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VOL. IV, NO. 7

1888

MAY 9

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



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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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CHAS. BONNICK.

TORONTO.

THE BEE-KEEPERS' REVIEW.

If ever a bee paper was started with a place ready and waiting for it, the **REVIEW** has had that luck. The first number was welcomed before it was read, it took its place easily and at once among the things that justify their own existence, and need no probation before being fully and finally accepted. It is an imitation of none of our contemporaries, and it is on a level with the best of them, both in the merits of its general scheme and in typographical neatness. This, we believe, will be the verdict of the intelligent bee-keeping public, and, as proof of the correctness of this belief, we append the following, which we select from a large number of similar congratulations:

"I am greatly pleased with the **REVIEW** and think it very creditable. It must take the lead with intelligent bee-keepers." I. L. Taylor, Lapeer, Mich.

"You have made an excellent start; and I am very favorably impressed with your plan of making each issue a 'special number.'" E. M. Nayhurst, Kansas City, Mo.

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"**REVIEW** No. 1 lies before me, and I must say it is like a chestnut—brimful of meat, properly cooked and served in first-class palatable order. Before reading it I thought: 'What can friend Hutchinson say that has not already been said by others?' But you have given us a feast of fat things. If the **REVIEW** keeps up to the standard of No. 1 it has a bright future before it—W. E. Clark, Oriskany, N.Y.

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"Sample copy of the **REVIEW** is at hand, and I was agreeably surprised, to say the least. As a rule, journals in starting furnish at first a sickly discouraging appearance that stamps FAILURE all over them. What a contrast in beholding the **REVIEW**! Why, friend Hutchinson, the first glance at it shows its success. And then its contents—the very cream of advanced bee literature. I read it through before laying it out of my hand.—E. Kretchmer, Coburg, Iowa.

Four numbers of the **REVIEW** have been issued. The January number discusses "Disturbing Bees in Winter," the February issue is devoted to "Temperature" as applied to bee repositories, the March number takes up the subject of "Planting for Honey," while "Spring Management" is the special topic of the April issue. The special subject of the May **REVIEW** will be "Giving Bees." Besides these special discussions, which are carried on by the best bee-keepers of the country, there are several pages in each issue devoted to short, sharp, concise editorials upon current apicultural topics. An exhaustive review of Mr. Cheshire's book, "Bees and Bee-Keeping, Vol. II.," is begun in the March **REVIEW**, and will be finished in the May number. If you wish for the cream of this great work, read these three numbers.

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THE CANADIAN BEE JOURNAL,

7

BEETON.

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

VOL. IV. No. 7

BEETON, ONT., MAY 9, 1888.

WHOLE No. 163

EDITORIAL.

WE are glad to notice in a list of the experimental stations, organized under the Hatch Act in the United States, that Prof. A. J. Cook, Lansing, Mich., has been appointed in charge of the Entomological and Botanical and Forestry Departments, Prof. Edwin Willetts being the director. Congress grants \$15,000 to each State for institutions of this kind.

* *

We observe that the decision of the United States Supreme Court in regard to the patent on the one-piece section, which was being fought out between Messrs. Fornbrook and A. I. Root, has been given. The costs in the matter will probably amount up to \$4,000. This is one of the bad things about the patent law. After a man gets a patent he does not then know whether or not he is going to be able to retain it, though he certainly thinks that his patent gives him the protection he desires. On the other hand it should teach a lesson that even if your invention is worth patenting you had better let it alone and keep the money which you would spend for the patent in your pocket, otherwise you will be likely to get into trouble. We do not think we shall ever patent anything more in connection with the bee business.

A QUERY.

Can any of the many readers of THE CANADIAN BEE JOURNAL tell us whether or not anyone has yet tried to fasten foundation in sections by means of a saw-cut all around the inside in the centre of the section? If so, who tried it first, and when?

* *

The Ohio State bee-keepers are doing big things in the way of a bee and honey show at the State Centennial, which is to be held at Columbus, Ohio, from September 4th to October 10th. Their prize lists foot up to considerably over \$300. It is probable that the annual meeting of the North American Bee-Keepers' Society will be held in Columbus during the exposition, so that the next meeting of the Association will have a double interest. In speaking of this exhibit the editor of *Gleanings* says:—"Our Ohio people get up good displays of honey and implements and supplies in general for the apiary, and some of our Ohio exhibits have been equal to any I have ever seen anywhere, if I may except the Toronto Exhibition. The Canadians are proverbially a little ahead anyway. Maybe we had better get some of them to show us how, especially as this is our centennial year." Some of us will try and get there, but we expect to find an exhibit that knocks the Toronto Exhibition in the shade. If it does not it will not be

the fault of Dr. Mason and A. I. Root, who are working hard to make it a grand success.

OUR OWN APIARY.

GENERAL OBSERVATIONS.

SINCE our last writing we have had considerable cold weather and nothing more has been done in the bee-yard in the way of examinations, at least very little. Those colonies which we marked "to go over again" were seen to before the cold weather set in, and all were either given queens or doubled up. To-day (May 4th) the morning comes bright and warm, and we are in hopes now of another spell of settled warm weather. What we want yet is a good warm rain; what we did have was too meagre and too cold.

THE DIFFERENCE IN HIVES.

Our observations of last week with reference to the wintering qualities, placed the Jones and Combination on about the same level. Our decision was the result of our examination of the colonies wintered in our home apiary only. The reports from our two outside yards bring the results a good deal in the favor of the Combination. At both the outside yards, where we had a great many more bees wintering than in the yard here in Beeton, there were about equal numbers of Jones and Combination hives. The foreman reports that much less food was consumed and the hives were in a cleaner state, fewer dead bees, and things generally were in a better condition. He attributes this to the fact that there is less space in the latter than in the former, and in winter the temperature is more easily kept up, that it is more evenly distributed over the whole hive. Should the bees find it necessary to leave the cluster in search of stores, they are also less liable to become chilled.

