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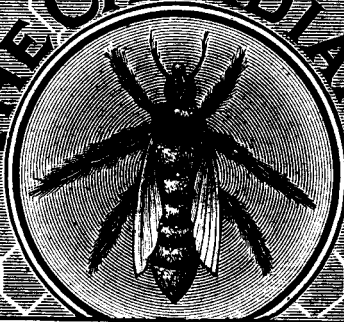
VOL. II, NO. 49.

1887

MARCH 2.

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

APR 24 1887

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**TABLE OF CONTENTS.**

	PAGE
Bees, Best for the North-west.....	973
Bees, Vocal organs of.....	967
"    Prices of.....	969
Fee-keepers, Nebraska.....	973
"    General vs Specialists.....	970
"    Lawsuit.....	965
Drone foundation in sections.....	972
Comb Honey, Ripening.....	965
Honey board, Pettit's.....	974
McIntosh vs Harrison.....	974
O B K A Commissioners at the Colonial.....	966
"    Join the.....	974
Spring time in Oregon.....	973

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

VOL. II. No. 49.

BEETON, ONT., MARCH 2, 1887.

WHOLE No 101

#### RIPENING COMB HONEY.

IN last number of *Gleanings*, G. M. Doolittle describes his method of ripening comb honey, so that there will be no daubing and any person not up to the business of holding sections upright will experience no trouble with the liquid running out over their hands and clothes. Mr. Doolittle ascribes the credit of his method to Mr. Betsinger, which we put in his own words.

After studying some time on the matter without solving it, I went to see Mr. Betsinger one day; while there I went to see his honey which was kept in a small building only 7 ft. high, having on it a rusty tin roof. We went into the building, I remarked about the great heat inside, when he said that this was as he desired it, for this heat ripened his honey so that it was thick and never daubed things. Putting his talk into actions he picked up a section which had been in this room a couple of weeks, and turned it over, backward and forward, without a particle of drip, while one just off the hive treated the same way, leaked badly. I then saw what was the remedy for my trouble; for heretofore I had kept my honey in a room on the north side of my dwelling house, on the first floor where, of course it was cool and damp. Thanking Friend B. for what I had learned, I came home and planned my present honey room.

In cool weather the honey gathered dampness to an extent which did not please him, he then says:

This set me thinking how to remedy the matter should another damp time occur in the

future; the result of which was the placing of an oil stove in my room so that now I have complete control over the temperature and can raise or lower it at pleasure by simply turning the wicks up or down. As, when the wicks are low down, there is an offensive smell comes from the stove, I am about to fit a tin cover over the stove on which is to be fastened a length of two inch conductor pipe. On this I can use other conductor pipe with various elbows so as to retain the heat and yet carry off all the fumes from the burning kerosene. the same as smoke is carried off by a stove pipe. In this way the honey will be constantly growing better instead of deteriorating; besides if I wish to draw it to market on a cool day there will be no danger of breaking for a body of honey will hold heat for a long time.

As coal oil stoves seem to be coming into general use both for keeping the temperature of the bee-house right in winter time and for the purpose of thoroughly ripening honey, we have decided to place these on our list of supplies for sale. In next number we will be able to give prices and drawings of them.

#### BEE-KEEPERS' LAWSUIT.

AS will be found already mentioned in this issue, the case of McIntosh vs. Harrison, which was carried to Divisional Court, remains in the same position as it was in the first place, the finding of the jury having been confirmed. We publish the following letter just received from defendant's counsel. We have no comments to make;

we do not think we can add anything to what has been said, as the matter is with the bee-keepers for decision :

JONES, MACPHERSON & Co. :—You will probably have observed from Tuesday's Toronto papers that this case has been decided against the defendant in the Divisional Court, and that they confirmed the judgment of Mr. Justice O'Connor given on the finding of the jury granting the injunction restraining the defendant from keeping bees on his property in Southampton. It will now be for the bee-keepers of Ontario to decide whether they will take up the case from this point and have it taken to the Court of Appeal, and, if necessary, to the Supreme Court. If they are willing to do this, kindly send us the fund which they have already contributed and which is in your hands, and also give us the names of two good responsible men who will join in the appeal bond with the defendant, and we will give notice of appeal at once. Kindly let us hear from you by return mail, as no time should be lost in case the bee-keepers of Ontario intend to make this a test case.

OSLER, TEETZEL, HARRISON & OSLER.

Hamilton, Feb. 24th, 1887.

For The Canadian Bee Journal.

#### THE O.B.K.A. COMMISSIONERS AT THE COLONIAL.

(Continued.)

When our Mechanical Superintendent had bent his mind to his work with a fair prospect of a speedy completion thereof, and when satisfactory and suitable quarters wherein to live had been secured, it was deemed advisable to look after the incoming cargo of honey which was due to arrive at Liverpool on Saturday. Two of the party were dispatched to attend to it while being unloaded. Let us follow these gents to Liverpool and see how they discharge their duty. Both are noted for their thirst after knowledge. To gratify this, they concocted a little scheme by which they travelled thither by a different line of railroad from that over which they came up to London. There are three leading lines of road between these two great centres of trade, viz: The Midland, the London and North-Western, and the Great Northern. In round numbers, the distance is 205 miles. Each of these was run through a different section of country and touches at a number of large towns. By passing over each of these lines, one gets a rapid glance of rural England and touches at a number of important central points. To take in these desirable sights, they resolved to go back to Liverpool by the London & North-Western (having come up by the Midland) and to return to Lon-

don by the Great Northern. This programme was carried out and resulted in what was desired. The arrangement enabled them to see Manchester Bedford, Leeds, Dorchester, Gainsborough, Peterborough, Cambridge, Sheffield, Derby and many other places, besides a large tract of intervening country. It is a treat to run through rural England and get a glimpse at her country houses, their fronts wreathed and robed with the glittering ivy, their massive walls begrimmed by time and dignified by age, and their still more massive chimneys, with clusters of "pots" atop, standing up out of their sombre tiled roofs. The warm, wooded appearance of the country is the most striking feature of her landscapes. The fields are enclosed by thickly grown, well trimmed hedge-rows, with here and there a stately beech or spreading sycamore starting out of the thorny fence, while the fields are dotted with tall and spreading trees giving shade and shelter to the groups of sheep and cattle that repose or stand ruminating under their spreading foliage. The whole face of the country wears a forest-like aspect, which, when contrasted with some parts of older Canada, makes one feel that the axe-men of this country were far too zealous in their work when they depleted the face of the earth of everything that stood above their own heads and bowed to the breeze.

When travelling by railroad in England, the stranger will be struck with the direct way in which it is done. His will not be a devious course winding round the base of hills or along low levels by the river side, but on, straight on. If an apparent barrier in the shape of a hill looms ahead, a shrill, sharp whistle is heard and presently the train shoots into the blackness of darkness when a dull, sullen roar falls upon the ear which is kept up till the train flashes into daylight at the other side—alternate daylight and darkness is experienced by the traveller from one end of the journey to the other, for tunnels are numerous and sometimes long. The station buildings are a noticeable feature in connection with English rail-roading. They are, without exception, grand in their proportions, great in their dimensions and complete in their finish, while marvelous attention to detail is everywhere exhibited. The dining rooms are graded according to the purse of the traveller, as are the carriages into first, second and third classes. The most scrupulous cleanliness and the most exact order prevails everywhere. There are no lavatories in the cars, but their station closets are scrupulously clean. In this matter, our British brethren are a long way ahead of us. With us, the official is the magistrate and the public the servant—with them, the official is

the servant and the public the master. Here the conductor would be insulted if offered a tip—there, the "guard" will close his digits on a "bob" and retire with a polite touch of his cap—take a tip as a matter of course and not consider himself degraded in accepting that for which he renders no service in return. The tip, however, is not always lost to the giver, for it will sometimes secure a whole compartment to one's own party and almost always protect him from unpleasant or unsavory companions. We sometimes hear the British and Continental railway systems unfavourably contrasted with our own—they could, certainly, learn some things from us. They have no system of baggage checks but at every station there is a "left baggage room" in which baggage may be stored for an indefinite time. With them, the traveller must confine himself to a limited compartment throughout the journey. There are three, such, in every carriage, having as many doors opening onto the station platform. This arrangement enables them to unload their living freight and be four or five miles on toward the next station before an old woman with her basket and bundles could hobble down the aisle and off the steps of one of our cars. Time is an element in all their arrangements. Their schedule time, from London to Liverpool, is 50 miles an hour, stoppages included.

