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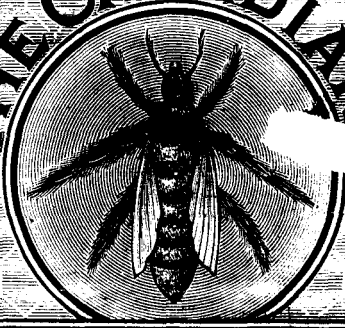
VOL. IV, NO. 13

1888

JUNE 20

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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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 may, however be enclosed in the same envelope.

Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL

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Headquarters in the West for Pure Italian

## BEES & QUEENS.

Two-frame nucleus, untested queen, in May, \$2.50; June, \$2.25; after \$2.00; 3-frame, in May, \$3.50; June \$3.00; after, \$2.50. With TESTED queen, add 50c. more. Bees, per lb., in May, 90c.; June, 75c.; after, 60 cts. Untested queens, in May, \$1.00; after, 75c.; six, \$4.00. Tasted, in May, \$1.50; after, \$1.25. Write for circular of Bees, Queens, Sections, Foundation, etc. 50 nos. Address JNO. NEBEL & Son, High Hill, Mo.

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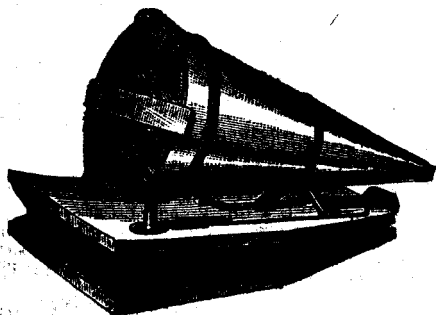
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Fermentation absolutely prevented. Simple, Reliable, Harmless. PRICE 25 CENTS per box. Sold by Grocers, or supplied by

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Or  
**The D. A. JONES CO. Ltd.,**  
BEETON.

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**My 20th Annual Price List** of Italian, Cyprian and Holy Land Bees. Queens and Nuclei Colonies (a specialty); also Supplies—will be sent to all who send their names and addresses.  
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## SEND US \$2.50

And we will send you a good serviceable man or boy

## Nickle Keyless Watch,

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The liveliest and Best Weekly Paper published in the Dominion. Send your address for sample copy and full particulars. Special terms to bona fide canvassers.

FOREST AND FARM,  
CHAS. STARK, Publisher, 50 Church St., Toronto.

THE BEE-KEEPERS'

## REVIEW.

For June is now out. The special topic is that of "Removing Queen near the Close of the Harvest." It is contributed to by such men as E. France, G. M Doolittle, Prof. Cook, F. Boomhower, James Nip and Dr. Miller.

It also contains a long editorial in which the editor gives in detail, his experience in "feeding back" 13,000 lbs. of honey to secure the completion of unfinished sections. "Feeding Back" is to be the special topic of the July number, and contributions upon this subject will be gladly received. All such as are used will be paid for.

Price of the REVIEW is 50 cents a year. Sample free. Back numbers can be furnished.

THE PRODUCTION OF COMB HONEY.

A neat little book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken either U.S. or Canadian. Address

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We make a specialty of Apiarian Printing, and have unequalled facilities for Illustrated

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“ linen.....	1 25	2 00
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Our new book of labels contains nearly 100 specimens of elegant honey labels. Write for prices for any printing required.

THE CANADIAN BEE JOURNAL,

7 BEETON.

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Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion—not to exceed five lines—and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is specially 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.

**HONEY.**—We can take all that offers in exchange for supplies, at prices found in another advertisement in this issue. THE D. A. JONES CO., Beeton, Ont.

**\$1.00** Will secure you by mail, post paid, 250 Noteheads and 250 Envelopes with your name, business and address printed on the corner of each. Send in your order now. THE D. A. JONES CO., Beeton, Ont.

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All kinds of Bee-keepers' Supplies. Sole dealers in Canada of Dadant's Comb Foundation.

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**'Practical Hints to Bee-keepers'**

Sent free. Address

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- M. J. DICKASON, Hiawatha, Kans.
- ED. R. NEWCOMB, Pleasant Valley, N.Y.
- J. W. PORTER, Charlottesville, Va.
- J. B. MASON & SONS, Mechanic Falls, Me.
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and numbers of other dealers. Write for SAMPLES FREE and Price List of Bee Supplies. We guarantee every inch of our Foundation equal to sample in every respect. Everyone who buys it is pleased with it.

CHAS. DADANT & SON,  
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**200 POUNDS OF BEES!**

At 80c. a pound. Italian queens, 80c. each. Circular free.

S. C. PERRY,  
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"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. IV. No. 13      BEETON, ONT., JUNE 20, 1888.      WHOLE No. 169

## EDITORIAL.

THE *Apiculturist* for June comes to hand in new shape. The type is smaller and the number of pages less. It will in future cost less to publish, but will be filled with just as much and as valuable matter.

We hope to have a favorable report with reference to the receiving of queen bees by mail from the United States very soon.

### Shipping Bees Long Distances.

ALREADY, this season, we have shipped quite a number of colonies of bees to distant points. Some to New Brunswick, Nova Scotia and the most easterly portion of Quebec. We have just now made the largest shipment of bees to a long distance which we have yet tried, having shipped fifty colonies to Manitoba, to a point some distance from the city of Winnipeg. They were all in good condition on leaving here and were put up in Combination hives with a single super on each, over the top of which wire cloth was tacked. We forwarded them by express and to prevent any possible mishaps, sent a practical man in charge of them. We feel satisfied that they will arrive at their destination in pretty fair condition and as soon as we have a report we will publish it in the JOURNAL.

### USING OLD FOUNDATION.

WE have frequent inquiries from customers who have carried over a supply of foundation from a former season. They generally wish to know if such foundation will be drawn out by the bees as quickly and with as much satisfaction as if the foundation were newly made. From all experiments that we have tried, and we have used foundation that has been one and in some cases two years old, by putting it in a dry, airy place and keeping it as little exposed to the air as possible it will answer the purpose just as well as new foundation. Of course, before being given to the bees it requires to be warmed up slightly; they will then work it out with more satisfaction than if given to them cold and brittle. It can be warmed very easily by putting it in fairly warm water for a few minutes. The water should not be over 95 to 100 degrees.

### CHESHIRE'S BEE AND BEE-KEEPING.

#### CHAPTER X.—WINTERING.

OF wintering generally the author says: "Setting on one side the misfortune of disease or the accident of queenlessness, the fatalities of winter may be put down, in nearly every instance, to one of four causes—paucity of bees, insufficiency of food, want of proper protection, and errors." Counting the two chances along with the four, covers

everything likely to give rise to loss in wintering. Of hybernation he says:—"Bees hybernate, as the Rev. W. F. Clarke has recently taught, and respecting which he is undoubtedly original, although he will find I gave the outlines of hybernation in bees six years earlier." So here we have another claiming to be the "father" of the hybernation theory. Mr. N. W. McLain's experiments in wintering are detailed here, which were published in full by us at the time they appeared. In England the climate is so much more mild than with us that wintering in cellar is scarcely ever resorted to. The principal way of wintering is in chaff hives on summer stands, and this system of working is more thoroughly described. The principles governing successful wintering are, however, similar to those adopted by ourselves.

#### CHAP. XI.—DISEASES AND ENEMIES.

It has been supposed by a very great many people (many of them bee-keepers, too) that bees are unlike human beings in that they are never sick. Until a few years ago, when foul brood was sprung upon the bee kingdom, like potato-bugs upon *potatoes de terre*, such a thing as disease was never thought of, unless we may except what some called the "nameless" disease. "This opinion," says Cheshire, "I have shown to be extremely wide of the truth. Sickly bees have neither pale cheeks nor sunken eyes, and therefore all were accounted equally healthy; but the use of the dissecting knife and microscope reveals the presence of not only contagious or zymotic diseases, but occasionally curious organic disorders." Unfavorable conditions in the colony—such as too low a temperature or a dearth of water—or a defect in the mother are the general causes for this state of things.