TOO MANY BEES IN THE HIVE FOR WINTER.

This seems possible. Last fall when putting up the bees we had quite a number of Jones and Combination hives on which were one, two and three second stories. When these were taken off and the bees crowded down into the brood chamber, we had colonies on twelve frames and just overflowing with

bees. They had plenty of stores, and in a right temperature, would perhaps have come through in fine shape. By some means the temperature at the Richardson yard, where quite a number of these colonies were, got up to 70° in the very coldest part of winter; and this was not observed for several days. Of course as soon as possible this state of things was remedied, but not until these strong colonies had worked up to such a pitch of excitement that the spring found them extinct. Those with a fair proportion of bees passed through this rise in temperature apparently all right.

CLOSED-END FRAMES AND PROPOLIS.

Our experience during the past season and while examining colonies hived on closed-end frames this spring has not been favorable. We found that during the summer the hive in the hands of an experienced bee-keeper gave good results, but there was always more or less trouble from the wood screws shrinking and swelling. In our home bee-house we wintered only some fifty-two colonies having sold off all the rest of our stock the previous fall. Of these 16 in the Jones hive, 27 in the combination, and 9 in the Heddon—on two sections of brood chamber. It took the apiarist just three hours to go over all the hives of the kinds first mentioned, and he was the same length of time going over those in the Heddon hive, performing the same offices for them as in the former cases. With one or two exceptions the screws would not budge a particle, and it was almost impossible to get the frames out for examination, they were so fastened in place with propolis, evidently placed there after the bees had been put in shape for winter. After he got one frame out the rest was easy enough, and the biggest trouble was just at the start. The screws evidently swelled up in winter quarters, and there was no such thing as getting them moved. Probably had we been on the spot all the time an examination of the entire case might have been sufficient, but we prefer in spring time to have every frame handled by our assistants.

ENTRANCE AT FRONT OR END OF FRAMES.

There are those who prefer the entrance at the end of frames instead of crosswise. And there are perhaps as

many who are in favor of the latter. We must confess that we incline to the latter. There are good and bad points on both sides. It may be said in favor of having the frame hang with end to entrance of hive, that the bees have more ready access to all the combs; that ventilation may be made more thorough; and that when the hive is slanted as is sometimes the case the frames hang vertically, as before. We may now argue in favor of the crosswise entrances. That very little difference can be seen in the *actual results* between equally strong colonies when compared; that though the ventilation for summer may be more perfect, it becomes "drafty" in winter time, (and which is most important?) and then the small amount of tipping which is required at times may be performed without any very disastrous results, especially with fully drawn out and completed cells. If contraction is required in the spring time, it may be obtained much more easily, because of the fact that the rear combs, which contain probably neither eggs or brood, can be lifted out and put away. The wooden division board or dummy may then be moved up. With the entrance at the end it seems to us that two dummies would almost need to be used if you wanted to keep the colony in the centre of the hive. In the spring time surely the end entrances would be more chilling and drafty? On the whole probably as much can be said on one side as on the other. The decision of some of our most able and practical bee-keepers is that it doesn't make very much difference.

SALT AS A LUBRICANT FOR MAKING FOUNDATION.

A day or two ago it struck us to try the brine, and the starch and brine methods of lubricating the rolls of our foundation mills, and we must confess that we have not been nearly as successful as with our old lubricant—suds of a good quality of soap. The young man who conducted the experiments has been in charge of the Foundation Department for the last six years, and we can therefore rely on his decision for all we did not personally witness. We may say that we had, in former times, tried a good many experiments in the direction of a more rapid and perfect plan of run-

ning foundation, and we were pretty well content that nothing much ahead of our present mode could be found, and we have yet to find it. We made up a starch and tried that without brine, but did not find it satisfactory. We then added a little of the brine with about the same proportions as mentioned in *Gleanings* in its experiments, and made the application, but with no better final results. At first it did seem that it was a trifle more rapid, but much more trouble was found in making the joints in the sheets, and in getting this particular portion of the rolls. It is possible you will none of you understand what we mean by "joints," and we may do well to explain. In former years we have been in the habit of running sheets of section foundation about $3\frac{1}{2}$ ft. long and four inches wide. There was always a good deal of waste this way, and the foreman conceived the idea of joining the plain sheets just as they were going through the press. The plan worked well and we now run out sheets of section foundation from 100 to 200 feet long. This may serve as a pointer to some of our friends who make foundation. Of course, this refers only to section. But to come back. The sheets would stick to the rolls and a great deal more "picking" was required than formerly. Then brine alone was tried, but with even worse consequences and more trouble. Perhaps we did not go at it rightly; at any rate we couldn't make it work. In that accidental experiment which brought the salt process to light there had been, if we remember rightly, pork packed during the winter. The water would consequently be greasy. Would not this grease have had some effect, and assist in making it work easily? But was the experiment carried so far as to submit sheets of foundation so made to the bees to see whether or not they would accept it?

THE WEEK'S WORK.

During the past week our foreman has had entire charge of our three apiaries. In the spring at this time, one man can as well look after 200 or 300 colonies as 50. After selecting a number of strong colonies for drone rearing, he went over them and put a card of drone comb in the centre of the brood nest, thus inciting the colony to work in the direction of drone-rearing.

WORK FOR THE NEXT WEEK.

As the brood in the different hives mature he goes over the colonies and changes the combs containing larvæ to the centre of the brood-nest, putting the frames of sealed brood on the outside of the nest. This will be continued right along for the next week or two, on all warm days, when it is found necessary.

ROBBING.

There has been considerable inclination to rob, but the robber-guard, as constructed by our Mr. Bray, prevents this most completely, when the robbing is noticed. We will have an engraving of this robber-guard made, the more clearly to explain it.