When Liverpool was reached, the "Vancouver" was docked and some of her cargo discharged, the honey had not yet been reached, however. The dock-master was sought out and the object of the strangers made known. This gentleman is a Scotchman and a fine specimen of his race—he entered heartily into the delegates' work and gave them permission to kick every "longshoreman" engaged in handling the cargo; if they dumped or damaged a case of honey. One of the party went down into the hold, the other took his place in the shed, while the Scotchman was here, there and everywhere among the men. In due time, the seven hundred cases were placed in the shed without the slightest damage to the contents of any one of them. It may be safely asserted that never before was there a like quantity of cargo discharged from out the hold of the good ship "Vancouver" with the same amount of care and attention. This done, the Customs officer had to be interviewed—he too is a Scotchman. It is the duty of this officer, to make a personal examination of every tenth package of goods when landed. If any suspicion exists then, each package is overhauled. Our Scotchman was made aware of the character of our goods. He uncorked a 56 lb. tin of extracted and ran his "trier" to its bottom, drawing it out he expressed himself as satisfied that there was nothing con-

traband there. Then, the cover was burst off a case of comb and a dozen crate taken out, this was opened and displayed to a wonder-stricken and admiring crowd. That crate was never returned to its former place, the empty box may be somewhere round the docks of Liverpool yet. The officer remained in the shed three hours after his allotted time to check the bill of lading and prepare the goods to be carted to the railway station. The officers of the railway were then sought out and the honey was carted over to the station and put on board the train for London with the same careful handling as it received at the dock. On Monday morning the honey and caretakers thereof, were speeding on their way to London, at the rate of 50 miles an hour.

PEEK-A-BOO.

### THE VOCAL ORGANS OF BEES.

IN his letter, page 932, CANADIAN BEE JOURNAL, "Amateur Expert" speaks of the article of the above caption, read at the last quarterly meeting of the British Bee-keepers' Association by Mr. R. A. H. Grimshaw. This article comes to us in the last copy of the *British Bee Journal* at hand, and as it will prove interesting to many of the readers of the C. B. J., we reproduce it:

It may be thought that the subject I have chosen to say a few words on is more fitted for discussion amongst physiologists than bee-keepers. Perhaps so; yet the interesting conversation at the quarterly meeting just a year ago leads me to suppose that the more the bee-keeper studies the construction and habits of his favorites, the more successful will he become as a honey-farmer, exactly as the most economical and trustworthy engineer is he who best has studied the scientific 'why and wherefore' of the intricate machinery under his charge. If bees can hear, we may reasonably conclude they have a voice. If bees have a voice, there is at once a strong presumption that they can hear, and that these two faculties are given them for the purpose of communicating with each other. I know of nothing in nature having the one organ without the other.

It is on record that during swarming bees have been dispersed by the noise of a band of music, re-assembling in the intervals of silence. The whole of an apiary has been suddenly aroused by the noise emitted by an injured queen, the bees stinging every living thing within reach. A sound uttered by the Death's-head moth (*Acherontia atropos*) is said to paralyse them. The queen and imprisoned young queens evidently hear and reply to each other before the



issue of a swarm. Kirby tells us (*The Honey Bee*, Nat. Lib., p. 54) that the antennæ, 'by a peculiar structure may collect notices from the atmosphere, receive pulses or vibrations, and communicate them to the sensorium, which communications, though not precisely to be called hearing, may answer the same purpose.' I wonder why this is not precisely to be called hearing! Then, again, they are provided with depressions on the antennæ which Mr. Cheshire reasonably suggests are 'auditory hollows,' connected as these depressions are with the end of a nerve, precisely as the auditory hollow on the transmitter of a telephone is connected with the telegraphic nerve-wire. Such an extremely sensitive diaphragm may easily be susceptible to myriads of impressions from members of their own kind, although not responding by visible signs to unintelligible tones made by methods used upon them in vain by modern scientists.

It is well said that we ourselves are not *visibly* affected by the sound of booming cannon, the roar of thunder, or the surging of the waves on a rock-bound coast; yet let a child's tiny shriek fall on one's ear in our crowded streets and all is alarm and agitation. To deny the power of hearing to bees because they don't respond to our sound productions, is equal to doubting the efficacy of the telephone or microphone when their transmitting accuracy is disturbed by violent usage.

Much could be advanced, and innumerable instances quoted, in favor of the theory that our favorite insects can hear, much also that they cannot; amongst the ancient unbelievers being Linnæus and Bonnet; Aristotle and Huber remain doubtful, yet the latter somewhat inconsistently gives instances of sounds uttered by them with the effects produced upon the hearers. Then comes the question, can they speak? I mean by speaking the utterance of sounds intelligible to themselves.

Dr. Wollaston (*Ius. Misc.*, p. 104) says, 'Since there is nothing in the constitution of the atmosphere to prevent vibrations much more frequent than any of which we are conscious, we may imagine that animals, like the crickets (*Grylli*), whose powers appear to commence nearly where ours terminate, may have the faculty of hearing still sharper sounds which, at present, we do not know to exist; and that there may be other insects (this is what I wish you to specially notice) having nothing in common with us, but endowed with a power of exciting, and a sense that perceives, vibrations indeed of the same nature as those which constitute our ordinary sounds, but so remote that the animals who perceive them may be said to possess another sense, agreeing

with our own solely in the medium by which it is excited, and possibly wholly unaffected by the slower vibrations of which we are sensible.' This is what I call a fair description of intensely sensitive auditory organs. Flies on the diaphragm of a microphone have been heard to utter trumpet tones otherwise inaudible to us.

If I can show that bees utter sounds certainly understood by us, how many more must there be which we, with our comparatively coarse appreciation and imperfect comprehension, are unacquainted with? We all know the lazy contented boom of the drone, as contrasted with the irritated whizz and whirr of the disturbed honey-gatherer. We recognise the contented hum of the quiet prosperous hive in opposition to the sharp 'poop, poop' of the lost queenless bee. The sounds of swarming are as distinct to us as are our own distinctive notes. Many of these regular tones, 'familiar to us as household words,' are doubtless of no special moment to the bee, yet they show to their community that 'all goes well,' everything is as it should be outside the hive; these involuntary notes are a sort of perpetual assurance that the outside world is going on much as it should.

Our vocal organs, as we know, consist, firstly of a reservoir of air in the lungs, which can be compressed by means of the diaphragm and the rib-muscles, and expressed either gently or with considerable force; and, secondly, of an air-tube (the throat), at the opening of which is the glottis. It is the striking of air upon the lips of the glottis which, with muscular contraction and expansion tightening or slackening them, causes the varying sounds of the human voice. Let them be so tightened that they touch each other, and their vibrations become so rapid that a high note in the scale results; slacken them, and the notes fall in exact ratio. From the human voice let us go to the sound produced in some musical instruments—the oboe, the bassoon, and various others. Here two pieces of reed are scraped down until they are exceedingly thin; they are fastened together and placed within the lips, when, after a little practice, we are able to produce the peculiar buzzing notes which give to reed instruments their characteristic charm.

So, I contend, is it with the vocal organs of bees; they have their air reservoirs (I do not allude to the trachea in the abdomen) which serve for them the same purposes as our own, namely, for oxygenizing the life fluid, and for uttering these signals to others of their kind which we term language.

Behind each of the bee's four wings, two on either side, are spiracles or air-throats, and these are so placed with regard to the wing, that upon

air being expelled from the reservoirs, it impinges upon the edge of the wing exactly as the air from the lungs of the musician strikes upon the edges of the reeds, or upon the lips of the glottis in the case of vocalists, causing such vibrations as produce notes. Add to this, muscular tightening or slackening of the film, and its height or depth is varied. This, I imagine, will produce the voice-tones which may be a perfectly comprehensive language to bees, although unheard by us, in the same sense as a whispered conversation at the other end of the room would be here inaudible. In passing:—A young son of mine has informed me that last season he repeatedly observed his pet humble bees vibrate their wings when not extended so as to join the two side wings together by the bent plate and hooks, and that the sound produced with the wings, so to speak, loose, were quite distinct in tone and character from the usual bee-notes.