#### FOUL BROOD.

Principal among all of them, and the most fell disease of any of them, is foul brood, and in this connection we publish the following letter received a day or two since:

*Editor Canadian Bee Journal, Beeton:*

DEAR SIR.—Before closing your review of Frank Cheshire's book, I would suggest, if agreeable to you, that you give a sketch of his position on foul brood and its cure. Unfortunately there are a number of us interested in this matter.

As for myself, I imported it from Port-Elgin last year and am not quite through with it yet, evidently.

It would be interesting to know whether Mr. Cheshire has modified or made any advance on the ground he took four years ago when his method of cure was made public. I have cured colonies myself on his plan, though I was always afraid of a relapse, but cannot say that ever I have been justified in that fear.

Yours respectfully,

R. W. McDONNELL.

Galt.

We shall, therefore, in compliance with the above, give the Cheshire cure, as found at page 558, under the above chapter heading:

"Our third head now demands our attention. In what way can we most successfully, if at all, treat and eradicate this pest? Although ever an earnest advocate of curative measures, I am yet at the outset constrained to say that the disease is so sadly infectious that those who are by nature apathetic, or whose occupation will only permit half attention to their bees, may inflict grievous wrong upon their neighbors by attempting any cure, as this is likely to be done in a fitful, negligent fashion, keeping the disease languishing, while other stocks are, through it, being made victims. To such I advise, as the kindest course to self and others, the destruction by fire of the combs, and, possibly, even the frames and hives. If the bees are worth saving, make a swarm of them into a skep, and transfer forty-eight hours later into a frame hive. If there be much brood, the case not a very bad one, and the robbing season not at hand, unqueen, cutting out all royal cells eleven days later, and giving from a healthy stock a royal cell just sealed. When the queen hatches—by which time nearly all the worker brood will also have left their cells—make a swarm of them into a skep, and transfer on the second day into a frame hive. The queen will in seven or eight days begin to lay, and probably all will go well. The re-queening removes the possibly infected queen and gives in her place a healthy one, while the delay gives time for the diseased bees to die off before they are required to act as nurses, which is the virtue of the so-called "Starvation cure." The honey in the diseased combs may be melted down, thinned

with water boiled, and used as food, preferably with medication.

The destruction of the hive, however, is never necessary, for, after the worst cases, it may be used again with perfect safety if, having been washed and dried, it be scrupulously painted with a mixture of two parts methylated spirit and one part carbolic acid crystals, or one-and-a-half parts good white fluid carbolic acid. This mixture not only rapidly destroys all bacilli and spores, but it glues them down into place, by dissolving the propolis and insinuating itself into every cranny. Other methods are at command, Mr. R. Sproule having contrived a disinfecting apparatus which he finds perfectly efficacious; by it he vaporizes carbolic acid in steam, which is carried through the carpeting by a pipe. The processes of ovening, or prolonged boiling, will also, from what has been said on sterilizing, disinfect the hives and frames. The oven of the kitchener will usually be large enough to receive the latter, and so can render them re-fit for use. I believe, for hives, the process of painting with my mixture, now recommended, will be found most generally useful. But let none depend on a hope that the spores will die by simply leaving the hive empty for a season. I have just tried some of these spores kept sixteen-and-a-half months in a glass tube, and exposed on several occasions to a temperature below frost. Upon introduction into gelatinized meat-juice, they immediately started growing.

The old German plan of giving salicylic acid in food, and spraying with a 1/150 solution of the same I found, many years since, effectual, but necessitating much care and prolonged attention. Those advocating salicylic acid now recommend its use in a fumigator, as devised by Monsieur Bertrand. This apparatus, which looks like a small still, contains a spirit lamp, the frame of which rises beneath a metal dish surrounding the latter is a cylinder of stout tin, covered by an inverted funnel form, the neck of which is bent to the horizontal, and made in cross-section an oblong 5 inches by 1½ inches. The hive is raised from its floor-board until the mouth of the funnel passes in at the entrance and the corner of the quilt is lifted to permit a free circulation

of the vaporized acid 1 gram (15½ grains) of which is placed in the dish, over the burning lamp. Every portion of the hive is reached by the vapor; and when the fumigation is repeated every few days, early in the morning or late in the evening, so as to have all the bees at home under its influence, it is said to be very effective. It is singular that salicylic acid at 220° C. is converted into phenol and carbolic acid, and that to vaporize salicylic acid without this conversion is a delicate operation. Doubtless, therefore, the process given is likely to be more really fumigation by phenol, although, nominally, by salicylic acid. The objection seems to be in the extreme uncertainty of the amount of dose given by this arrangement.

The phenol treatment has been largely associated with my own name, because I originated a new application of an old remedy. My words at the Congress were: "About three years since, Mr. R. Sproule, an Irish gentleman of culture, mentioned to me that he had used phenol in the treatment of brood with a good deal of success. I replied that I would seek opportunities of experimenting, and if I found the result advantageous I would, as I am always glad to do, mention his name with thanks for the suggestion." The suggestion, as I now know, was not novel. But the way of utilising the remedy had not yet been discovered, and Mr. Sproule, with it in his hands, for want of noting the way of giving it, lost a large part of his apiary. His plan was to feed with syrup, into which he put a small quantity of Calvert's No. 1 phenol, or carbolic acid; but Ligurians refused the food and succumbed to the disease. Striving to keep to my expressed intention of seeking opportunities to experiment, I, up to the close of 1883, found and treated six stocks, with results that convinced me that, with proper management, I had a remedy beside which salicylic acid was but vexation of spirit. Old experience with the latter drug had shown me that the system of spraying was chilling and depressing, and that medicine and food should, if possible, be given together. We thus get a constant quantity, as every grub must receive the same amount of nourishment; and if we have a curative agent, and



have ascertained the dose, the difficulty is accomplished.

"To place the food with added phenol on the hive, will, however, do nothing in the greater number of cases. If honey be coming in, the bees will not touch it; but open the stocks, remove the brood-combs, and pour the medicated syrup into those cells immediately around and over the brood, and the bees will use a curative quantity of phenol." In my experience I inoculated a stock, and allowed it to get into a bad state, then inserted a comb of store in the centre of the brood nest, and treated one side from which the disease disappeared, but raged although with abated fury, in the other half. Having, by these and many similar experiments, made the curability of *Bacillus alvei* a certitude, and having ascertained that one-four-hundredth of phenol could be given to the bees without limiting the queen in breeding, or touching her health, while one-five-hundredth dispatched the bacillus quickly when honey was coming in, and one-seven-hundred-and-fiftieth when it was not, I, in the interest of apiculture, requested the British Bee-Keepers' Association to provide me with a bad case, fully attested.

It arrived late, June 21st, 1884. with seven combs, about half a pint of bees, and a queen-cell—which I saw at once contained a dead larva only. Amidst crowds of bad cells, scarcely any living brood was visible. A casual counting of one of the best frames gave 371 dead larvæ on one side. The odor was pronounced. The case needed confidence; it was bad indeed. With me, queenlessness presents the worst of all obstacles. No grubs, no physic, no cure! I had stipulated that the stock should have a queen, and so the difficulty was greater than I had anticipated. Early next morning, seeing the utterly disheartened condition of the poor bees, I went to a nucleus, took out a very fine Italian mother, just proved as purely fecundated, and putting her under a dome cage on a card, placed the card over the frames. The bees came up and seemed to see in her a new hope. The cage was lifted, and she was welcomed immediately. I waited three days, till she was regularly laying, giving syrup phenolated 1 in 500; and now, since I

could not create bees, added two combs of brood. This step was made necessary by the fact that I required a strong hive by the time of the Congress. The bees were now shut up by a division board; but the combs put behind it, wanting introduction as the bees multiplied, smelt so badly—the weather being hot—that I several times sprayed them with water 200, phenol 1. Now I should compress the bees as much as possible, and spray the removed combs freely with water 50, phenol 1. To return. Every evening the medicated syrup was given, by pouring around the brood nest; but only so much as would be likely to be used, the object not being to fill the cells, but to get the food converted into bees. The smell vanished, the bees became active and earnest. The comb with 371 dead larvæ on one side was last added, and in six days I could only find five sunken caps in the whole of it. Now and again a grub took the disease, but quickly perfect immunity was the issue. No cell was uncapped, no diseased grub removed, nor the hive touched, except as described. The bees cleaned their floor and their combs; while, in four weeks and two or three days, every frame became filled with brood in the brightest and best possible condition. Since this worse cases have succumbed in the same fashion. Abundant corroboration has been given from those who have tried my method, and have succeeded, to their own delight, while some have failed, but the testimony is general that bees under phenol become more energetic than are those that need no treatment.