A LITTLE HONEY COMING IN.

Pollen has been gathered freely from soft-maple, elm and tag-alder, as also a little honey from the first-named.

How to know When Bees are Getting Honey.

THIS is the substance of a question asked in the *Apiculturist*, and the reply is given by G. W. Demaree. His ideas seem to be so well to the point that we publish the paragraph in which his reply is given:

"Last fall after the long heavy drought we had some light showers, and the nights became more pleasant. This started the fall bloom, and the trees began to gather some honey. One day a friend in the bee business visited me while I was looking through my apiary, and after some compliments said: "Are the bees gathering any honey to-day?" I answered yes. "Well," said he, "I hardly see how it can be, there are very few flowers yet." "Few flowers or not," I went on to say, "don't you see how those bees strike the alighting board short of the entrance and drag their bodies as they glide into the hive? They fairly glisten with their well-filled sacs. Some of them fall short of the mark and drop on the ground. This proves that they are heavily loaded. Now stand at the ends of the rows of the hives and look steadily down between the rows and you will see the bees as they leave the hives shoot out through the circling throng of returning bees, like bees shot from an old musket." "Yes." "Well, bees never leave their hives in that way unless they are gathering honey rapidly or carrying on a system of robbery somewhere." "Well," said my friend, "that is very feasible, but let us open some hives and see what

they are doing." So we opened hive after hive and found the freshly gathered nectar in abundance.

From the Canadian Bee Journal

NORTHERN MICHIGAN PROSPECTS.

PROFESSOR Cook, in his apicultural gem, states that Northern Michigan offers inducements to the apiarist rarely equalled except in Texas or the Pacific States. The worthy professor, however, does not state the serious drawbacks to our chosen pursuit in this section. There are verdant oasis of hardwood and wild flowers that tally exactly with his descriptions, but a great portion of three counties (Alpena, Presque Isle and Cheboygan) are jack-pine barrens and swamps valuable to the pine baron and the cedar dealer. Then the magnificent basswood trees that grow here furnish bloom on an average only three days per annum. Friend Smith and myself came to this conclusion some time ago, and resolved to ask the contributors to C. B. J. (who live in latitudes parallel to the Straits of Mackinac) if the basswood flow was equally as short. In the latitude of Port Huron the flow of nectar is longer and more abundant. I have noticed this deficit with the basswood trees located near the streams of which there are many in this country and which we are told is ahead of high ground for basswood nectar. The maple sugar sap flow is not so copious, or does it last so long as two hundred miles farther south during maple sugar season, and the reason of this is that our four feet of snow prevents the ground from freezing. I have no great cause to complain, however, of the nectar flow from the maples, and only regret that the working forces of the hive were not greater. Raspberry and clover must ever constitute the main supply with us. I have not seen much of your Canada thistles, and would not cry much if I did, as I am no farmer, but of course the thistle will keep away the moment he discovers his usefulness, and then of course "it is gone," as was your Letellier St. John with Premier Sir John. The greatest drawback of all is that we are exposed to the cold sweeping winds from Lakes Michigan and Huron, and also to the miniature icebergs from Lake Superior—Longfellow's "Gitche Gummo," which come within hailing distance of our eastern shores during April and early May on their passage to Detroit. Had I known the country just as well as now I should have selected the line of the Michigan Central, but that (owing to the narrowness of the Northern point of the southern peninsula) does not ward off the evil.

When I tell you that the bees deserted the sections for the body of the hive during some days in July and August, some of our drawbacks are apparent. James Heddon once declared that our section was not as good as that of southern Michigan for honey, and I don't now dispute him in the least. Knowing these to be facts, I had decided to confine myself exclusively to producing extracted (although it is like pulling teeth to sell it) and a person must adopt the tactics of McKnight if he wishes to produce much "l'argent," as our natives term it. Mr. Heddon told me that he had a new hive which would fill the bill, and I have been agreeably surprised with it. Henceforth I shall use them exclusively and I think the best strain of the Brown German, as the whiter the comb the better the honey sells. I don't want any more extracted honey on my plate. The store-keepers up here say: "Oh, I tried to sell some once, but I had almost to give it away, as the purchasers thought it was adulterated!" Last summer I put on an empty case on top of that the bees were working in, filled it with paper and rags, and it seemed to retain the heat and keep the bees in the sections during our cool summer nights better than otherwise. I hope that your new section supers will fill the bill in all respects. One thing is certain, that all systems admit of improvement, and he that thinks otherwise will probably find the motto of the age is "Excelsior." Bees commenced flying on the 25th instant.

GEORGE J. MOLONEY.

Cheboygan, Michigan.

For the Canadian Bee Journal.
A Report Showing Consumption of Stores per Colony.

FOUR years ago in June a friend made me a present of a colony of bees (hybrids) in an in an old Jones hive, so that I have not had a very extensive experience in the business. But as part of it, at least, may be of some interest to your readers, I herewith give it as briefly as possible. I use the improved Langstroth frame $17\frac{3}{4} \times 9\frac{1}{2}$ inches outside measurement; and my hives contain eight frames, but Nos. 15 and 16, and they hold ten frames. Last spring I commenced with eight colonies and increased to eighteen. I have an extractor, but so far I have taken nearly all my surplus honey in one-pound sections, which sell readily here at 15c. each. I cannot tell how much surplus honey I took last year, however I think my bees did fairly well considering the poor season. I use starters in sections and about one-half or one-third of a sheet in brood frames. Would

rather put in full sheets of foundation in brood frames if I could keep them from sagging or breaking down. I winter in a room partitioned off the cellar for that purpose. The room is under my dwelling, which is right on the main street. It is dark as night all the time, and the temperature was pretty steady all winter at 45°. I put them all in a row on two scantlings placed about eighteen inches from the floor so that the mice could not get up to the bees. You will notice that I weighed each colony about one month before I put them in the cellar, then again when I carried them in on the 28th November, '87, and again five months afterwards, as I carried them out to summer stands, and before I cleaned off the bottom boards. Colonies No. 5, 6, 7 and 8 showed slight symptoms of dysentery, and I put them out for a fly on the 16th of April and back again at night. I would like to Italianise some or all of my bees this season if I could do so without costing too much. I left bottom boards and quilts on and covers off with the following result.