I do not suppose this theory will ever be more than a hypothesis until we introduce the receiver of the microphone into the observatory-hive—not a difficult thing for scientists. As for the well-known notes we actually hear, it is no new theory that they are produced as Swammerdam says:—'By the motion of the wings, which is increased by the internal air propelled out of their bodies through the air-tubes at the same time; for some of these pipes open with wide apertures under the wings. Certain cavities, also, fit for receiving and vibrating the air, and formed under and behind the wings, contribute to this. Nor must the shoulder-blades be excluded from their share in this music, since they are placed just above the wings, joined to the chest, and having under their breadth the openings of several air pipes. It is thus the motion of the wings, with the assistance of all these parts, and by force of the propelled air, makes the humming noise peculiar to that insect. Reaumur attributes the sounds of bees to the wings beating more or less rapidly against the air, according also, it may be, to the different angles at which it is struck; and he expressly says, that a bee whose wings are eradicated is perfectly mute. Hunter, on the other hand, affirms that, though the wings be cut off, and the legs held fast, they can still emit a shrill, peevish sound, as they can also do when their wings are smeared with honey, and even when they are held under water, which he observed to vibrate at the point of contact with the air-holes at the root of the wings.

Since writing the above, the sixth part of Mr. Cheshire's admirable work on bees has appeared, and he, as ever, goes most exhaustively into the question. He quotes Laudois, who noticed

three tones in the flight sound:—(1), the wing beats, (2), vibrations in the abdominal rings, (3), notes from the true vocal apparatus placed in the stigmatic orifices (he stopped these with wax and brought the *humming* to a close at once). Mr. Cheshire tells us that the wings undoubtedly do the buzzing, but the humming is as clearly the outcome of an apparatus within the spiracles of the bee. He goes on to describe this anatomically, and concludes by attributing the voice of the bee to sounds emitted by plaited and fringed curtains lying behind the edges of the spiracle, these curtains being played upon by air puffed in and out at the will of the bee. Whether by this means, or by the air being forced against the wing edges, by vibration of the wings, or by all of these methods, I hope I have shown you that there is a strong weight of evidence, containing facts which if not already known to us may be easily verified, in support of the assertion that bees, in common with many other insects can hear, by organs not dissimilar to ours, that they can also utter varying voice tones by a method also much resembling that producing the voice-tones of man and the greater part of animated nature which intercommunicates impressions and desires, and that these two faculties, hearing and speaking, are possessed by bees, not without an object, as we can perceive always in the works of nature if we examine them closely, but with the distinct object of being used as we use *language*, and as every other animal uses *language* which possesses the apparatus suitable for vocal signalling.

Granting this much may we not, without disagreeing on points of anatomical structure, conclude that the voice of bees is duplex, first vibratory by the wings as exemplified by the hummer wood, continuous during flight, and conveying only a general assurance of contentment or alarm; secondly, truly vocal by means of the air-sac (the lungs), the spiracle (the throat), and one or more vibrating lips against which the air strikes in respiration, producing notes some of which even we can hear and understand? The vibratory method I will illustrate by the hummer and the truly vocal by the obce reed.

FOR THE CANADIAN BEE JOURNAL.

#### PRICES OF BEES.

THE season is approaching when the demand for bees is experienced. This demand is not of long duration. In our country it begins about 1st May and ceases on 1st August. During these three months of the year those having them to sell must sell them, and those desiring to purchase will purchase.

Now till the past two or three years it is safe to say that the demand in Canada has been greater than the supply, and hence the markets of the United States have been largely drawn on. Thousands of dollars have annually passed southward and thousands of frames of brood and bees have come northward. Generally, I think, this trade has been satisfactory to both sides. Our money arrived in good condition and passing out into general circulation did our friends in the great Republic admirable service and their bees arriving in fairly good condition aided us by placing our honey crop in a shape in which we could use it.

But it seems to me that now Canadian bee-keepers are fully equal to any demand for bees that may be made on them by their fellow citizens, the question "Where shall we find a market for our bees?" is quite as often heard as the question, "Where shall we find a market for our honey?" Realizing that the market for bees was very uncertain and dull at best, bee men have been keeping down increase, still there has been an increase till numbers throughout the more wild parts of Ontario are overstocked. I believe that within an area of some seven miles from where I write not less than one hundred stocks are for sale, and the prospect is that not fifteen will be sold, and this section is by no means exceptional.

And yet this very spring the American bee-keepers will, as usual, do a thriving business with Canadians. They will send colonies and nuclei over long distances and by expensive routes, and place them next door to men having more bees than they can attend to. Why is this? Simply that the foreigner sells his bees at a lower figure. He realizes that a change has come over bee-keeping during the past ten years, that the prices for honey are greatly reduced, and that by advanced knowledge and approved appliances he is able to produce bees more cheaply and *acts on this*, while his Canadian cousin, no doubt as fully aware of the change, acts less reasonably, for he still fixes his price as when honey sold readily at from 15 to 20 cents per lb., when the mortality rate was much higher, and increase depended solely on the instinct of the bees.

Now, gentlemen, I suggest that we lower our prices to meet this changed condition, and that we supply our own markets. No person will send a long distance and pay express charges and run more or less risk in transportation for an article he can get at home.

To avoid misapprehension allow me here to say that I do not want to purchase.

J. R. BLACK.

Garafraza.

For the Canadian Bee Journal.

### THE GENERAL BEE-KEEPERS VS. SPECIALISTS.

I HAVE been much amused with some of the articles which have appeared in the CANADIAN BEE JOURNAL of late; such as the "Survival of the fittest," "Weed out small Bee-men," "Priority of Location," etc. Now, as a small bee-man in a corporation, kindly permit me to answer those small-souled men who appear to think that the bee-craft should be confined to *specialists*.

First, I have kept bees for the past fifteen years, sometimes having twenty colonies, at other times not even one, according to seasons or carelessness. I have even bought honey since I began keeping bees, and can only remember of having sold 50 lbs. one season, that was a year of *big luck*; but during the fifteen years I have given away much to friends and invalids, which act has been the means of causing them to purchase hundreds of pounds from specialists, directly or indirectly. I myself have paid out more money in that period, buying queens, bees by the pound and colonies, and bee-keeping appliances from specialists, than I have derived from the busy bees. I know it has not been their fault. Let us get down to business. There are nine small bee-men in this vicinity which average, when in luck, (which luck is generally good snow drifts, tucked about the hives in winter) seven or eight colonies each; when the luck is not good, about two each, which at most would make but one small apiary, and I know they have paid out more money for bees and supplies to specialists on an average, than they have derived benefit from the bees. I wish to point out the fact that not *one* of the nine I have mentioned, ever sold honey, and I know none of them expect to make any capital from their bees, but keep them because they like to see them work and swarm, and also to obtain honey for their own use. (They sometimes get a *big haul* in the winter when several swarms freeze to death.) Also to lay in the shade on Sunday mornings during swarming season; in some cases partly as an excuse, from the old woman hustling them off to hear some dry monotonous grinder of old half worn out theories.

Now, Mr. Editor, I submit if all small bee-men, inside the limits of every town and corporation, were struck off their little bee hobby, that specialists would find the demand for queens, bees, foundation, etc., diminished considerably, for such parties are more liberal in buying notions than more experienced apiarists who look to the profit side alone. It is in the majority of cases, the country bee-keepers who flood

the village market with honey, trading it for goods at whatever price they can get. It is not the bee-novelist, who in ninety cases out of one hundred depend on some trade or vocation for their livelihood and keeps a few bees for his own amusement and to pass the time away, as it were. When any of them take a notion to go into it as a business, they move out where there is room. Beware Specialists! if you drive little bee-men out of corporations, you will very likely increase your bug-bear instead of diminishing him.