The quantities are easily managed—1 oz. of phenol crystals (carbolic acid No. 1), will be sufficient for 40 lbs. of syrup,  $\frac{1}{4}$  oz. for 10 lb., or  $\frac{1}{2}$  oz. of liquid carbolic, P. B., for 9 lb. syrup or rather less than three quarts. The carbolic acid should be added to the syrup when the latter is cool, and equally mixed by careful stirring.

Mr. McLain is just reporting some cures which appear remarkable, and since I have no personal interest whatever to serve, I only trust that his method may be superior to mine, although it certainly involves much more trouble. I have used his remedy and

find spraying with a syrupy fluid very messy ; but time is needed before one can judge of results. I give his recipe and treatment in his own words :

"To three pints of soft water add one pint of dairy salt. Use an earthen vessel ; raise the temperature to 90° F.; stir till the salt is thoroughly dissolved ; add one pint of soft water, boiling hot, in which has been dissolved four table-spoonfuls of bicarbonate of soda ; stir thoroughly, while adding to the mixture sufficient honey or syrup to make it quite sweet, but not enough to perceptibly thicken ; to one-quarter ounce of pure salicylic acid (the crystal) add alcohol sufficient to thoroughly cut it (about one ounce), and add this to the mixture while still warm, and when thoroughly stirred leave standing two or three hours, when it becomes settled and clear.

"Treatment.—Shake the bees from the combs and extract the honey as clearly as possible. Then thoroughly atomise the combs, blowing a spray of the mixture over and into the cells, using a large atomiser, throwing a copious spray; then return the combs to the bees. Combs having considerable quantities of pollen should be melted into wax and the refuse burned. If there is no honey to be obtained in the fields feed syrup or the honey which has just been extracted. If syrup is used add one ounce of the remedy to each quart of the syrup fed ; if the honey is used add 2½ ozs. The honey and syrup should be fed warm, and the remedy thoroughly stirred in, and no more should be furnished than is consumed. Continue the treatment by thoroughly and copiously spraying the diseased colonies at intervals of three days, simply setting the frames apart so as to direct the spray entirely over the combs and bees. In order to keep the bees from bringing in fresh pollen, burn old dry bones to an ash, pulverise in a mortar and sift through a fine wire cloth ; make a mixture of rye-flour and bone-flour, adding enough of the syrup or medicated honey to make a thick paste. Spread this paste over part of one side of a disinfected comb, pressing it into the cells with a stiff brush or a thin honey knife, and hang this in the hive, next to the brood. Continue this treatment until a cure is effected. Keep sweetened brine, at all

times accessible to the bees and continue the use of the rye and bone flour paste while the colonies are recuperating."

Microscopic examination of *Bacillus alvei* shows clearly that it is subject to variations in the vigor of its growth. Sometimes the rods are longer and stouter than at others ; but its colony form is quite constant, and the spores and the methods of their production are always the same. In blood serum this bacillus grows with even greater vigor than it does in the body of the bee. Variation, which will account for the disease being sometimes especially virulent is commonly observed in micro-organisms, and forms the very basis of the system of attenuation for inoculation purposes as practised by Pasteur and others. Where the queen is diseased, probably no treatment will be efficacious until she has been replaced. This is a problem which seems to forbid solution, since we have no means of determining the condition of a queen until her life has been sacrificed. Those who believe that the replacement of the queen is all that is needed to effect a cure, will soon get evidence of their palpable error. Pricking a needle into a diseased larva and then touching a larva in a healthy hive with it, is, four times out of six, enough to start a vigorous attack. It could not, however, be supposed that the queen is, in such a case, the cause of the malady. Summer is, without doubt, the best time for treatment, as then the bees can not only more easily bear the necessary disturbance and the chilling, but they can be aroused to rapid brood raising, which involves the application of the remedy.

Bags containing camphor, placed within an infected stock, have been stated to work a cure. They probably are an advantage and might be used in winter ; but, in my own trials, *Bacillus alvei* has gone on developing and extending its ravages, notwithstanding the presence of the camphor. The so-called coffee cure it cannot be uncharitable to regard as a mere silly whim, which does not deserve to be dignified by discussion.

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DETROIT HONEY MARKETS.

Best white combs in one pound sections 14 cts., few sales. Beeswax firm at 23 and 24 cts.

## FERTILE QUEEN INTRODUCTION.

**I**N an article which we copied from the *English Journal of Horticulture* as written by T. Bonner-Chambers, some errors in the reading of the manuscript crept into the article which we copied *verbatim* from the former journal. Mr. Chambers requests the insertion of the following paragraph to take the place of the one beginning with "Now suppose" on page 133, No. 7, current volume :

Now, suppose there are neither eggs, larvae nor queen-cells in the hive, how can the bees raise a queen? They cannot do it—twice I have had a stray queen take possession of such a hive, and in each case the queen has been of a different race to the bees. Place a frame containing a few eggs into the hive. Why do the bees recognise this gift? It is their habit to obtain all they can, which we all know perfectly well, and, as I have already stated, it is their habit to raise a successor from the egg. They therefore gladly commence operations upon this frame of eggs, the same conditions as above being present, that is, a disorganised state. Again, suppose the whole of their eggs and means of raising a new queen are withdrawn, or, more naturally, their queen dies. In a state of nature perhaps, there is at no time of the year a hive without eggs in a normal state. But in the case of a stock that has swarmed, virgin queen after virgin queen might meet with mortal accidents, and so this hive would become queenless; even if a virgin queen should survive unfertilised, or be raised after all drones were dead, or if the weather happened unfavorable for fertilization, all other conditions being favorable the hive would die out. But should a stray fertile queen fly to the hive, the habit is (I challenge anyone to contradict this,) that this queen is accepted. Hence the Hallamshire law is based on natural, rational and correct lines.

I have no hesitation in saying, from my own experiments and experience, that if the law is truly and faithfully tried, it will invariably succeed, excepting those few persons who believe and state their own way is best, and who omit, or cannot discern some of the particulars and conditions of the law.

T. BONNER-CHAMBERS, F.L.S.

Tref Eglwys, Calrsws, Montgomeryshire, Eng.  
March 22, 1888.

## POOR PROSPECT FOR CLOVER.

W. COUSE.—Bees are doing very little at present, and the prospect for clover is poor.  
Streetsville, June 13 1888.

From the American Apiculturist.

## PREVENTION OF INCREASE.

**H**E who allows his bees to increase by natural swarming at their own good pleasure may be called a bee-keeper; but it is only he who has learned to control increase, making it much, or little, or none at all, as circumstances may direct, that has earned the title of bee-master. It is often well to know how to run a yard of bees without making any increase. When a bee-keeper has already more colonies than he can manage, it would seem foolish to make more unless he has a good market for bees. Quite often, when his locality is already overstocked, he finds it is his neighbors only who wish to buy and at a price that barely repays him for foundation and hives. Sometimes a person could profitably keep one yard in connection with some other business if he knew how to manage them without increase and with the least expenditure of time and work; the time and work to be chiefly given when the bee-keeper can best spare it and not at the call of the bees. This method of running one yard with some other occupation and the minimum amount of work and expense may be the practice of the future, one strong argument against bee-keeping as a specialty being the uncertain value of the business when carried to a forced sale by the death of the bee-keeper and the consequent uncertain provision for his family. Then another very large class are now producing honey at a greater cost than the selling price and it would be unwise to enlarge a business already conducted at a loss. And it is always better to have the control of increase, like everything else, well in hand and under well laid plans, then a sufficient number of hives and supplies can be secured with some reasonable expectation of having them all used and yet have enough in those years in which bees when left to themselves often swarm to death.