No.	Weight 24th Sep. '87	Put in 28th Nov. '87	Put out 28th Ap. '88	Condition when put out
1	66 lbs.	65 lbs	Bees gone	Think bees must have left hive
2	55 "	52 "	41 lbs.	Good
3	61 "	59 "	45 "	Extra Strong
4	55 "	52 "	42 "	Fair
5	61 "	58 "	41 "	Extra Strong
6	53 "	49 "	35 "	Fair
7	58 "	54 "	39 "	Extra Strong
8	45 "	44 "	31 "	Good
9	60 "	52 "	42 "	Extra Strong
10	47 "	44 "	37 "	Good
11	44 "	41 "	34 "	Weak
12	54 "	50 "	40 "	Good
13	48 "	42 "	33 "	"
14	56 "	52 "	43 "	"
15	62 "	58 "	45 "	Weak
16	62 "	58 "	47 "	Good
17	38 "	38 "	37 "	Fair
18	39 "	37 "	33 "	Good

J. ROWAT.

West Winchester, Ont., May 1st, 1888

Leaving the first colony out of consideration, as the bees had deserted it you will find that the average pounds per colony consumed was somewhat under eleven. This is a fairly low average, and is about what one would expect when the temperature was kept in a pretty steady position. We are pleased to have your report in this way.

It shows up the result in an unmistakably plain way. We had the pleasure of meeting Mr. Rowat at Ottawa at the Provincial Exhibition, and enjoyed the short chat had with him there.

Allen Tringle in Canadian Live Stock Journal.

MAY AMONG THE BEES.

MAY is the month of inspiration and of opening life and activity, and to the apiarist the beginning of the honeymoon—that is to say, the season's honey flow.

Although April yields its pollen, it is not till May, usually, that the coveted nectar begins its annual flow from the fields and forests to the hives. But, promising and romantic, May sometimes has its prosaic drawbacks. In this climate if occasionally turns out cool and backward, yielding little honey, scarcely enough for the support of the bees, let alone a surplus for the bee-keeper.

By this time (May 1st), the bees are being removed from their winter quarters, at any rate in Canada and the Northern States. Those wintered outside, protected by packing and in other ways, had better be allowed to remain in their packing till the end of May, or until the weather gets warm and settled. They must, however, be overhauled now, cleaned out, supplied with food if necessary and then fixed up again comfortably warm. Those carried out of the cellar or other repository require similar treatment. The overhaul-and-fix-up should be done the same day they are set out, after they have had their cleansing flight, or as soon thereafter as possible. Sometimes the accumulation of dead bees and debris on the bottom board during the winter is so great that unless the colony is very strong the bees are unequal to the task of clearing it out, and getting apparently discouraged and disgusted with their unclean home they "swarm out" and leave. This is one reason for attending to them, soon after they are put out. Another is, they may require "crowding up," for it not infrequently happens that when they have far too much room and many more combs than they can cover, this, too, causes them to "swarm out" and leave their hive, especially as the change of temperature from the cellar to outdoors may be considerable.

In overhauling, instead of cleaning out each hive containing the colony, it is better to have one clean, empty hive ahead all the time. The frames, bees and all, can be then lifted from the occupied to the empty hive, clearing from the frames at the same time any dead bees or mold which may be adhering. And in transferring the colony from the one hive to the other

keep out such empty frames as are not needed by the bees, and only give them the frames containing brood or honey—as many as they can nicely cover, and no more. Crowd these up snugly together—that is, leaving space enough between the combs (the brooding part of the combs) for the bees to pass freely. Some, of course, will require more frames than others, depending on their strength—from, say six to eight frames for the strongest down to one or two for the weakest. The frames taken away from them can be added again from time to time as they require them.

Having adjusted the number of frames to suit the strength and condition of the colony, leaving them plenty of food, and crowd them up in snug shape, pack them up around and on top as warmly as possible to retain the heat, and contract the entrance to small dimensions, both to keep the heat in and the robbers out. As work progresses, the entrance can be enlarged as required. In covering the frames in spring with the winter quilts, I often spread newspapers between them to more effectually retain the heat, and leave them on sometimes till the middle of June or later, till the weak colony gets thoroughly built up and ready for swarming. Keeping the bees warm in spring is one of the most essential conditions of getting them through safely and avoiding the dreaded "spring dwindling." At this season of the year they are, or ought to be, actively brooding, and as the old bees are dying off rapidly, the temperature of the hive is very apt to go below what it ought to be for the safety of the young brood. The result is "chilled brood", and probably the loss of the colony. This point needs emphasizing, especially with beginners, and even those with more experience. By all means keep the bees warm in the spring. Some days and nights will be warm enough for the brood without any extra protection, but there will be occasionally cool days, and even cold nights, when the brood will get chilled unless it is properly protected. How can this be done? In any way by which the escape of the heat from the hive can be prevented. Remember, you cannot supply the bees with heat from without, further than that imparted by the sun for a few hours during a warm day. But you must direct your efforts to prevent the escape from the hive of the animal heat generated by the bees themselves. True, when you supply them with food you indirectly supply them with heat, the food being the source of the animal heat. Where the colony is very strong in numbers they are able to keep up the necessary degree of heat, by increased consumption of food, without extra protection. But it is hardly

safe to place much reliance upon that fact, for there are, comparatively, but few such colonies at this season, and hence the necessity of extra protection. Besides, a colony may be very strong in numbers just after being set out of the winter repository, and in the course of a very few days be very weak in numbers. This may be due to the fact already noticed, that the depopulation sometimes goes on very rapidly after the old bees have once begun active exercise on the wing.