I beg leave to tender you congratulations for your able and sensible answer to Mr. Heddon's "Who, and how many should keep bees?" "Priority of location" and on page 928. Such men as Mr. Heddon would like to sell bees, queens and honey at big prices, fast enough to make a fortune, but would wish those to whom he sold never to appear in the market. As you have wisely said, when good sugar is so much cheaper and better than it used to be, you need not expect honey to retain good old prices. "Let the fittest survive" in that industry as in all other pursuits. When a bee-man quarrels with his neighbor, and the neighbor proves his bees are too busy, let him be injuncted. What business is it of those who will keep on selling queens and at prices fixed by him and his own class the Specialists?

I could have sold tons of honey here this winter had I had it and would buy at 12. cts. All that is necessary to be done, is to show the consumer that a gallon of honey is worth more to him than the price of it in syrup, then you can sell; if you cannot do that step down and out, that's all. This thing of dealing out honey from groceries and drug stores at double retail profits will never do, it is only bought in that way for medicinal purposes, or as a luxury, now and then. I have much more to say on the subject, but fear my letter is too long already, but trust you will make it readable and let it go, *bang!* among those specialists. "A fair field and no favour."

D. McLAREN.

Alliston, Ont.

Many of those who are in favor of confining the business to specialists have just as *large hearts* and "souls" as has our friend McLaren, but they have a different way of looking at the matter. It will take more than the mere fact of writing in favor of it to get the business into the hands of specialists, so that we must, in writing, be friendly and agreeable in our arguments, and take "hard knocks" as they are intended—only in good nature.

## 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.

### BEE PASSAGE IN INVERTED COMBS.

QUERY No. 131.—In using reversible hives or frames have you found that strong colonies will, after frames are inverted, make a passage between the bottom of comb and the bottom bar?

DR. A. B. MASON, AUBURDALE, TOLEDO, O.—Have not with me.

DR. C. C. MILLER, MARENGO, ILL.—They did not in the only case I tried.

G. M. DOOLITTLE, BORODINO, N.Y.—No. Not if there is a bee space under the bottom bar.

DR. DUNCAN, EMBRO, ONT.—Never tried reversible hives, therefore I don't know.

JAMES HEDDON, DOWAGIAC, MICH.—Not at all; any more than with transferred combs, with which we have experimented for most 20 years.

S. CORNEIL, LINDSAY.—I have inverted both frames and hives but I never made any observations on this matter.

H. D. CUTTING, CLINTON, MICH.—My bees are doing well enough without inverting so I do not practise it.

H. COUSE, CHELTENHAM, ONT.—I do not use reversible frames but don't think they will do so if they have free passage under the bottom bar or around the side bars.

ALLEN PRINGLE, SELBY, ONT.—You probably mean between the bottom of comb and the *top* bar of under frame, and as there is a passage already you probably mean do they build brace combs in this passage way. Yes. Strong colonies will do this in spite of everything.

JUDGE ANDREWS, MCKENNY, TEXAS.—I avoid the use of any hūmbugs, and hence do not know what antics the poor creatures might cut up, but I suppose they might possibly retain their usual common sense—would not do useless work.

DR. J. C. THOM, STREETSVILLE, ONT.—I never used reversible frames, as I cannot afford to "advance" fast enough to throw away hives every year or two when anything new is placed on the market. Supposing they do make a pas-

sage between bar and comb what injury will result?

J. E. POND, FOXBORO, MASS.—I have used them but little; enough, however, to convince myself that they are not valuable or in accordance with natural laws. Where full sheets of foundation are used I do not think the trouble mentioned will arise, or that the mere matter of reversing will have any effect in that direction either way.

S. T. PETTIT, BELMONT.—Never have tried inverting hives, frames, nor sections, nor do I think I ever shall. I know I am somewhat out of fashion, but fashions change, you know, and I am strongly of the opinion that if I remain just where I am, in that respect, that in a few years I will be in fashion again. The word reversible has another meaning than that intended for it to convey here, but we may all better understand the other meaning later on.

#### DRONE FOUNDATION IN SECTION.

QUERY No. 132.—Do you think drone foundation in section would help the production of all worker combs when swarms are hived on frames furnished with starter only?

H. COUSE, CHELTENHAM, ONT.—I think so.

PROF. A. J. COOK, LANSING, MICH.—I do not.

JUDGE ANDREWS, MCKENNY, TEXAS.—I do not.

DR. C. C. MILLER, MARENGO, ILL.—I don't suppose it would make much difference but have never tried it.

DR. J. C. THOM, STREETSVILLE, ONT.—I think it would if the bee-keeper allowed the queen access to the sections for laying purposes,—not otherwise.

G. W. DOOLITTLE, BORODINO, N.Y.—Perhaps, but should use worker in the sections for the nicer appearance of the sections after being finished.

DR. A. B. MASON, AUBURNDALE, TOLEDO, O.—Yes. With drone comb in the sections last season no drone comb was built in the brood chamber, and queens went into the sections and deposited eggs in the drone comb, but none in the worker cells.

DR. DUNCAN, EMBRO, ONT.—I am not certain; never tried it. The queen would be apt to start laying in the comb if put on at once and spoil your sections unless there was perforated zinc

put on to exclude the queens, consequently it would make no difference.

H. D. CUTTING, CLINTON, MICH.—I cannot speak from experience. I use half and full frames of foundation with worker foundation in sections.

ALLEN PRINGLE, SELBY, ONT.—I think it would, but put the zinc separator below your section cases or you will probably get about as much drone brood as honey in your sections.

J. E. POND, FOXBORO, MASS.—Most positively I do not. Only by the free use of foundation and introduction of young queens can we expect to prevent the construction of drone comb in the brood apartment.

S. CORNEIL, LINDSAY.—I don't think so because I have had frames of drone comb in the upper story from which the queen was excluded and yet when an empty frame was placed in the brood nest drone comb was built in it. I have tried Hutchinson's plan and I find it gives about one-third drone comb in the brood nest. My advice is to give his method a good letting alone.

JAMES HEDDON, DOWAGIAC, MICH.—I have thought that it would. Perhaps we may cease using full foundation in the sections, and use only guides there also, and if we do there will be plenty of drone comb in the sections, though the guides there, are worker pattern, in which case we shall need no drone foundation. Thurbers will offer me but 5 or 5½ cents for choice clover extracted honey and at these prices I cannot afford to use full foundation anywhere nor keep bees much longer.

S. T. PETTIT, BELMONT.—Possibly so, but I think not. The conditions for building nearly all worker comb by a new swarm are: A vigorous prolific queen—one that will keep up with the comb building. An average sized swarm (not too large) so that they do not begin comb building in more than one place. The frames and hive should be of medium size only, the queen don't seem to care to occupy the corners of deep frames, hence the corners are filled with drone comb. A continuous and liberal honey flow. In my experience just as soon as the queen's attention is diverted to cells vacated by hatching brood or fails to follow the bees in the process of comb building from any cause whatever, they commence building drone comb.

G. W. DEMAREE, CHRISTIANBURG, KY.—When you hive a swarm on "starters only" you ought to put on a queen excluder between the brood-

chamber and the surplus cases, and when this is done, drone foundation in the sections will not help the matter. I never suffer a square inch of drone foundation to come near my apiary. I have quit full sheets of foundation in my sections, because no man can produce a first class article of comb honey—inside as well as outside—with any article of foundation I have ever seen. I now use a V shaped starter, which is just one-quarter of a full sized sheet.

#### NEBRASKA BEE-KEEPERS' ASSOCIATION

THE Nebraska State Bee-Keepers met in the Red Ribbon Hall in Lincoln on Jan. 12th, 1887 for their annual meeting. House called to order by Vice President, J. G. Hodges. Roll called and found two of the officers and several members absent.

Owing to the slow arrival of members the regular order of business was postponed until the next day, and the meeting then listened to an essay given by Mr. A. D. Keller, on wintering, followed by a discussion on the subject, by the association.

Finance committee consisting of J. Kopetzky, M. L. Trested and J. L. S. Jackson was appointed to inspect the secretary's and treasurer's accounts.

The meeting being now open for general remarks, Mr. Muir said he had found no pay in shipping honey to city markets, to be sold on commission.

Motion carried that members present make to the secretary a special report of their success and failures for 1886.

