1 80
In September and October, each	1 40

Money must be sent in advance. No guarantee on shipments by mail. Queens sent by express (eight at least), which die in transit will be replaced if returned in a letter

CHAS. BIANCONCINI, Bologna, Italy.

A BIG OFFER

- BY -

The-BeeKeepers' Advance.

A. T. COOK'S

SPECIAL INTRODUCTION BOX of SEEDS,

FOR THE

Family Garden.

The following is a list of the seeds:—Beet, Cabbage, Carrot, mixed, Sweet Corn, Celery, mixed, Cucumber, Garden-dock, Musk-Melon, Water-melon, Parsnip, Pumpkin, Pop Corn, Tomato, three varieties, Radish, Spinach, Squash, Rutabaga, Sunflower, Amaranthus, Agrostemma, Petunia, Sweet William, Mixed Flowers, over 300 varieties. In all there are 25 packets, besides "extras," amounting at regular catalogue rates to \$1.75. We have made arrangements with A. T. Cook, the seedsman so that to every one who will send us \$1.00 we will mail this box of seeds and the "Advance" for one year. The seeds alone, 75c. Address

THE ADVANCE,
Mechanic Falls, Maine.

BEES FOR SALE.

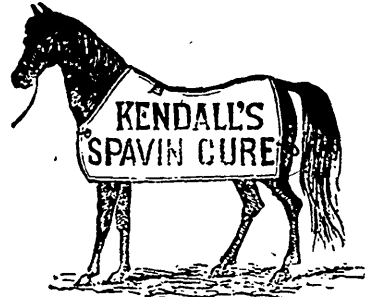
One full colony of pure Italians \$5 each. Ten colonies \$4.75 each, twenty or more colonies \$4.50 each. Tested Italian queens with enough bees to hatch one comb of sealed brood, sent by express before June, \$2.50 each for five queens \$2.25 each; for ten queens \$2 each. After June 1st ten per cent. off for queens. Safe arrival guaranteed, and references given when wanted.

Address JULIUS HOFFMAN,
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CARNIOLAN QUEENS A SPECIALTY.

Largest and Purest Carniolan Apiary in America. Send for descriptive circular and price list

Address, ANDREWS & LOCKHART,
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The Most Successful Remedy ever discovered, as it is certain in its effects and does not blister. Read proof below.

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OFFICE OF CHARLES A. SYDNER,
BROOKLYN, N. Y.
CLEVELAND DAY AND TRADING BRIDGES CO.,
ELMWOOD, ILL., Nov. 24, 1898

DR. B. J. KENDALL CO.
Dear Sirs: I have always purchased your Kendall's Spavin Cure by the half dozen bottles. I would like prices in larger quantity. I think it is one of the best liniments on earth. I have used it on my stables for three years.

Yours truly, CHAR. A. SYDNER.

KENDALL'S SPAVIN CURE.

BROOKLYN, N. Y., November 8, 1898.

DR. B. J. KENDALL CO.
Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for lameness, Stiff Joints and Swelling, and I have found it a sure cure. I cordially recommend it to all horsemen.

Yours truly, A. H. GIBBERT,
Manager Troy Laundry Stables.

KENDALL'S SPAVIN CURE.

SANT WINTON COUNTY, OHIO, Dec. 19, 1898.

DR. B. J. KENDALL CO.
Gents: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured twenty-five horses that had Spavin, ten of Ring Bone, nine afflicted with Big Head and seven of Big Jaw. Since I have had one of your books and followed the directions, I have never lost a case of any kind.

Yours truly, ANDREW TURNER,
Horse Doctor.

KENDALL'S SPAVIN CURE.

Price \$1 per bottle, or six bottles for \$5. All Druggists have it or can get it for you, or it will be sent to any address on receipt of price by the proprietor. DR. B. J. KENDALL CO., Keosauqua Falls, Va.
SOLD BY ALL DRUGGISTS.

GLEN VILLA POULTRY YARDS.

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Breeder and Importer of High-Class

POULTRY.

The Renowned Autocrat Strain of Light Brahmas, Langshans, Pea-Comb Barred Plymouth Rocks, White Plymouth Rocks, W. F. Black Spanish, Silver Spangled Hamburgs, Buff Pekin Bantams and Pekin Ducks.

Eggs \$3.00 per 13. Hamburgs \$2.00 per 13. No stock for sale until the fall.

BOX 18,

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W. C. G. PETER,

IMPORTER AND BREEDER OF

WYANDOTTES

Plymouth Rocks, Rose Comb, White & Brown Leghorns,

Single-Comb White Leghorns, Light Brahmas, Langshans, B. B. R. and S. D. W. Game Bantams.

My Stock is A1. Eggs in season \$3.00 per setting, two for \$5.00. Birds for sale at all times. At the late great Ontario Show, held in St. Catharines I exhibited 15 birds and obtained 13 prizes. Send for Circular.

ST. GEORGE POULTRY YARDS,

ANGUS, ONT.

THOS. BARRETT,

Norfolk Poultry Yards,

BREEDER AND IMPORTER OF

LANGSHANS.

SILVER GREY DORKINGS, SILVER-LAC. ED WYANDOTTES, AND SILVER SEBRIGHT BANTAMS.

Eggs in Season, \$3.00 per Setting, two for \$5.00.

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SID CONGER,

Flat Rock, Ind.

BREEDS PRIZE-WINNERS OF

PLYMOUTH ROCKS

-AND-

GOLD & SILVER WYANDOTTES.

Will sell prize-winners to any one that wants to win. Send for illustrated circular giving mating prices and prizes won. EGGS, \$3 and \$5 a setting.

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BEETON, ONT

JAPANESE BUCKWHEAT.

Per Bushel, \$2.00; per half bushel, \$1.25; per peck, 75c. Shipped in good cotton bags. E. & G. W. BARBER, Hartford, O., t.

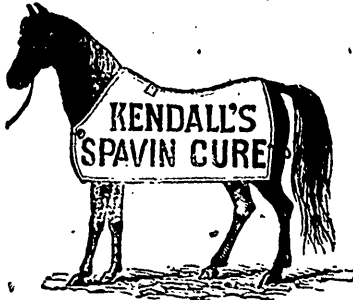
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SALARY AND EXPENSES PAID, or liberal commissions. Outfit free. Permanent positions guaranteed. No excuses unnecessary. Special advantages to local men who devote part time.

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Empire Nurseries,

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The Most Successful Remedy ever discovered, as it is certain in its effects and does not blister. Read proof below.

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OFFICE OF CHARLES A. SNYDER,
BROOKLYN OF
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ELMWOOD, ILL., NOV. 24, 1888.
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Yours truly, CHAS. A. SNYDER.

KENDALL'S SPAVIN CURE.

BROOKLYN, N. Y., November 3, 1888.
DR. B. J. KENDALL CO.
Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for Lameness, Strik Joints and Spavins, and I have found it a sure cure. I cordially recommend it to all horsemen.
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Horse Doctor.

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Price \$1 per bottle, or 6 bottles for \$5. All Druggists have it on call. If not for you, or it will be sent to any address for amount of price by the proprietors. DR. B. J. KENDALL CO., Erieburgh Falls, Vt.
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