I have found the following an effective and inexpensive method of spring and fall protection for the bees: I make "skeletons" of rough lumber larger than the hive, so as to set loosely over it, slanting back a little so as to shed the rain, and fill or pack the spaces all round with chaff or sawdust. Above the frames are placed, first the summer quilt, and over this the winter quilts or sawdust cushions. Movable roofs—shingled or otherwise—may be made to fit over the skeletons to keep all dry and warm. These can be lifted off at any time when necessary to examine the colony. They also answer as shades in hot weather.

The honey gathered in May comes mostly from fruit bloom. The maple, willow, alder, dandelion, etc., yield more or less according to season and locality. But the apiarist need not count on any surplus in May. When they get enough to support themselves and their brood through this month they do very well. Often they do not get enough for that, and must be fed. I had occasion one season to feed my bees right up to the clover bloom, which commenced that season about the 10th of June. There is sometimes more danger from starvation about the first of June than during the winter. Between the fruit and clover bloom there is little flora in Canada to fill the gap, and at this time the colonies short of stores must be watched, especially should the season be unpropitious. A full colony of bees freely breeding will consume more food per diem than a novice would imagine, and under such circumstances, when there is no honey coming in, such a colony would very speedily get away with a dozen pounds of honey and starve. Nor will the average colony of bees breed freely when no honey is coming in, and the supply on hand is all deficient, unless stimulated by daily feed. And this brings us to

SPRING STIMULATION,

which has both its advocates and its opponents. They are both right and both wrong, inasmuch as feeding to stimulate brood-rearing is, under some circumstances proper, and others improper; sometimes wise and sometimes otherwise.

When the colony has plenty of stores and a good queen, stimulation is entirely unnecessary—perhaps worse than useless. But when a colony is backward when it ought to be rapidly coming forward—from shortage of stores, inferiority of queen, or other cause—artificial stimulation is useful. A little liquid food, supplied daily (in the evening to prevent robbing) will have a magical effect in hurrying up such colonies.

The prime object in spring management is to get every colony strong in numbers by the time the clover honey flow commences, and not much before that time. As this particular period varies with season and locality, no amount of chronological calculation will enable us to hit the mark every time. I find, however, that in this district it is pretty safe on an average to make the middle of June the objective point of time. But it is well to remember that it is much better to come out with your working force a little ahead of the flow than behind it.

From the English Journal of Horticulture.

FERTILE QUEEN INTRODUCTION.

THE art of queen introduction may be explained by considering the subject under two heads or cases—*a*, A stock of bees queenless; *b*, A queen subjectless. A stock of bees may become queenless naturally or accidentally, or may be made so artificially. Among the former cases a queen leaves the hive and is then subject to the dangers of being destroyed by birds, insects, or reptiles, or it may miss its way or it may not be hived, &c. It may die of old age or disease, or may become a prey to some parasite. The weather, the time of year, or a lack of drones may be against the successful union of the sexes, and so make the queen useless and worthless—merging into so-called fertile workers.

Amongst the reasons for artificially depositing the queen may be mentioned the desire for a queen of greater prolificness, bees of greater amiability or other qualities, or of a different race.

When bees discover that they are queenless (either artificially or naturally so made) they at once set upon the work of raising a queen from any worker larvæ not more than three days old, provided virgin queens are not being raised. If they are rendered queenless while eggs or larvæ less than three days old are in the hive, and they begin to raise queens or build queen cells upon those, it is difficult to queen them, but still this is possible. The queen cells should be allowed to develop until a day or two before the queens are likely to hatch, and should then all be cut out—*i. e.*, the queen cells, and the place brushed

over with carbolic acid solution except one cell, upon which the alien queen might be caged after the larvæ or nymph has been destroyed. The queen may be liberated at dusk the next day. This deceives the bees so far as we are able, and causes them to believe their own endeavors have been successful.

There are objections to cages of all kinds—*e.g.*, the queen is confined, and so valuable time for egg-laying is lost; but this must be sacrificed for safety by this plan of introduction. There is an alternative method for those who object to cages, but which from very careful experiments I cannot do otherwise than condemn; in fact, I have not had a single success by it, nor have I known one by any of my friends who are keen and careful observers. It has been denominated "Pond's," sometimes "Simmins'," method; at present I have not time to describe it. I will, however, say, as "Felix" has just been treating on the subject and giving instructions for doing "Pond's" or "Simmins'" (?) system and in no instance did I find the queen missing on the third day though fully half were on the tenth day; therefore the system seems a very valuable one for queen dealers, as they can guarantee safe introduction, telling their customers to look on the third day to be sure, and yet prepare to send them another on the fourteenth, by which time she will be lost in some unaccountable manner.

Often these queens will drop a few eggs, and through some peculiar instinct of the bees these eggs are often, if not always, selected to rear the fresh queens from; therefore if the apiarist is busy, and does not happen to frequently examine the hive, taking things for granted, he will have a hybridised daughter reigning, and think she is the one he introduced, if he had not marked her. I might also say I have several times, upon the ninth day, found the poor queen upon an outside comb in a starving condition quite alone. Upon microscopic examination, in a few cases, a very poor condition of the ovaries has presented itself, through neglect by the subjects, although in other cases neither neglect nor disease could be traced. Moreover, I have for some years, upon quite a number of occasions, tried the "Hallamshire law," and having tried this at various periods of the year, I can truly say, provided the instructions are faithfully carried out, a "fertile" queen presented, &c., I have never found this method fail, and I have staked some expensive and pet queens on it. I do not, however, like the idea of withdrawing all the new laid eggs and unsealed brood, which is so very necessary, but "the shortest way across is the longest way round." Nevertheless the Hallamshire law is based on natural lines, while the other cannot

be reconciled at all, except that we might consider the alien undergoes such a state of subjection, or fright, and hunger, that she is glad to set to board and lodging, but this we can plainly see drives her into such a gone-back egg-laying condition, that she is, sooner or later, rendered quite unfitted for her motherly duties.