#### SECOND DAYS WORK.

House called to order by VicePres. at 9 o'clock a.m. The finance committee having reported favorably the reports of the secretary and treasurer were presented and accepted. Committee on Foul Brood, appointed at last meeting, reported that Mr. Henry, of Filmore county, whose bees were thought to have the Foul Brood, had destroyed his bees by burning. A vote of thanks was then tendered Mr. Henry for the course he had taken in destroying his bees by burning, thereby saving cost of inspection and danger of the disease spreading.

After the enrollment of members. Prof. Bessy, Prof. of botany of State

University, delivered an address, showing how bee-keepers and botanists could work to each others' mutual benefit, and extended an invitation to the members to visit the University, which was accepted and much appreciated. Next Mr. E. Kretchmer, of Coburgh, Iowa, gave a very instructive talk on past and present apiculture in the west.

Pres. W. F. Wright's resignation having been offered by letter and accepted, Mr. R. R. Ryan, of Bradshaw, was elected president of the association. The remainder of the day was spent in discussing the following subjects: The Solar Wax extractor and wax rendering. Best mode of increase, natural and artificial. What time in the year is best to give or change queen. What strain of bees is best for business and the best method of creating a honey market.

#### THIRD DAYS WORK.

House called to order by Pres. Ryan at 9:30 a.m.

This session was devoted to special business, and considerable wrangling and personal feelings cropped out by some member who was modestly rebuked.

The association then adjourned to meet in Lincoln on Jan. 11th, 1888, for their next meeting, and then proceeded in a body to visit the State University.

H. N. PATTERSON, Sec.

## SUNDRY SELECTIONS.

#### THE BEST BEES FOR THE NORTH WEST.

JOHN FOTHERINGHAM.—I would like to see in your JOURNAL an authoritative (if possible) statement of the qualities and proportionate or comparative value of the different kinds of bees. I hope to begin with the best, if I know which, out here.

Grenfell, Assa, N.W.T.

We would not advise you to go to any extra expense in order to secure special rates, until you have strongly tested the climate and location. We find the crosses better than any pure race.

#### SPRING TIME IN OREGON.

GUST. MURHARD.—We have had thus far a remarkably mild winter here in Oregon all rain, no snow or ice, and promises to be such a mild one as we had in 1855, if I recollect the year correctly, when in the last days in February the peach trees were in bloom and we had ripe wild

strawberries in March. If my Hybrid Mt. Lebanon Carniolan queen bees breed as fast as last winter their colonies should be ready to swarm by March 1st. They all had the drones flying by the end of February, when no other colonies had commenced drone brood. We had a very poor honey season last year, but the worst is that there is hardly any sale for honey in Oregon.

Portland, Oregon, Jan. 20th, 1887.

THE PETTIT HONEY BOARD.

CLARK HALL.—I have not been a subscriber to your JOURNAL long, having received only four or five numbers, but from those few I have learned so much about bees and how to manage them that I cannot do without it.

Two years ago this winter I put 60 nice colonies in the cellar and in the spring they were all dead but two, however, I was not discouraged, I bought 8 or 10 more and to-day have 37 in my cellar, quiet and apparently wintering splendidly. Will Mr. S. T. Pettit explain his honey board in C.B.J.?

Cowansville, Que., Jan 29th, 1887.

Mr. Pettit explained his honey-board very nicely at the Ontario Bee-keepers' Convention, but not being a "short-hander" we did not get it all down. At any rate we felt, that when asked, Mr. P. would gladly put it into shape for the CANADIAN BEE JOURNAL. We would be glad to have him do so now.

A MISTAKEN IDEA.

I was surprised to read in the C.B.J. (Feb. 16th, page 930, second column) a statement made by Mr. J. McArthur that bees gather honey from soft maple bloom first in the spring. In my neighborhood bees gather honey from the swamp Willow first, and I have had them to bring in honey and pollen as early as the second day of April. I have been in the swamps in the fore part of April and have seen bees gathering honey from the same when the snow had not all melted away. The very first bloom that we have is swamp Willow and the Canadian Wild Palm, then comes the soft Maple bloom about the latter part of April, then from about May 9th to 20th the Yellow Willow opens out its blossoms. I presume this is the Willow that Mr. McArthur is mistaken about. Then comes fruit bloom, dandelion, etc.

I would not care to have my bees housed up until towards the last of April before I allowed them to go to work. In the spring of 1886 my bees commenced to swarm on the 19th of May.

I am able to prove my statements with regard to bees gathering honey from Swamp Willow

first, to any person doubting, if they will come to me some fine day the first or second week in April I can take them to the swamps and show it to them. Seeing is believing.

R. T. WOOD.

Thistletown, Feb. 21st, 1887.

THE CANADIAN BEE JOURNAL

JONES, MACPHERSON, & Co.,

EDITORS AND PUBLISHERS, BEETON, ONTARIO.

WEEKLY, \$1.00 per Year, Postpaid.

BEETON, ONTARIO, MARCH 2, 1887.

We have a large number of our new honey label circulars ready to mail and shall be glad to do so on application of any one wishing the same. We shall not send out any of these circulars, except on application.

MCINTOSH VS. HARRISON.

On the 21st, this case came up for hearing in the Divisional Court. The defendant moved to dismiss the action or for a new trial. We find that the motion was dismissed with costs. In other words, the original decision was sustained, granting the injunction applied for, whereby the defendant is to remove his bees. The costs thus far, on both sides, amount to about \$1,000, which the defendant will have to pay. If the bee-keepers of Canada wish to carry the matter still farther, their next step will be the Supreme Court and the further costs to go through this court will be about \$1200.

In our new price list we have made many changes, and, in the majority of instances, the prices have been reduced. We have been delayed somewhat in getting out our price list, owing to the pressure of other work in our printing department. Right here let us say, that we always give outside customers the preference and push their work ahead of our own. As soon as our price list is complete and ready for mailing, we will give in condensed form the material changes over our catalogue of 1886. Up to present time, we have not been in the habit of keeping our price list standing in type, but shall, in the future, issue revised lists more frequently than we have heretofore been able.

JOIN THE O.B.K. ASSOCIATION.

The Sec. Treas., of the Ontario Bee-keepers' Association is, at the present moment, sending out large quantities of circulars to bee-keepers throughout Canada, inviting them to become members of the association. We would most strongly urge all those who have not already done so, to send in their names along with the mem-

bership fee of \$1. If we expect to be recognized as a motive power in the interests of bee-keepers, we must be strong and in a position to grapple with the difficulties which may beset the fraternity at any time. When we desire to apply for legislation of any kind we will be able to say our body consists of the majority of the leading bee-keepers in the country, and, as such, our claims will be recognised and we will receive courteous treatment and much more consideration than we can expect as a small body. As the majority of bee-keepers are farmers, the Association will furnish to them the *Rural Canadian*, free of charge; this magazine is published monthly, at the low price of \$1 per year, and is one of the best farmers' papers published in Canada. Address of the Sec. Treas.:—W. Couse, Meadowvale, Ont.

#### CONVENTION NOTICES.

THE ST. JOSEPH INTER-STATE BEE-KEEPERS ASSOCIATION.—Will hold its spring meeting in Unity Church in St. Joseph, Mo., on 9th, between Edward and Felix, on Wednesday afternoon and evening, March 16th, at 2 p.m. and 7 p.m. All are invited.

E. T. ABBOTT, Sec.

St. Joseph, Mo.

The fourth annual meeting of the Listowel Bee-Keepers' Association will be held at the Royal Hotel, Listowel, on Friday, March 11th, at 2 p.m. A full attendance requested.

J. VANKLEEK, Sec.-Treas.

## HONEY MARKETS.

#### BEETON.

Extracted.—Very little coming in. For A 1 clover or linden, 10 cents is paid; mixed flavors, 8 cents; darker grades, 6 cents—60 lb. tins, 30 cents each allowed.

Comb.—None offered, with market dull. We have about 200 lbs. on hand, No. 1 will bring 14 cents; No. 2, 12 cts. per pound. See special notices.

#### BOSTON.

Honey is selling very well but prices are very low, and we are often obliged to shade our prices in order to make rates. We quote 1 lb. comb, 14 to 16 cents. 2 lb. comb, 12 to 14 cents. Extracted, 6 to 8 cents.

BLAKE & RIPLEY.