When running bees to extracted honey it is comparatively easy to control swarming; for by giving them a large amount of room for both brood and honey, and extracting the old honey and afterward the new just before the main flow commences (as ought to be done in any case if it is of inferior quality) there will usually be no attempt to swarm; with reasonable attention to extracting afterward. This method is simple and it would be well if beginners would stick to the extractor until they are successful with box honey management. When box honey is raised it is much more difficult to control increase. It is easy in a swarming year to raise a crop of swarms, but not so easy to raise a crop of comb

honey. The well filled brood-nest so necessary to the successful production of comb honey, is also very favorable to the forcing out of swarms. A large hive well shaded and ventilated, with plenty of room in both brood and surplus apartments, will retard and sometimes prevent the issue of swarms, but there is no certainty about it, and it is better to have swarms issue earlier than in the middle of the honey harvest as is apt to be the case with large hives. Cutting out queen cells, the withdrawal of brood, and the management of the brood-chamber as recommended by Mr. Simmins, will also delay but not prevent swarming, while there is danger of throwing the colony into a condition known as having the swarming fever. In this state work to a large degree will be suspended and the bees show by unmistakable signs that they are dissatisfied. Many bees will desert their own hives and enter others which seems to disaffect these also. The bee-keeper will be similarly affected when in the midst of a honey flow he comes to look into the surplus receptacles or to notice the number of idle bees hanging about the hives. It is only strong swarms that produce box-honey satisfactorily, and no system of management will be successful unless the colonies are built up strong before the harvest. This is particularly true of the method I am about to describe.

I recommend the clipping of queens' wings, believing it to be the best. There is then no loss of unexpected swarms and no swarms to be hived from inaccessible places. In every apiary there are some colonies, in some seasons a majority, that will work right along without any attempt to swarm. When no increase is desired there is no need of molesting them as they usually produce their full share of comb honey. All other colonies as they complete their preparations for swarming should have their queens removed with one or more sheets of brood and enough workers to protect it and be placed in another hive or small receptacle provided for her. All queen cells old enough to hatch within nine days should be removed from the old stock, and the remaining brood combs pushed together contracting the brood nest that much. On the eighth or ninth day after, all cells should be broken from the now queenless hive leaving them helplessly queenless. In a week or ten days longer the old queen may be smoked back into the old hive. The success of this will depend somewhat upon the race of bees kept. When we had black bees there was seldom a failure but as our bees became Italianized the losses were greater. Mr. Crane, one of the best bee-keepers in the country, takes this time to requeen the most of his stocks by giving them a

virgin queen which is usually well received. If the queen is to be changed the old queen can be killed at the time of her removal and the brood-nest not contracted. The brood removed may also be returned to the old hive or it may be used for nuclei, or put into extracting swarms, or used in a variety of ways that may suggest themselves to the bee-keeper. No colony should be left queenless longer than twenty-one days, as after the brood has all hatched there may be no empty cells for storing pollen except in the sections. If the queen cells are broken out at end of seven days after the removal of the queen there will often be another brood of queens reared from the brood remaining. I have never known such queens to lay anything except drone eggs, but they are capable of leading off swarms or of establishing a monarchy in the old hive that is hard to overthrow. Before I learned that the books were not right as to the time for breaking out cells to make a colony hoplessly queenless I had many such cases and this is the only kind of fertile worker I have ever been troubled with.

This system of non-swarming works well with us and undoubtedly will do the same in localities having a similar honey flow. In other sections modifications of the plan may be adopted to meet the varying circumstances. With sectional hives like the Heddon a whole half of the brood chamber might be taken with the queen and returned with the queen at the proper time, which with us is usually near the close of the white honey harvest. Or the sections might be changed leaving the queen out longer than the twenty-one days. It is said that queenless colonies do not work so well, but we by this method get extra strong colonies and as much honey as by other methods with less work and expense. This method of non-swarming is not recommended after a short trial, for it has been worked for several years with thousands of swarms in different bee-keepers' hands, and tons of honey produced. In answer to the objection that honey produced by queenless stocks is not as choice as that produced otherwise, I will say that honey so produced took the highest prize at the Centennial in 1876, and later at the Paris Exposition after having been carried across the ocean and exhibited in the original packages.

In the fall we have not found the brood-chambers of such hives any heavier on the average than others, neither have I or other bee-keepers discovered that such colonies failed in winter because of too much bee-bread. With reasonable attention we are sure of having no swarms issue and I know of no other way by which we can uniformly reach the same result.

P. H. ELWOOD.

Starkville, N. Y.

[Read before Waterloo Beekeepers' Association.]

### ESSAY ON THE BEE.

THE BEE'S PLACE IN NATURE,—OR, HAS THE HONEY-BEE ANYTHING TO RECOMMEND IT TO HUMANITY BESIDE THE PRODUCTS OF THE HIVE.

**T**HOUGH we live in an enlightened community with intelligence and education on all sides, we find discords and bickerings, jealousy and envy, born of ignorance; making trouble all around us. The apiarist appears to be a special target for censure. His bees are charged with the committal of various offences, such as tearing out and sipping the juice of fruits, despoiling the plants they visit of their sweetness, strength, etc.

To the former of these charges, close and intelligent observations fail to give proof. It is found that bees only visit fruits that are already damaged by disease, birds, wasps, or other insects, the bees not being provided with the proper instruments for tearing the skins of fruits. They are therefore mere scavengers of what would otherwise be worse than lost.

Mr. Nelson W. McLean, who conducts the department of interest to beekeepers at the U. S. agricultural department at Aurora, Ill., stated at the late North American Bee-Keeper's Convention held at Detroit, that they in their investigations, had failed to discover that bees either would or could damage perfect fruit. No one denies that the bees will gather the sweets from the blossoms; but who, knowing that this nectar is secreted for the express purpose of enticing insects to the blossoms, and that what is not by them taken, will be evaporated and lost to the plant, would be base enough to deny them that privilege? If the offices of the honey bee in nature were generally understood, this industrious little insect would be hailed with a welcome into every neighborhood. We can not dispense with the insect world until we are prepared to do without the vegetable kingdom.

Plants are ushered into existence by the germination of seeds, thence by vegetation they are enlarged and grow until the third and most important stage of their existence is reached; that of fructification, or the production of fruits and seeds. It is in this last act, the act of fructification, that the honey-bee and other insects play such an important and indispensable part. The most careless observer and shallow reasoner knows that if no blossoms appear at the proper season, fruits and seeds will not be forthcoming. But how blossoms effect fructification is not so generally known. This I will endeavor to explain and show wherein bees effect the result:—

The flower with its parts, the fruit and seeds are the plant's organs of reproduction. A perfect blossom consists of calyx, corolla, stamens and pistils. The two latter are the essential organs of reproduction, and the ones to be explained. The stamen is that part of the flower crowned by the anther, which contains the powdery substance known as pollen. The pistil is that part which consists of an ovary at the bottom and rising from the centre of the flower terminates in what is called the stigma. This stigma is generally somewhat enlarged and has a moist or sticky surface upon which the pollen grains must fall and stick fast, if the ovary which contains the ovules or embryo seeds is to mature and ripen into perfect fruit and seeds. It is therefore plain, that if fruits and seeds are to mature, pollen must come in contact with the stigma, or in other words, the female flower must be fertilized, a process which at first sight may appear easy and simple enough, but is not so simple, when we consider that flowers are not all perfect. There are plants that have two kinds of flowers, in some of which there are stamens only, and in others pistils only. Who has not observed in walking through a pumpkin patch how very many blossoms there are in comparison to the pumpkins? We hear it said that they have so many false blossoms. Let us investigate a little. We find a blossom just opening with a small pumpkin at its base; this little pumpkin is the ovary of the blossom and contains the ovules or little seeds. Now look to the inside of your blossom you will find the pistil only, the stamen and its fertilizing pollen are absent. Next pluck a blossom which has no little pumpkin attached, it contains the stamen but not the pistil. It has therefore the pollen but not the stigma. In the pumpkin, then, as in many other plants, we have the essential organs of reproduction in separate flowers, growing though on the same plant, sometimes many feet apart. These flowers grow close to the ground generally in cornfields, where the wind gets little chance of blowing the pollen from one blossom to the other. Go to the field some fine morning with ears and eyes open. Your attention will soon be arrested by the pleasant hum of the busy bee. If you get sight of a bee, which you likely will, follow her up and you will find her going from flower to flower, sipping the precious sweets. When in the staminate or male blossom, she will come in contact with the anther, and get her dress dusty with pollen, and when in a pistillate or female blossom some of this pollen will attach itself to the stigma, thereby causing fertilization and fruit. The bee is not the only insect engaged in this work, but undoubtedly the most active and energetic.