I have been very successful by a method that can be used at any time of the year—I allude to the method of shaking the bees off their combs in order to get them into the condition of a swarm. This exposes brood to the atmosphere unless performed in a manipulating house, but of course eggs could perhaps be fixed in some other hive in the apiary in the case of this method, as also in the Hallamshire law.

With regard to the Hallamshire law and the reason why bees prefer eggs or larvæ to raise their own queens rather than accept a strange or alien queen. I have often thought that the force of habit is too often either not recognised or overlooked in dealing with bees. All my experiments in faithfully trying Simmins' proposed method of queen introduction have resulted in the desired queen being "put out of the way" when means of raising a successor were present in the hive, for the bees have invariably raised a queen after their own will. I have carefully marked a few of those queens and have watched the proceedings of the bees most attentively; in fact, I believe Burnens could not have been more attentive, and the finale has each time been the same when eggs or larvæ have been in the hive at the time of introduction. As I have already stated, immediately the cluster is broken to withdraw the queen to substitute an alien the colony is disorganised. I might say I have never placed another queen on the identical spot the original queen was parading at the same moment of removing it. There is no doubt about the bees sometimes suffering the queen to remain within the hive apparently uninjured for a period of time when ushered in upon the Simmins' or Pond's system. This period I have not found to exceed nine or ten days; the poor insect gradually moving from comb to comb to the outside of the cluster, there to perish and be carried out of the hive, though sometimes it is highly probable it may leave the hive alive through lack of homage. I have observed the bees carrying the deceased queen out, and I have seen the queen take refuge from one hive to another. It may be interesting for me to relate that I have on these occasions found alien queens so acting in this latter manner, and that in each case, although the queen entered another hive, a few bees seemed to accompany, but their courage or love seemed to falter as they clustered on the

handle of a garden spade, on a post, and on a pea stick on each occasion respectively. In each case the alien was balled on the floorboard, and no doubt would soon have been despatched had I not rescued them. As they receive so little homage they thus quickly present the appearance of non-laying queens and are nearly as capable of flight, as no partly or wholly digested food is offered them (the food bees feed the queen with being about the same as they feed to the brood.)

But why is she superseded? It is no use saying dethroned, as she never had the honor of reigning. Of course I am now speaking about alien queens, and if she was in a stimulated condition eggs would be deposited or dropped, and while there is an egg in the hive (whether queen cells are present or not) the bees will try to develop it into a queen, so that if the first started cells were on the old brood the new queen might destroy them as soon as they become nymphs. Then if she left the hive in disgust or because she got no homage, why of course a daughter of hers takes her place.

I have found by repeated experiments that as soon as a queen is taken out of a seam of bees, operations are commenced to raise a mother bee, and by even placing the queen on to another frame these operations will be commenced. Sometimes she will then be crushed to death. By means of the so-called dummies a number of queen cells may be started and completed in the same time, providing each cluster is separated. I do not mean cork packed or great thick dummies, but perforated zinc. The main point being to place the queen on to a different frame after a few eggs are laid in a few cells. But why is she not destroyed on the new frame? Simply because the whole family is working in natural harmony or habit. It is the habit for the queen to move from frame to frame; but mark well, it is not the habit of the queen to do so until the whole of her business is transacted upon that particular frame, hence the break appearing it is the habit of the bees to perform the operations of raising a new queen. During the summer so many of the brood cells become clogged with stores that the queen wanders from comb to comb, which causes the same thing to be done, hence the swarming fever. The queen gradually becomes of a non-laying appearance and quite capable of flight, owing to the want of the necessary amount of feeding and attention she should have to keep up her former state, and leaves the hive as an insect a little removed above the habit of a worker. If this is not so, for why do they do it? Moreover, no attention is paid to an alien, as it is not her, or the custom,

fashion or habit, for queens to be carried from one hive to another.

Now, suppose there are no eggs in the hive, how can the bees raise a queen? They cannot do it. 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—i.e., in a disorganised state.

Now, 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. If this death happen at a time when fertilisation cannot be obtained the hive died out, or else should a fertile queen, say at mating or swarming time, fly to this hive, the habit is (we challenge anyone to contradict this) that this queen is accepted. Hence the Hallamshire law is on natural and correct lines. I have no hesitation in saying from my own experiments 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 Hallamshire law.

QUERIES AND REPLIES.

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

QUERY No. 184.—Should bees have water given them while in winter quarters, or when they can fly out, and if so, when and how often?

M. EMIGH.—I don't think they need any water given them.

PROF. COOK.—I think there is no use of giving water in winter.

DR. C. C. MILLER.—I never give mine any, but it is possible it might be a good thing.

O. G. RUSSELL.—I don't think it is necessary while in winter quarters. When they can fly out they will supply themselves with water.

G. M. DOOLITTLE.—I do not practise giving bees water in winter, as several trials have

proven that as far as I am concerned it does not pay.

H. D. CUTTING.—Bees packed on summer stands do not require water given them. Cases have been given where bees in cellar have been benefitted by giving water.

S. CORNEIL.—I am not certain. I have pushed under the cashions four-ounce oval bottles of water having a wick in the cork, and some stocks took the water very freely, but I did not follow the matter up closely enough the next summer to know whether these stocks were better than others or not.