#### CHICAGO.

Since my last quotation honey has come forward very freely and from information now at hand it would appear that the Middle States will have all the Honey produced at home this season that can be marketed or consumed, and that we shall not be apt to draw upon the Eastern States as we did last year. Best grades of white comb to-day at thirteen cents. Extracted six cents and beeswax 25 cents.

R. A. BURNETT.

#### DETROIT HONEY MARKET.

Best white comb honey in one pound sections at 12½ cents; other grades, 10 to 11 cents; beeswax, 23 cents.

M. H. HUNT.

Bell Branch, Feb. 11th, '87.

#### NEW YORK.

Since Christmas the comb honey market has been very sluggish and sales slow, but has shown more activity the past week. Stock in dealer's hands is large and prices rule accordingly. We quote present prices as follows:—White comb, 1 lb. sections, 10 and 12c.; white comb, 2 lb. sections, 9 and 10c.; off grades, 1 and 2c. per lb. less; buckwheat, 1 lb. sections, 8 and 8½c.; buckwheat, 2 lb. sections, 7 and 7½c.; California extracted, 5 and 5½c.; buckwheat, 4 and 4½c.

McCAUL & HILDRETH BROS.

#### HONEY OUTLOOK FOR SEASON OF '87.

The new comb honey coming in shows good quality. There was but little old comb held over, and consequently new arrivals sell well. Fancy white comb in 1 lb. sections, in paper boxes or glassed, commands 12 to 14c. and 2 lb. sections, glassed, 10 to 12c.; while lower grades of both sizes go at 8 to 11c. Dark pungent flavored Buckwheat Honey will probably be a good crop and go lower. The crop in N. Y., Pa. and Vt. is reported fair, while Ill., Iowa, Kas., Wis. and N. W. are said to have yielded well. A small quantity of Southern strained irregular Honey comes here, and sets as low as 50c. per gal. The crop there is large. Eastern Honey in barrels, sell at 5 and 6c. The California crop is reported heavy, and the 5 gal. cans (two in a case,) finds ready sale in the East. In consequence of the big crop of this splendid Cal. Honey and low freights, there have been a number of cars disposed of here already at 4 and 5c. per lb. and much larger sales are expected in cooler weather.

PANCOAST & GRIFFITHS.

242 South Front Street, Philadelphia.

## SPECIAL NOTICES.

Discount for March off our catalogue prices, 2 per cent.

We are prepared to pay the prices reported in the honey markets for all that is sent us, *in trade* at our catalogue prices.

We make a special offer on sections for the next month. We will supply the regular sizes (3¼x4¼ or 4¼x4¼) in Linden (formerly Basswood) in lots of 5,000 at \$4.50; 10,000, \$4.25. Price per 1,000, \$5.

We are the Canadian Agents for Mr. H. Chapman, Versailles, N.Y., for the sale of the "Chapman Honey Plant." Prices, ½ oz, 50c.; 1 oz, \$1; 2 oz, \$1.50; 4 oz, \$2; ½ lb, \$3; 1 lb, \$5. by mail prepaid. One ounce contains 1,600 to 1,800 seeds. One pound will sow ½ acre.



PRICES CURRENT

BEESWAX

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.

FOUNDATION  
 Brood Foundation, cut to "Jones' size" per pound...47c  
 " " over 50 lbs. " " .....45c  
 " " cut to other sizes " " .....48c  
 " " over 50 lbs. " " .....46c  
 Section " in sheets per pound.....58c  
 Section Foundation cut to fit 3x4 $\frac{1}{2}$  and 4x4 $\frac{1}{2}$ , per lb.60c  
 Brood Foundation, starters, being wide enough for  
 Frames but only three to ten inches deep...43c

EXCHANGE AND MART.

JOB LOT OF HIVES.—See our advertisement of a job lot of hives in another column. The D. A. JONES CO., Ltd., Beeton, Ont.

SMOKERS.—We have 10 No. 1 smokers and 26 No. 2 smokers in stock, which we will sell cheap to clear them out. They have the old style inside spring, but are otherwise just as good as new ones. Price, No. 1, \$1, by mail, \$1.40; No 2, 75c., by mail \$1.00. The D. A. JONES CO., Ltd., Beeton, Ont.

NOTE HEADS AND ENVELOPES.—We offer a special bargain just now. 20lb note heads with printed heading, \$1.75 per 1000. Envelopes, \$2.00 per \$1000. See advt. JONES, MACPHERSON & CO., Beeton, Ont.

EARLY QUEENS AND NUCLEI.

I have now on hand untested queens ready to send out by first mail. In regard to my responsibility, I would refer you to A. I. Root, with whom I received instructions in bee culture. Nuclei Colonies in shipping boxes to be sent by express. Safe arrival guaranteed.

H. ADAMS

98-110 Sorrento, Orange Co., Fla.

Italian Queens

My prices for queen bees for 1887 will be as follows:—  
 Tested queens on June 5th or after, \$2; Hybrid queens on June 1st or after 75 cents each, or three for \$2; Dollar queens after June 15th from Doolittle's Italians or Heddon's strain \$1; 10 per cent to any person ordering one dozen during the season of 1887; 15 per cent to any one ordering one dozen at one time, can have them sent three at a time if desired. The tested and hybrid queens are reared from choice stock, Italians and Heddon strains. The dollar queens will be reared from four selected queens three of which were selected by me last year from over 200 as producing bees famous for honey gathering, and originally bought from Mr. James Heddon. The other queen referred to is one I have purchased from Mr. G. M. Doolittle, being one of three selected by him from over 600 queens of last year and which he has kindly consented to let me have. The value of Mr. G. M. Doolittle's Italians as honey gatherers are well known. Those who have tried the Heddon strain require no recommendation from me. A customer last season took over 1900 pounds of honey and increased to 27 from 14 colonies purchased from me last spring. Another writes, "I cease to wonder at your enthusiastic praise of these bees." Those in Canada who want bees for honey gathering combined with gentleness, have now a very favorable opportunity of having them. Will endeavor to be prompt in shipping. In ordering please state whether from G M Doolittle's selected Italian queen, or from my selected Heddon strain. An additional five per cent off to those ordering before the 1st of May. Send money by registered letter or post office order. A limited quantity of Given foundation for sale. Address,

G. A. DEADMAN,  
 Druggist and Apiarist, Brussels, Ont.

NORWAY SPRUCE.

Shelter for apiaries, Roses, Clematis, Climbers, Shrubs, Dahlias, Herbaceous, Plants, etc. Send for price list.

A. GILCHRIST,  
 Guelph Ont.

North Carolina Tar Heel Apiaries.

1887 5 71-69 1887  
**ABBOTT L. SWINSON,**  
 PRACTICAL APIARIST,  
 PROPRIETOR,  
 Goldsboro, Wayne Co., N.C., U.S.A.

PRICE LIST of warranted American Albino Italian and Golden Italian Queens.

For the Year 1887.	April	May	June	July to Oct.
Untested laying, each	\$1 50	1 00	1 00	1 00
Untested laying, 1/2 doz.	8 00	6 00	5 00	5 00
Tested Queens, each...	3 50	2 50	2 25	2 00
Tested Queens, 1/2 doz.	15 00	13 50	12 50	11 00

NUCLEI.—Add 75 cts. for each L. frame of Bees and brood to price of queen wanted. Bees by the pound, same price each month as an untested queen is. 100—2 and 3 L. frame Nuclei, with untested warranted queens to dispose of in May at \$2.50 and 3.75 each, respectively. I replace all impure queens, and all queens and bees lost in transit. Untested queens ready to mail by April 15th each year. Send for circular and testimonials of my "American Albino Italian" bees that originated with me, and that I have bred and sold the last two seasons, giving universal satisfaction. The finest bees on the American continent. I challenge the world to produce a superior bee. Pekin Duck and Chicken Eggs in season. 48-60

ITALIAN BEE\$ AND QUEEN\$ FOR 1887.

Tested Queens before June 15th, \$1.50 each. Untested Queens, \$1.00 each. After June 15th, 25 per cent less. Bees by the pound same price as untested queens.

I. R. GOOD,  
 Nappanee, Elkhart Co., Ind.

M. H. HUNT.

Manufacturer and dealer in everything in the apiary. Alsike clover seed very cheap. Send for free price list.