In some varieties we have the staminate and and pistillate blossoms on entirely separate individuals of the plant, such as hemp, the willows, some varieties of strawberries, etc. Besides the flowers that could not of themselves become fertilized, it is a law of nature both in the animal and vegetable kingdoms, that what is known as in-and-in breeding is detrimental to the vitality of the plants or animals. This consanguineous intermarriage of plants is avoided through the agency of insects, they carrying the pollen from plant to plant or from flower to flower.

To some of you this may all appear as mere theory. To such I will say investigate the matter a little; see what Darwin and others have been doing, keep your wits about you, and you will find the intimate connection of the different divisions of nature and their dependence one upon the other.

I will conclude by quoting a few paragraphs from a translation of the German Text Book of General Botany:—

1st. The bees are the greatest promoters of cross-fertilization, not only among the Hymenoptera, but among all insects whatsoever.

2nd. While our native flowers are many of them dependent upon insects for the transference of pollen, the process of cross-fertilization is in many tropical species always effected by birds, which visit the flowers on account of their nectar.

3rd. We thus see that in the tropics there are not only wind and insect fertilized flowers, as with us, but also certain which are bird fertilized, namely, plants in which the transference of pollen is effected by humming-birds.

ANSON GROH.

## QUERIES AND REPLIES.

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

### USING LIGHT SECTIONS.

QUERY No. 192.—Is there any plan or system by which small or light sections may be filled without shortening the crop, and if so describe it even at length?

DR. C. C. MILLER.—I doubt it.

DR. DUNCAN.—I don't know of any.

ALLEN PRINGLE.—See answer to query 191.

O. G. RUSSELL.—See my answer to query 191.

PROF. COOK.—I do not think the size or weight of sections make much difference.

G. M. DOOLITTLE.—Our Michigan friend uses bent or short pieces of shavings put in a large frame, but so far I have no use for small sections.

H. D. CUTTING.—Have had no experience with sections smaller than  $\frac{1}{4}$  lb., but from my own experience with small sections I would not use smaller than 1 lb. unless the demand was large and prices enough higher to warrant the extra work.

J. F. DUNN.—I could never see any difference in the amount of honey stored in the ordinary pound sections and the brood frames. It is quite reasonable to suppose there should be a difference, but do not think there is any providing both are filled with foundation.

### Moisture Removed at the Entrance.

QUERY No. 193.—Can moisture be carried out of the hive and supers as rapidly at the entrance as by top ventilation?

ALLEN PRINGLE—No.

DR. C. C. MILLER—I doubt it.

G. M. DOOLITTLE—Perhaps, with no draft in either case.

O. G. RUSSELL—My experience has taught me it cannot.

PROF. COOK.—In practice it seems to make no difference. I wish no opening except at entrance.

H. D. CUTTING.—Top ventilation will remove it faster than at the entrance. But why don't you give us the conditions.

J. F. DUNN—No, I do not think so. But a very little top ventilation goes a long way with me.

DR. DUNCAN—No, moisture will escape at the top of the hive more readily than any other place, but in cold weather the heat of the inside would escape with it and would be injurious; better have it escape at the entrance. If you keep the hive warm inside there will be no moisture to injure them.

### WORK IN SECTIONS.

QUERY No. 194.—What method do you advise to induce bees to commence work in the sections?

G. M. DOOLITTLE—By having nothing but brood in the brood-chamber.

DR. C. C. MILLER—Put in the super a section which has previously had honey in it.

PROF. COOK.—I have found contracting the brood-nest excellent; also using some sections

with comb in them. I think too, reversing has aided much.

H. D. CUTTING—Have good strong colonies and they will go in the sections if they can find anything to put there.

DR. DUNCAN—If your hives are strong and full of bees you will have no trouble to induce them to commence if there is a good flow of honey; keep the crate well covered to keep them warm; one or two sections of empty comb in the centre will help.

ALLEN PRINGLE—Contract the brood-chamber and put a section of empty or partly filled comb here and there through the case, and put but one case on till they get well at work.

O. G. RUSSELL—Study the honey resources of your locality so you will know when your main honey flow is coming; then build up your colonies as strong as possible, and have them boiling over with bees when the flow begins. Then put on sections with natural comb starters. We have tested them side by side and have always found that starters of natural comb are better to start bees in sections than comb foundation starters.

J. F. DUNN—If the brood chamber is in proper shape at the commencement of the honey flow, bees will, as a rule, enter sections without any coaxing. If, however, we find a colony "on a strike" that we wish to run for comb honey we can usually compromise with them by placing among those filled with foundation a section of comb from which the honey was extracted the previous season. If this section is sticky with honey, that is just as it came from the extractor, and was not placed over brood-chamber to clean up the fall before, it will seldom fail to start them at work.

## SUNDRY SELECTIONS.

### STRAW HIVES.

CHAS. MITCHELL.—As I see you are looking round to see how straw hives are doing I can send you some facts which capped anything I ever witnessed and of which I have been anxious to publish for years.

One of my neighbors, an expert at making straw skeps, had a quantity of them in use when he commenced making hives of pine. The first winter and spring he lost many in the wood hives, the balance coming out so weak that none could swarm until too late for profit.

All that were in straw skeps were hanging down over the front of the stands about a foot, having to hang out over night. Some of them swarmed early in May, this being nothing new here, being a general thing for the past ten years with 100% in favor of straw skeps, I would be very slow to believe from print what I have seen in favor of straw skeps and if Mr. Corneil or any one else can make a substantial hive with a moveable bottom with tiering up principles he will make his mark in this generation, also if you can get up an extra number of the C. B. J.

soon I think I can fill it all with the disgusting results of the Hutchinson plan of producing drone comb for the million. I have been there. You see it makes a cheap drone factory next year. If you think I have too many male bees put it a little stronger.

Molesworth, June, 1888.

A great many people have been very enthusiastic over straw hives, but all have laid them aside and are using board hives instead. No doubt one of the difficulties has been our inability to make them cheaply and square like the board hive; that one difficulty has been partially overcome by the invention of Mr. Lee, of London, Eng., who, we believe, is the inventor of a machine which works very nicely. No doubt you saw the hive constructed on that principle by Mr. Corneil at the Toronto Exhibition. While this cannot be made up nearly as cheaply as a board hive yet there might be some who would consider them worth the extra cost. Mr. C. J. H. Gravenhorst, of Brunswick, Germany, used straw hives exclusively; he had, at least, three colonies in them when we visited there about eight years ago. He was very successful with the straw hives and liked them very much. We believe the straw in the Lee hive as manufactured by Mr. Corneil is about one inch thick. If our memory serves us rightly we have many reports where bees have not wintered any better in hives made of straw than of wood. It is easily seen that the old-fashioned straw hive with conical top has some advantages over the flat or square top hive for the simple reason that as the bees become less in brood in spring they can cluster in the top of the hive and have a smaller space to keep warm, utilizing their heat, whereas in a flat topped hive the small cluster has to keep a lot of space warm that they have no use for until they become stronger. No doubt since the square topped straw hives when tested side by side with the wooden hives will not give quite as good results as the conical top, at least in some seasons. We infer from your remarks that you have not been successful with the Hutchinson plan as we presume you mean the system of hiving bees on starters or empty frames, allowing them to build their own combs and storing in sections of the upper story at the same time. If the brood chamber is larger they are very liable to build

drone comb, or if they have an old queen we have found them more inclined to build drone comb, but if the brood chamber was only large enough to contain the worker comb necessary for the colony with an average swarm and a young queen, would they not fill it with worker comb ?

MOVING BEES.

MRS. JAS. HAMILTON JR.—Please answer the following:—Can I without injuring the bees move them about five rods ?

You should only move your bees about one foot the first day, two feet the second, four feet the third, eight feet the fourth, and so on until you get them to the place you want them. Moving them all at once would injure them very much, as the old bees would return to their former location and be lost.