ALLEN PRINGLE.—Ordinarily in winter quarters there is no need of watering them, but when you notice an unusual uneasiness amongst them which you are unable to trace to any other cause (such as disease, too high or low temperature, etc.) you can try watering them by means of a wet sponge, and if you find the water quiets them you have the evidence before you that they needed it. Of course in the summer water ought to be accessible to them.

QUERY No. 185.—How high a temperature can bees be wintered in successfully?

M. EMIGH.—50°.

H. D. CUTTING.—I don't know.

G. M. DOOLITTLE.—An even temperature of 45° I consider the best for wintering.

O. G. RUSSELL.—If the cellar is dry, about 40°. If damp, I think about 45°.

DR. C. C. MILLER.—I don't know, but I should feel afraid to have my cellar kept above 50°.

PROF. COOK.—This is not definite. I suppose it is meant in the cellar. If so, I do not think it is safe or well to have temperature above 50° F. I prefer to keep it about 45°, or do not mind if it runs down to 40° or even 38°.

ALLEN PRINGLE.—I have had no experience above 60° Fahrenheit; but according to some of the accounts I have seen in the bee journals they will come through all right at a temperature a little below that required to roast a leg of mutton.

S. CORNEIL.—My bees become uneasy when the temperature exceeds 50°, but with a pure, dry atmosphere they would probably stand a higher degree. Mr. McArthur, of North Toronto, showed me a few days ago a hive within a few feet of a furnace which he uses occasionally for warming up his bee cellars, which are divided into three compartments. There is no screen between the furnace and the hive. When there is a good fire on the bees crawl out through an opening under the quilt and cluster on the outside of the hive, and when the temperature goes down they crawl back again. They seem to be wintering well.

SUNDRY SELECTIONS.

ANOTHER REMEDY FOR BEE STINGS,

FRANK PIER.—The following recipe is one which I think it would be well to insert in the C. B. J. for the benefit of all bee-keepers not acquainted with it to alleviate pain in case of bee stings. Moisten a piece of alum and rub the wound, and the effect will be felt at once. It may have been published before, but I do not remember seeing it.

Arva, April 26, 1888.

This is much the same remedy as is employed by the barber when he accidentally makes a gash in your cheek. It is possible that it might be efficacious.

G. J. PEARSON.—I promised you as soon as I got my bees out of their winter quarters I would send you my report of last season's work. I commenced last spring with fifty-eight swarms, increased to 127, sold ten and gave two away. I extracted 2,600 pounds of first-class honey, and sold 460 pounds of one pound section honey. The bees were put into winter quarters on the 17th of November with 115 swarms. I took them out on the 26th of April, 114 colonies apparently all in good condition. I have not had time to go over them all them all yet, but had to stop meddling with them on account of robbing. Clarksburg, April 30th, 1888.

SPRING REPORTS.

J. HINTON.—I enclose \$1 for my subscription for BEE JOURNAL. I am not able to report much about my bees. I have six hives and they appear to be wintering well. My cellar is cold. It has ranged from 28° to 34° for the last two months, and the bees appear to be all right. I use an outside case, and I have them on in the cellar, and some sawdust on the top of the hives. I am sorry to say that I lost one by having it robbed. Last fall, on the 7th of November, on going up the garden after supper, I found the cases of the hive lying about, and on getting a light found the hive gone. After searching for a time I found it over the fence with the frames out, scattered all over, and the honey cut out and gone. I will leave you to guess how I felt, for I cannot tell you; but I will trap them if they try that game again this summer.

Sherbrooke, Que., March 5th, 1888.

PRESERVING MOULDY COMBS.

S. J. CHUBB.—Having lost a large number of bees during the winter, I have more combs than I shall use this season. Please tell me how they may be best preserved for future use. Most of them are mouldy and full of dead bees. Can anything be done to clean them?

Eversley, Ont., May 1st, 1888.

If the combs were particularly far gone, the best plan would be to melt them up and dispose of the wax. If there were not too many bees stuck in them, a good strong whisk might be used to brush them off. This would help re-

PRACTICAL BEE-KEEPER.

In time to begin season to go to the North-West in charge of 50 colonies of Bees. Apply to

The D. A. JONES Co., Ltd.
BEETON, ON T

BEEES FOR SALE.

One full colony of pure Italians, \$5.00; ten colonies, \$4.75 each; twenty-five colonies, \$4.50 each. Full colonies of Hybrids with queens from pure Italian stock, 50 cents less than Italians. Safe arrival guaranteed and references given when wanted. Address

JULIUS HOFFMAN, Canajoharie, N.Y.

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.



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 Foot-power Saws, Langdon Miter-Boxes, and Apiarian Supplies. Address

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

Headquarters in the West for Pure Italian BEEES & 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, 65 cts. Untested queens, in May, \$1.00; after, 75c.; six, \$4.00. Tested, in May, \$1.50; after, \$1.25. Write for circular of Bees, Queens, Sections, Foundation, etc. 5-3 mos. Address JNO. NEBEL & Son, High Hill, Mo.

PURE— ITALIAN BEEES FOR— SALE!

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 May. Safe arrival guaranteed. I shall do by all as I would be done by. Address

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

EGG KEEPING PROCESS

Best in America to preserve Spring and Summer Eggs for winter use. Will keep eggs good and sound for over 18 months; pays for itself on a few dozen. I have sold spring preserved eggs in winter for highest prices as quick as fresh eggs. Will do all I claim it to do. References given (as to the merits of this process) if required. Sent with full printed directions for \$3. Send money order if possible. Address either

E. HORLEY, Vienna, Ont., or 677 Chilton Ave., Detroit, Mich.

BEEES

ITALIAN BEEES and Queens, 3 frame 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. Ry or H. & N.W.R., (now G.T.) and by Dominion or American Express.

H. COUSE.

Cheltenham, Ont., April 5th, 1888.

BEEES! BEEES!! BEEES!!!