M. H. HUNT,  
 Bell Branch, Wayne Co., Mich.  
 (near Detroit.)

WANTED.  
 Competent assistant wanted in apiary.  
 DR. THOM, Streetsville.

Bee - Keepers' Supplies!

of all kinds kept in stock, at low rates.  
 "The Quinby Smoker" a Specialty.

100 stocks of bees for sale, mostly in Quinby Hives, Italians, Hybrids, and Blacks. Prices from \$4 up to \$6. Send for price list.  
 W. E. CLARK,  
 Oriskany, Oneida Co., N.Y. Successor to L. C. Root.  
 98-110.

# PRINTING

PRINTING

Supply Men, Foundation Dealers,  
and Bee-Keepers,

SEND FOR ESTIMATES FOR WHATEVER  
YOU REQUIRE IN THE WAY OF

CATALOGUES,  
PRICE LISTS,  
CIRCULARS,  
LABELS,  
OR GENERAL PRINTING.

A large number of cuts in stock of  
which patrons have free use.

JONES, MACPIERSON & CO  
BEETON, ONT

## HEDDON HIVES!



We are the owners of the patent on this hive in Canada, and we are in a position to make and sell the hive gotten up in any shape to suit the purchaser—either in flat or nailed up.

A complete working hive consists of bottom-stand, bottom-board, entrance-blocks, two brood-cases, one honey-board, two surplus cases (in good seasons we often use three surplus cases on the hive at one time) and cover. So that if you order these hives in the flat this is just what will be sent you.

Sample hives we make up with the brood-frames wired and the surplus cases supplied with fifty-six  $4\frac{1}{2} \times 4\frac{1}{2} \times 7$  to the foot sections. These are designed for testing the complete working hive.

In quoting prices of brood-cases and wide-frames, surplus cases, the set-screws, brood-frames, and wide-frames with their tin separators are always included, both in flat and made

up. We quote the prices of sample hives made up, and of the various parts made up, so that should there be any portions of the hive you do not wish you can easily ascertain what deductions to make.

Sample hive, made up..... \$2 90  
Add ten per cent if you wish the hive painted.

### Prices Of Parts.

Bottom-stand.....	made up flat.	
Bottom-boards.....	12	09
Entrance blocks (two).....	03	03
Brood case, invertible, including set screws and frames wired when made up or punched for wiring in flat.....	60	45
Honey Board (wooden) slotted, invertible.....	10	07
Honey board, metal and wood, invertible	30	25
Surplus case, invertible, including wide frames and separators.....	60	50
Cover, half bee-space.....	15	12
Sections, full set of 28 in flat.....	15	15
Tin Separators, seven to each.....	10	10

The cost of one hive such as you would receive, in the flat, would therefore be (without honey boards of either description) \$2.15. Add the cost of whichever style of honey-board you prefer, and you get it exactly. If you do not designate either we shall always include the wooden-slotted one.

### Discounts in Quantities.

For 5 hives or more, 5 per cent. ; 10 or more, 7½ per cent. ; 25 or more, 10 per cent. ; 50 or more, 15 per cent. These discounts are off the prices quoted above, either nailed or in flat.

### Individual Rights.

We will sell individual rights to make for one's own use, and to use the new hive or any of the special features of Mr. Heddson's invention at \$5. We do not press the sale of these rights, believing that the hives cannot be made to good advantage by anyone not having the proper appliances. We will sell however to those who wish to buy, and for the convenience of such we append a list of prices of what we would likely be called upon to furnish in any event :—

Woodscrews per 100, boiled in tallow.....	\$1 00
Tap bits for cutting threads.....	1 00
Tin Separators, per 100 proper width.....	1 50
Brood Frames per 100.....	1 00
Wide " " ".....	1 25

## Heddson's 1887 Circular.

NOW READY.

### ALL ABOUT THE NEW HIVE.

Canadians who wish my circular to know about the new Hive, ONLY, should send to the D. A. JONES CO., for theirs, as I have sold the patent for all the American British possessions to them, and have no more right to sell the hive in their territory than have they to sell them in the United States.

Address,!

JAMES HEDDON,  
DOWAGI, C, MICH

# ITALIAN QUEENS.

## Bee Hives and Supplies.

One piece sections, crates, shipping cases, foundation extractors, honey knives, bee-feeders, wire nails and metal corners.

Please send your orders before the rush comes.

B. J. MILLER & CO.,

98-110.

Nappanee, Ind.

# THE CANADIAN BEE JOURNAL.

AND

## American Agriculturist

With a good deal of other valuable matter,

**ALL FOR \$2.00.**

See advertisement on page 964.

## ITALIAN QUEENS, 1887.

For Italian Bees and Queens in their purity for beauty and working qualities they are equal to any in the U.S. or Canada. Comb Foundation, 49c. per lb. Untested queens, \$1 each, \$11 per dozen; tested \$3.50 each. Queens reared in full colonies from eggs; safe arrival and satisfaction guaranteed. Send for circular.

T. S. HALL,  
Kirby's Creek, Jackson Co., Ala.

ESTABLISHED 1855.

## BEEWAX HEADQUARTERS,

We have constantly on hand a large stock of Domestic and Imported Bees-wax in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. We guarantee all our beeswax absolutely pure. Write to us for prices. Address,

**R. ECKERMANN & WILL,**

Beeswax Bleachers and Refiners. **Syracuse, N. Y.**

## BEE-KEEPERS ADVANCE.

Is a Monthly Journal of 16 Pages. 25 CENTS PER YEAR. Clubbed with the CANADIAN BEE JOURNAL for \$1.10. Sample copy sent free with our catalogue of supplies. Don't forget to send name and address on a postal to

J. B. MASON & SONS,

t.f. Mechanics' Falls, Me.

**RAYS OF LIGHT.**—A new publication devoted to Bee-keeping and Poultry-raising. A number of the leading, most practical and successful Bee and Poultry-Keepers have already been secured as regular contributors. Its principal aim will be to advance progressive ideas upon the various topics of modern scientific Bee-culture and Poultry-Raising. Subscription, 50 cents a year. Sample copy free.

J. J. MARTIN & CO.,

North Manchester, Indiana.

## TORONTO SUPPLY DEPOT.

AT BEETON PRICES.

**MR. JOHN McARTHUR,**

345 Yonge Street, Toronto, Ont.

For the convenience of bee-keepers living within driving distance of Toronto, and inside the city limits, we have established an agency at the above address. All orders which he may be unable to fill promptly will be sent on to Beeton and be filled from here. He will have on hand a supply of hives, sections, foundations, knives, tins, etc.

**THE D. A. JONES CO., Beeton.**

**FOR SALE.** GROUP OF 120 AMERICAN BEE-KEEPERS' photographs, 10 of them Canadian, got up by E. O. TUTTLE, Vermont, almost all the leading bee-keepers of America in it. Supplied by R. F. Holterman from Brantford, Ont., who is the authorized agent for Canada. Price, post paid, \$1.35; size 11x14 in.

### Feeders.

The demand for feeders seems to be growing. We offer three different styles suitable for different seasons:

#### ENTRANCE FEEDERS.

Double the usual size, each, ..... 15c  
" " " per 100 ..... \$12 50c

#### THE CANADIAN FEEDER.

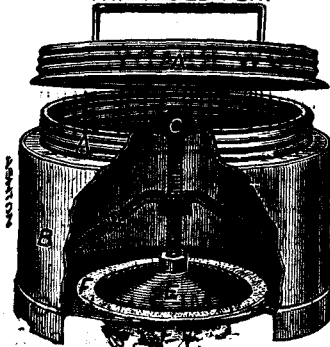


This is for fall feeding and enables you to feed 15 to 20 lbs. at once with no danger of robbing.

Made up, each, ..... \$ 50  
" " " per 25 ..... 10 00  
In flat, each, ..... 35  
" " " per 25 ..... 7 50  
" " " 100 ..... 25 00

THE D. A. JONES CO.

PAT. APPLIED FOR.



10 lb. \$5.50.

## PERFECTION BEE FEEDER.

The "PERFECTION" having been thoroughly tested, and proved of inestimable value in bee culture, the undersigned, a practical apiarist, is prepared to furnish the same at reasonable prices, and the usual discount to the dealers. Among the many points in which this feeder excels all others are the following.