When should the quilts be left off the tops of the hives ?

Quilts should not be lifted off. Keep them on all summer unless you take comb honey or put on another story; then you may put on the quilt next the lid.

How large an entrance should be open now, and when should it be left entirely open ?

The entrance depends entirely upon the strength of the colony. After the colony becomes strong give them the full sized entrance, but when honey is scarce or in early spring we just give them sufficient entrance to allow them to pass in and out without crowding.

Are the one pound sections to have comb foundation, and has it to be cut from the large sheets ?

Ravenshoe, June 14, 1887.

There should be section foundation with full sheets in each section if you wish the best results. We can give it to you in full sheets or cut to suit as you desire.

KIND WORDS.

MRS. C. MOWAT.—Bees reached us last night. We have just taken off their wraps. They are such beautiful little fellows and seem rejoiced to regain their liberty. There were not more than half a gill of maimed and dead bees at the bottom of the hive and mashed on the top of frames. St. Andrews, N. B., June 5th, 1888.

WELL SATISFIED

THOMAS WOLEHAM.—I received my bees by express from Chesterville on the 2nd June. Two of them had about a pint of dead bees in, the

balance were all right. They have settled down to work and are doing well. They are five "dandy" colonies and I am well satisfied with them. They have been visited by three men who keep bees and they pronounce them beauties. Chesterville, June 7th, 1888.

THE CANADIAN BEE JOURNAL.

BEETON, ONTARIO, JUNE 20, 1888.

BUSINESS DEPARTMENT.

We call the attention of our readers to the advertisement of the "Perfect Fruit Preservative," appearing in our advertising columns. This preparation when used according to directions does away with the old time drudgery of roasting over a fire during preserving time, the fruits remain perfectly fresh, and makes preserving a sure thing. Fruit juices, wines, cider, etc., retain their flavor and are kept free from alcohol, fermentation being entirely prevented. Sold by grocers or supplied by us.

We constantly have applications from customers for supers filled with crates and fitted up with foundation ready to be given the bees on arrival. We have repeatedly answered that we cannot do this with safety. We may put the foundation in the sections and ship them, but the chances are that one section in ten would have the foundation in it on arrival. It is a simple matter to place the foundation in the section, and it is much better that it should go properly wrapped up and safe from breakage, than to reach the customer in a poor state and unfit for use.

PRICES CURRENT

BEESWAX

Beeton, June 20, 1888, We pay 35c in trade for good pure Beeswax, delivered at Beeton, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 25 per cent. on Wax coming into Canada.

FOUNDATION

Brood Foundation, cut to any size per pound.....50c over 50 lbs. ....48c Section " in sheets per pound.....55c Section Foundation cut to fit 3 1/2 x 4 1/2 and 4 1/2 x 4 1/2 per lb. 60c Brood Foundation, starters, being wide enough for Frames but only three to ten inches deep...48c

1-LB. GLASS JARS. SCREW TOP.



We are just advised of shipment from the factory of the first instalment of 50 gross of the above. They are put up in barrels and hogsheads, (the latter for our own local use), and to save breaking bulk when shipping, we append below a table, of the qualities of which the shipment consists, together with the prices per barrel. In estimating the price, we have calculated the same as for full gross lots, an allow-



ance of 20 cents being made for each barrel and packing (they cost us 35 cents).

No. of Barrels.	No. of Doz.	Prices.
1	8½	\$ 6 25
1	8¾	6 45
4	9½	6 75
5	9¾	6 95
4	9¾	7 15
3	10	7 35
3	10½	7 55
2	10½	7 75
1	11½	8 45

The D. A. Jones Co., Ltd.  
BEETON, ONT.

### ADVANCE IN NAILS.

Owing to a rise in the prices of nails, we are forced to advance our prices somewhat, as will be seen by the following list. All orders will be filled only at these prices.

PRICES OF WIRE NAILS.

Length of Nails.	No. in Pound	Size Wire	Price of 1 Pound	Price of 10 lbs.
¾ & ⅝ inch	7200	21	22	2 00
¾ inch....	5000	20	17	1 60
¾ inch...	3880	10	17	1 60
1 inch....	2069	18	12	1 05
1¼ inch...	1247	17	11	1 00
1½ inch...	761	16	10	90
2 inch....	350	14	9	80
2½ inch...	214	13	9	75
3 inch....	137	12	8	70

PRICES OF BOX OR HIVE NAILS.

	Per lb.	Per 10 lbs.	Per 100 lbs.
1½ inch.....	7	65	6 00
2 inch.....	6½	60	5 50
2½ inch.....	6	55	5 25
3 inch.....	6	55	5 25

THE D. A. JONES CO., Ltd.



### Italian Queens !

Untested, May, \$1.25; June-\$1.00; July, 90 cts. Send for 16 page ILLUSTRATED PRICE LIST of Bees, Queens, Chaff Hives, Barnes Root-power Saws, Langdon Miter-Boxes, and Apiarian Supplies. Address

WILLIAM E. GOULD,  
Fremont, Newwaygo Co.  
5-3 mos Michigan.

### PURE—ITALIAN BEES FOR—

Full colony in A. I. Root's Simp. hive \$6.00. Two-frame nuclei \$3.00. Three-frame \$3.50. Each nucleus and full colony to contain a tested queen and plenty of bees and brood, all on wired L. frames, combs drawn from fdn. Hives new, everything first-class. To be shipped in June. Safe arrival guaranteed. I shall do by all as I would be done by. Address

N. A. KNAPP,  
ROCHESTER, LORAIN Co., O

**BEES** ITALIAN BEES and Queens, 3 frames nuclei, full colonies at the very lowest rates and safe delivery guaranteed. Send for catalogue to E. T. Flanagan, Belleville, Ill.

### -Comb Foundation-

Having purchased one of the best machines I am ready to receive wax to manufacture or buy. Pure Italian bees, queens and comb foundation for sale. Agent for the D. A. Jones Co. supplies. Can ship by C.P. R'y or H. & N.W.R., (now G.T.) and by Dominion or American Express.

H. COUSE.

Cheltenham, Ont., April 5th, 1888.

—THE—

### -POULTRY MONTHLY-

is the best journal of its kind

### INTERESTING & INSTRUCTING.

ITS PAGES ARE GRANDLY ILLUSTRATED

each month with cuts of the various birds and is also full of good reading matter and is

FREE FROM PERSONALITIES.

Send 10c. for Sample Copy or \$1.00 for a year's subscription. Address

CHAS. BONNICK,  
TORONTO.

### TESTED ITALIAN QUEENS.

Before June 15th, \$1.50 each, after, \$1.00 each; untested, 75 cents each. Six for \$4.00. Bees for sale by the pound. Nuclei or full colonies.

For prices, write for what you want.

I. R. GOOD.

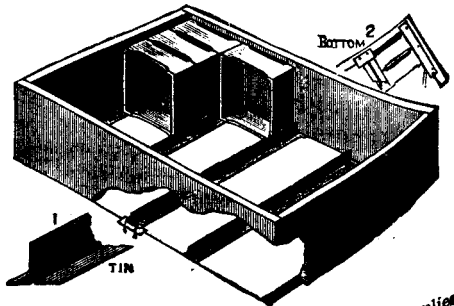
NAPPANEE IND.

### ELLISON'S EARLY ITALIAN QUEENS!

	April.	May.
1 Untested Queen.....	\$ 1 15	\$1 00
3 " Queens .....	3 00	2 50
1 Tested Queen.....	2 50	2 00
3 " Queens.....	6 00	4 50

Many of the above will be reared in the height of the swarming season and all will be nearly, if not quite as good as the best swarming queens. In every case safe arrival and satisfaction guaranteed

W. J. ELLISON.  
Stateburg, Sumter Co., Sth. Carolina.

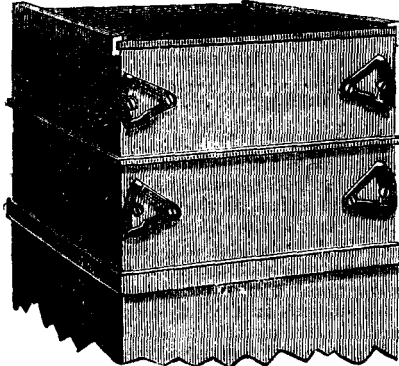


For this L super or any other bee-keepers' supplies send to

J. & R. H. MYERS,  
Illustrated catalogue free. Box 94, STRATFORD.

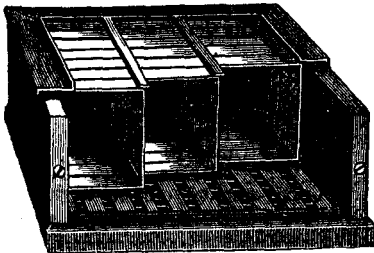
# OUR NEW Reversible Honey - Board —AND— SUPER REVERSER.

This is the invention about which so much has been said in the bee journals during the past winter, and we are satisfied it will meet



THIS CUT SHOWS THE GENERAL APPEARANCE OF THE SUPERS.

with the approbation it merits. We have tested it thoroughly in our own apiaries, and have had it in operations in the apiaries of three other able, practical and successful bee-keepers.

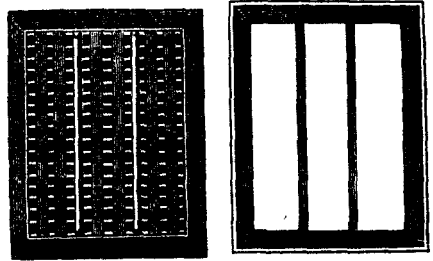


IN THIS ENGRAVING THE SECTIONS ARE SHOWN AS RESTING ON THE HONEY-BOARD WITH THE REVERSER COVERING THE JOINTS OF THE SECTIONS.

We claim for it:

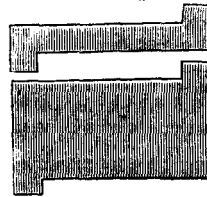
1. That section honey can be produced with less expense and with less handling than with other hives.
2. The great simplicity of the whole arrangement which adapts itself to the requirements of the merest novice as well as to the skilled apiarist.
3. It can be adapted to any hive in present use at very small cost.
4. The cost of wide frames, section cases, skeleton crates,  $\perp$  rests, etc., is done away with.

5. The hive and supers are rain proof and wind proof.
6. The trouble of having the sections proposed together is done away with entirely.



SHOWING REVERSIBLE HONEY-BOARD AND REVERSER.

7. A most perfect and exactly correct bee-space is maintained at all times.
8. There is no shrinking and swelling of wide frames or section arrangements, there being none.
9. The sections may be reversed or interchanged, either by the whole crate or individually, with the utmost simplicity.
10. Separators can be used with this style of super just as readily as with any other.



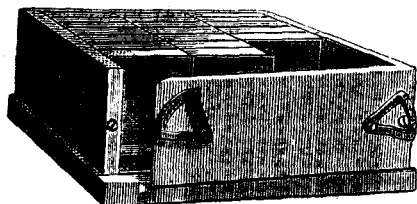
CROSS SECTIONS OF SIDES OF REVERSIBLE HONEY-BOARD AND REVERSER.

11. The sections are brought just as close to the brood chamber as it is possible to get them in the tiering up system, and a quarter more sections can be put in every super.
  12. There being less weight and bulk the shipping charges will be much less than ordinary.
- The prices of these honey-boards and reversers, for the different styles of hives, are given under their proper headings. We keep on hand a stock suitable for the "Jones," "Combination" and "Langstroth" hives. In ordering for any other style of hive, be particular to give the exact inside and outside measurement of the hive, so the honey-boards may be made to fit properly.

## SPECIAL PORTABLE SUPERS.

Almost any super will suit this new arrangement, and we give in the price list the prices of the honey boards and reversers separately. We make a special "portable" super which is put together with a very light hive clamp, which answers its purpose capitally. When the sections are ready to take off, all that you need to do is to unfasten one corner (see cut following), and lift off the whole super. We make

them for the Combination Hive only, except to order.



SHOWING PORTABLE SUPER WITH SIDE THROWN OPEN SO SECTIONS MAY BE REMOVED.

The price in flat includes the clamps and screws necessary to put them together.

Portable Supers each.....	made up in flat	\$ 25	\$ 22
" " 10 and under, each		22	20
" " over 10 and up to 25		20	18
" " 25.....		19	17

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

## THE COMBINATION HIVE

We believe that for all general purposes this hive is the best and cheapest in the market today. It combines all the good qualities of the most expensive hives offered, and the simplicity wanted by the novice or beginner in bee-keeping; its cheapness alone being one great characteristic.

The inside dimensions of the hive are: Length, 10½ in.; width, 13¾ in.; depth, 12½ in. The frames are 10½x12½ in. In other words, the frames are of the same dimensions as in the "Jones single walled hive" but are turned over on the side. There are those who object to using a hive with so deep a frame as the ordinary Jones hive for comb honey, while the frame turned on its side meets their views; the supers are worked by the use of skeleton crates or **L** rests, and either 3½x4½ or 4½x4½ sections may be used, unless, of course, you desire the new reversible honey-board and reverser, prices of which are given farther on, when neither skeleton crates or **L** rests are needed.

### COMPLETE HIVE FOR EXTRACTED HONEY

Will consist as follows: 1 Brood Chamber, (including cover, bottom and frames) 75c.; 1 Second Story, (including frames) 65c. Total (ready for use) say.....\$1 35  
3 and up to 5..... 1 20  
Over 5 and up to 10..... 1 10  
Over 10 and up to 25..... 1 00  
Add 15 per cent. to these prices for one coat paint; and 25 per cent. for two coats.

The prices of the above complete hives in the flat, will be:—

Over 3 and up to 5.....	\$1 00
" 5 " " 10.....	90
" 10 " " 25.....	85
" 25 " " 50.....	82
" 50 " " 100.....	78
" 100.....	75
Brood chambers alone, in flat, each...	55
Second stories, alone, in flat.....	45

### COMPLETE HIVE FOR COMB HONEY

Consists as follows: Brood chamber (including cover, bottom-board and frames) 70c. two supers made up, each 15c. (30c) say.. \$1 00  
Over 3 and up to 5 each..... 95  
" 5 " 10 each..... 90  
" 10 " 25 each..... 87  
" 25 " 50 each..... 85

Add for one coat paint 15 per cent; two coats 25 per cent.

Prices in the flat—include brood chamber, as above, and two supers—and are as follows:

Over 3 and up to 5 each.....	\$ 75
" 5 " 10 each.....	70
" 10 " 25 each.....	65
" 25 " 50 each.....	63
" 50 " 100 each.....	60
" 100.....	58
Supers, in flat, each.....	12
" " per 10, each.....	10

Strips of sheet iron for bottoms of supers or section cases are included.

We do not include the **L** rests or skeleton crates, in prices of the comb honey hives. We prefer leaving the choice with the customer. If you use **L** rests you will require to buy 3½x4½ sections; if skeleton crates, 4½x4½.

We make up sample surplus cases complete with sections in any of the above ways at 45c. each.

The prices of ordinary queen-excluding honey-boards of metal and wood to fit this hive are as follows:—

	MADE UP.	IN FLAT.
Price, each.....	\$ 25	
" per 10.....	2 35	\$ 2 10
" " 25.....	5 50	4 75
" " 100.....	20 00	17 00

### Prices for New Reversible Honey-board to suit the Combination Hive

#### WITHOUT PERFORATED METAL.

Honey-boards, each.....	Made up.....	In flat.....
" " 10 and under.....	25	22
" " over 10 and up to 25.....	20	18
" " over 25.....	19	17

#### QUEEN-EXCLUDING BOARD WITH METAL.

Honey-boards, each.....	Made up.....	In flat.....
" " 10 and under.....	30	25
" " over 10 and up to 25.....	28	23
" " over 25.....	27	22
" " over 25.....	25	20

#### REVERSERS.

Reversers, each.....	Made up.....	In flat.....
" " 10 and under.....	15	13
" " over 10 and up to 25.....	14	12
" " over 25.....	13	11
" " over 25.....	12	10

The super arranged as above holds 24 sections 3½x4½x1½.