The supply of food can be perfectly regulated.  
The food will not become rancid, nor sour, and is strained before it reaches the bees.

The same method is used in feeding as provided in nature.  
The "PERFECTION FEEDER" is simple in construction, well made, readily cleansed and durable.

It is most admirably adapted to the use for which it is intended, and will give entire satisfaction to those who will give it a trial, as its merits are unquestionable.

Prices for sample Feeder, by mail, postage paid, 4 lb. Feeders, 50cts. 6 lb. 60cts. 10 lb. 70cts.

For one dozen PERFECTION FEEDERS F.O.B., 4 lb. \$3.50, 6 lb. \$4.5 Address, **M. E. HASTING,** New York Mills, Oneida Co., N. Y.

# TOOLS For BEE-KEEPERS

## HAMMERS.

We shall hereafter keep in stock a full line of tools suitable for bee-keepers. For ordinary use, where a person has only a few hives, etc., to nail, we have an iron hammer (with adze eye) which we can send you at 15 cents.

Then in steel hammers we have three styles all with adze eyes, which we sell at 40c., 50c., and 60c each.

Small hammers—steel face with adze eyes, just what are needed for frame nailing, etc., No. 55, 35c.; No. 52, 50c.

## SCREW DRIVERS.

With good hardwood handles and of the best steel—nicely finished, round bits, in two kinds, No. 1, 5 inch bit, 18c.; No. 2, 6 inch bit, 20c.

## TWO-FOOT SQUARES.

In iron squares we have two kinds—the first of these is marked down to one-eighth of an inch, and is marked on one side only, the price is, each, 20c.

The other style is marked on both sides down to one-sixteenth of an inch—price, each, 30c.

We have a splendid line in steel squares which we can furnish you at \$1.35. They are well finished and are usually sold in hardware stores at \$1.75.

## TWO FOOT RULES.

A splendid line in rules we offer at, each, 18c. Then we have a nice box-wood rule at, each 25c.

## HAND SAWS

Just at the present we have but one line in these—26 inch long—A. & S. Perry's make—usually sold at 75 cents we offer them for 55c.

## PANEL SAWS.

These are what are often called small hand-saws, and for the finer classes of the bee-keepers work are indispensable. We have started out with two lines in these. The 18 inch are of good steel (Shirley and Dietrich) and can be sold by us at 50c.

The 20-inch are finer steel—same make—that money.

## PLANES.

Iron block planes, just the thing for dressing off hives, each, 75c.

Wooden smoothing planes—the best of the kind, 85c.

All the above goods are sold at prices 20 to 25 per cent. below the ordinary retail price, so that when ordering other goods you may just as well have a try you want as the cost of transportation will not be any greater. These will be included in the next revision of our price list.

**THE D. A. JONES CO., LD.,**

BEETON, ONT.

# HIVES

NEW AND  
SECOND HAND.

We have about 500 hives all made up—some of them painted, which are just as good as new, having been used for storing combs in, a few have also been used one season, coat of paint will make them all as nice as new. We have no room to store them, and will sell them at less than regular figures.

In lots of.....	5	15	25	50
Regular price, each..	\$1.40	\$1.35	\$1.30	\$1.90
We will sell at.....	1.00	.95	.90	.85

These prices are for the painted ones, deduct 10 per cent. for the unpainted ones. The terms will be CASH with order, and these will be nett figures.

THE D. A. JONES CO., LD.,  
Beeton, Ont.

# DADANTS FOUNDATION

is attested by hundrec's of the most practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag most regular in color, evenness and neatness, of any that is made. It is kept for sale by Messrs.

- T. G. NEWMAN, & SON, Chicago, Ill.
- C. F. MUTH, Cincinnati, O.
- JAMES HEDDON, Dowagiac, Mich.
- F. L. DOUGHERTY, Indianapolis, Ind.
- CHAS. H. GREEN, Berlin, Wis.
- CHAS. HERTEL, Jr., Freeburg, Ill.
- E. L. ARMSTRONG, Jerseyville, Ill.
- ARTHUR TODD, 1910 Germantown Ave., Philadelphia
- G. B. LEWIS & CO., Watertown, Wis.
- E. KRETCHMER, Coburg, Iowa.
- E. F. SMITH, Smyrna, N.Y.
- C. F. DALE, Mortonsville, Ky.
- EZRA BAER, Dixon, Lee Co., Ill.
- CLARK JOHNSON, & SON, Covington, Ky.
- J. B. MASON & SONS, Mechanic Falls, Me.
- I. A. HUMASON, Vienna, O.
- C. I. GRAVES, Birmingham, O.

and numbers of other dealers. Write for SAMPLES FREE and Price List of Supplies, accompanied with

## COMPLIMENTARY

and UNSOLICITED TESTIMONIALS from as many bee-keepers in 1883. **We guarantee every inch of our Foundation equal to sample in every respect.**

**CHAS. DADANT & SON,**  
HAMILTON, Hancock Co., ILL.

# THE CHAPMAN HONEY PLANT.

Having expended thousands of dollars in bringing before the people one of the most wonderful honey producing plants known in the United States, or even in the world, and testing it honestly and fairly, wish to say through your valuable JOURNAL, that the seed contains so much oil that nothing but fresh seed will grow, or by thrashing if the seed is bruised or broken it will not grow, for this reason, and by the advice of many prominent bee-keepers, I have decided to sell the limited amount of seed I have raised this season at the following prices, and will send to those who have already ordered, the amount of seed due them at this low price:

Half Ounce .....	50c
One Ounce .....	\$1 00
Two Ounces .....	1 50
Four Ounces .....	2 00
Half Pound .....	3 00
One Pound .....	5 00

One ounce contains from 1600 to 2100 seeds. One pound of seed is sufficient for half acre if properly thinned out and reset. Write all orders plainly and give your Post Office in full.

**H. CHAPMAN,**  
Versailles, Cattaraugus Co., N. Y.

# APIARIAN SUPPLIES

MANUFACTURED BY

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

Are unsurpassed for **Quality** and fine **Workmanship**. A specialty made of all styles 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**. **TWO (2)** per cent. discount in March. Send for illustrated Catalogue for 1887. Free.

W. T. FALCONER.

## BEE-KEEPER'S GUIDE,

OR

## MANUAL OF THE APIARY

15000 SOLD SINCE 1876.

The fourteenth thousand just out. 15000th thousand sold in just a few 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. COOK, Author & Publisher.

State Agricultural College Michigan

Beeton Printing & Publishing Co.

FINE BOOK, JOB & LABEL PRINTING

Send for our free "Honey Label" circular. Printing furnished promptly, and neatly done. Estimates of circular and other work on application.

F. H. MACPHERSON,  
Manager, Beeton, Ont.



Flat Bottom Comb Foundation.

High side-walls, 4 to 14 square feet to the pound. Wholesale and retail. Circular and samples free.

J. VANDEUSEN & SONS,

SOLE MANUFACTURERS,

SPROUT BROOK, MONT. CO. N. Y.

Shipping Labels.

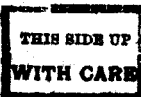
These are for pasting on the

tops of cases.

Price, per 10..5c. by mail, 6c.

" " 100.25 by mail, 27

" " 1000.1 50 by mail, 1 60



**YES!** I take the Poultry Monthly and consider it the best Magazine published, by a large majority. My fowls are now the best paying stock that I own. I have cleared over \$400 thus far, and business is just booming. I would advise every poultry keeper to subscribe for it without delay, as it is brim full of practical information.



**NO!** I do not subscribe for the Poultry Monthly but intend to do so at once. I am told it is the best poultry journal published. I said I was too poor. My hens did not lay, they sickened and died. I had no poultry paper to tell me what to do, all because I wanted to save a dollar. I had to sell my place under mortgage. The "old woman" has gone back on me. My hair is getting thin, and the fact is I feel bad.

## SPECIAL OFFER.

We want to place the MONTHLY in the hands of everyone interested in poultry and pet stock, and will send the paper for a full year for \$1 to all who subscribe this month. The regular price is \$1.25 per annum.

Address,

THE POULTRY MONTHLY.

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