Where separators are wanted add 10 cents to the price per super.

#### PORTABLE SUPERS.

For the prices of these see page 5. We only stock these to fit the Combination Hive.

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

D. A. JONES, Pres.

F. H. MACPHERSON, Sec.-Treas.

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

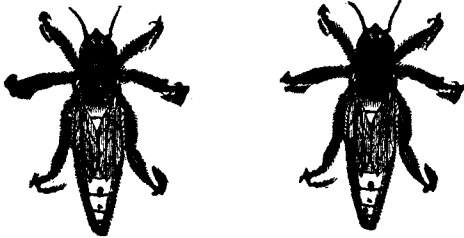
## Manufacturers of and Dealers in Apiarian Supplies

OUR CIRCULAR SENT FREE ON APPLICATION.

Publishers Canadian Bee Journal.

Fine Book and Job Printers.

### QUEENS.



Our trade in queens grows greater each succeeding year, and we seem to be giving better satisfaction as well. We endeavor to raise queens which will produce good honey-gatherers irrespective of breed or race.

We pay much attention to the class of drones with which our queens come in contact.

The annexed table shows the prices at different seasons, of different varieties. These are, of course, subject to change depending upon the supply and demand. All changes will be noted in the CANADIAN BEE JOURNAL :

MONTH.	Untested	Tested	Selected	Virgin
May	1 50	2 50	3 00	
June	1 00	2 00	3 00	0 60
July	1 00	2 00	2 50	50
August	1 00	2 00	2 50	50
September	1 50	2 00	2 75	
October		2 50	3 00	

Three at one time, deduct 10 per cent ; six at one time, deduct 20 per cent.

#### EXPLANATIONS.

We are not, owing to our high latitude, able to sell queens before May, nor later than October.

Untested queens will be ready for sale as soon as mated, and before they have had a chance to prove themselves.

\* Tested queens are those which have been proven as to race and honey-gathering qualities. Selected queens are chosen because of color, size and honey-gathering qualities.

Queens cannot be shipped unless the weather is warm enough, except at risk of purchaser—otherwise safe delivery is guaranteed.

We replace all queens lost in transit, but not those lost in introducing.

### BEEs.

Bees should always go by express, unless they are personally cared for *en route*.

We do not hold ourselves responsible for breakage or delay in transit of colonies of bees they always leave our hands in good shape. We will send out only such colonies as we are sure will give satisfaction. Our bees will be such as the queens we offer will produce.

MONTH.	Italian	Italian Crosses	Carniolan Crosses
May	\$8.00	\$ 8.00	\$ 9.00
June	7.00	7.00	8.00
July	7.00	7.00	8.00
August	6.50	6.50	7.00
September	6.00	6.00	6.50
October	6.50	6.50	7.00

The above prices are for up to four colonies ; five colonies up to nine, take off 3 per cent. ; ten colonies up to twenty-four, 5 per cent. ; twenty-five colonies and over, 10 per cent—always cash. Bees at these prices will always be sent out in the Combination Hive, and each colony will contain a good queen, some honey, and brood according to the season.

### BEEs BY THE POUND.

Just as soon as we can raise them in the spring, we will have for sale, bees by the pound at the following prices :—Up to July 1st, \$1.25 per pound ; after that date, 90c. per pound. Orders must be accompanied by the cash, and they will be entered and filled in rotation as received. We are booking orders now. Do not delay in ordering if you want prompt shipment.

### NUCLEI.

A two-frame nucleus will consist of one-pound of bees, two frames partly filled with brood and honey, and an extra good queen, price \$4. Two at one time, \$3.75 each—up to July 1st.

After that date the prices will be \$3 singly ; two at one time, \$2.75 each.

We can send frames that will suit either the Jones or Combination hive. Please specify which you wish. Should you prefer the nucleus in either Jones or Combination hive, add price of the hive, made up, to the cost of nucleus.

Bees by the pound and nuclei must always be sent by express. Orders for nuclei filled in rotation the same as bees by the pound.

# APIARIAN SUPPLIES

MANUFACTURED BY

W. T. Falconer, - Jamestown, N.Y.

Are unsurpassed for **Quality** and fine **Workmanship**. A specialty made of all sizes of the **Simplicity Hive**. The **Falcon Chaff Hive**, with movable upper story continues to receive the highest recommendations as regards its superior advantages for **wintering** and handling bees at all seasons. Also manufacturer of **FALCON BRAND FOUNDATION**. Dealer in a full line of **Bee-Keepers' Supplies**.

Send for Illustrated Catalogue for 1888. Free.

W. T. FALCONER.

## Bee-Keepers Guide

—OR—

### MANUAL OF THE APIARY.

The fourteenth thousand just out. Each thousand sold in just four months. More than 50 pages and more than 40 costly illustrations were added to the 8th edition. It has been thoroughly revised and contains the very latest in respect to Bee Keeping.

Price by mail, \$1.25. Liberal discount made to dealers and to Clubs.

A. J. COOK, Author & Publisher,  
STATE AGRICULTURAL COLLEGE,  
LANSING, MICH.

## BEESWAX WANTED

Will pay 30 cents in cash or 33 cents in trade for any quantity of pure Beeswax. Comb Foundation for sale, to suit any size frame or section. Worked on shares or for cash. All freight to Campsville station C.P.R. If by mail to ABNER PICKET, Nassagawaya P.O., Ont.

Agent for A. Jones Co.'s supplies.

260 ENVELOPES

—AND—

250 NOTE HEADS

FOR \$1.

On good paper, printed with name and address, post paid.

CANADIAN BEE JOURNAL OFFICE,  
BEETON, ONT.

## Muth's Honey Extractor.

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

CHAS. F. MUTH & SON.

Cor. Freeman & Central Avenues, Cincinnati

### COMB FOUNDATION.

I manufacture the best, or as good as the best foundation in Canada. Comb foundation for sale to suit almost any sized frame or section. Pure bees wax worked on shares or for cash. Samples with prices on application. No circulars. All freight to Ridgeway station, if by mail to **Henry B. Parker,** MORPETH, ONT.

### BEES FOR SALE CHEAP.

30 COLONIES OF ITALIAN BEES FOR SALE. In lots of 3 or more \$6.00 each. Now is the time to send in orders for spring delivery. Bees second to none.

Address

LEWIS JONES,  
DEXTER P.O. ONT.

THE CANADIAN

## POULTRY REVIEW

IS THE ONLY PAPER PUBLISHED IN CANADA IN THE INTERESTS OF THE

Poultry, Pigeon and Pet Stock Fraternity. Circulation always on the increase. Subscription only \$1.00 a year. Address,

H. B. DONOVAN,  
20 Front St. East, Toronto.

FRIENDS. IF YOU ARE IN ANY WAY INTERESTED IN

## BEES AND HONEY

We will with pleasure send you a sample copy of our **SEMI-MONTHLY GLEANINGS IN BEE-CULTURE**, with a descriptive Price-list of the latest improvements in Hives, Honey Extractors, Comb Foundation, Section Honey Boxes, all books and journals, and everything pertaining to bee-culture. Nothing patented. Simply send your address on a postal card, written plainly. A. I. ROOT, Medina, Ohio.

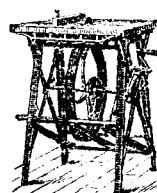
## BEES AND HONEY.

TO ALL that are interested in Bees and Honey, send for our **Free** and Illustrated Catalogue of Apiarian Supplies. Address

M. RICHARDSON & SON,  
Port Colborne, Ont

## BARNES' FOOT-POWER MACHINERY

Read what J. J. PARENT, of Charlton, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 inch cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the number of beehives, etc. to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. F. & JOHN BARNES 544 Ruby St., Rockford, Ill. 21



## SECTIONS FOR THE MILLION.

We are turning out sections at the rate of 10,000 per day right along, in addition to our regular hive and supply trade, and we are prepared to furnish them in any regular size and style in large quantities at very low rates.

Our prices are as follows:—

1000	\$ 4 50
3000	13 00
5000	20 00
10,000	37 50

All orders entered as received, and shipped with promptness. Order early to avoid the rush. These prices are spot cash.

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