40 colonies bees for sale. These bees are in fine condition with lots of honey. Two-storey hives with eight racks in each story \$8.00 per colony. Single story hives with 12 racks \$7.00 per colony cash, or P.O. order to accompany order. Address

W. H. SANFORD.

Tottenham, Ont.

Reference Bank of Hamilton, Tottenham.

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.

Italian Queens, Queens.

Also bees by the lb., and all kinds of bee-keepers' supplies at rock bottom prices send for price list of 1888 now out.

R. F. SMITH.

BOX 72, TILBURY CENTRE, ONT.

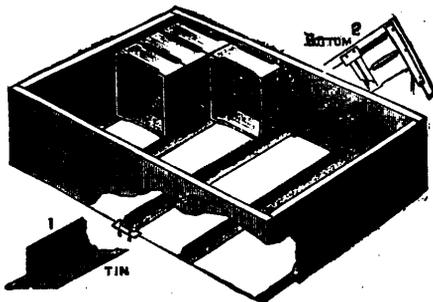
Formerly Smith & Jackson.

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.

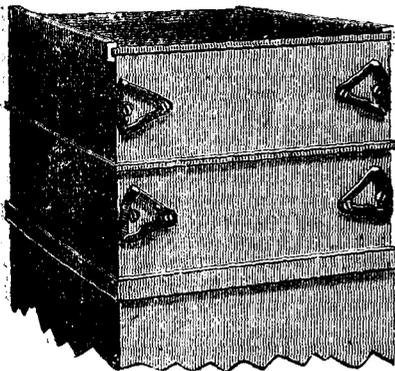


For this I super or any other bee-keepers' supplies send to **J. & K. H. MYERS,** Illustrated catalogue free. Box 94, STRATFORD.

OUR NEW Reversible Honey - Board

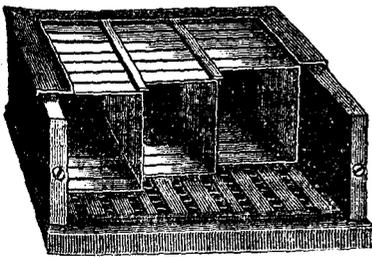
—AND—
SUPER REVERSER.

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.

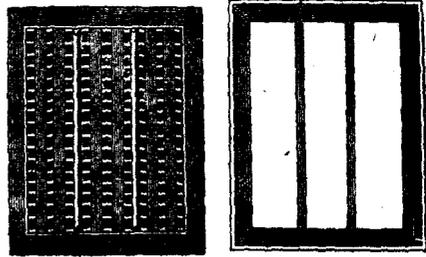


THIS ENGRAVING THE SECTIONS ARE SHOWN AS RESTING ON THE HONEY-BOARD WITH THE REVERSER COVERING THE JOINTS OF THE SECTIONS.

We claim for it:

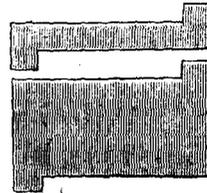
1. That section honey can be produced with less expense and with less handling than with other hives.
2. The great simplicity of the whole arrangement which adapts itself to the requirements of the merest novice as well as to the skilled apiarist.
3. It can be adapted to any hive in present use at very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



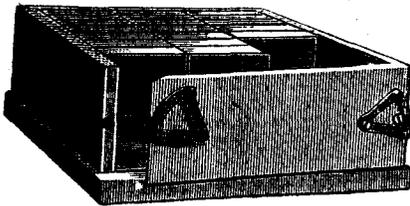
CROSS SECTIONS OF SIDES OF REVERSIBLE HONEY-BOARD AND REVERSER.

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 out 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.

		made up in flat	
Portable Supers each.....	\$ 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 to-day. 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, 13½ 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 4¼x4¼ 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, alcne, 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. (80c) 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.....	15
“ “ 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, 4¼x4¼.

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.

	MADE UP.	IN FLAT.
Honey-boards, each.....	25	22
“ 10 and under.....	22	20
“ over 10 and up to 25.....	20	18
“ over 25.....	19	17

QUEEN-EXCLUDING BOARD WITH METAL.

	MADE UP.	IN FLAT.
Honey-boards, each.....	30	25
“ 10 and under.....	28	23
“ over 10 and up to 25.....	27	23
“ over 25.....	25	20

REVERSERS.

	MADE UP.	IN FLAT.
Reversers, each.....	15	13
“ 10 and under.....	14	12
“ over 10 and up to 25.....	13	11
“ over 25.....	12	10

The super arranged as above holds 24 sections 3½x4¼x1½.

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., BEEETON, ONT.

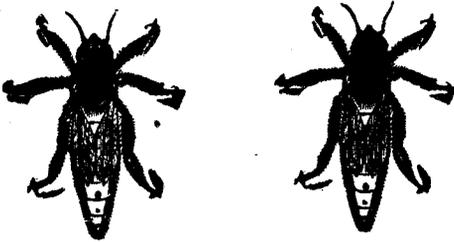
Manufacturers of and Dealers in Apiarian Supplies

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.

BEEES.

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	Garnishan 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.

BEEES 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 Chad 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 fourth thousand just out. 10th 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. COOK, Author & Publisher,
STATE AGRICULTURAL COLLEGE,
LANSING, MICH.

BEESWAX WANTED

Will pay 40 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. Wax worked on shares or for cash. All freight to Campbellville station C.P.R. If by mail to
ABNER PICKET,
Nassagawaya P.O., Ont.

Agent for D. A. Jones Co.'s supplies.

250 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 Bars, etc. Send ten cents for "Practical Hints to Bee-keepers." For circulars apply

CHAS. F. MUTH & SON.

Cor. Freeman & Central Avenues, Cincinnati

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.

Have You Seen It?

THE

BEE-KEEPERS' ADVANCE.

—AND—

POULTRYMAN'S JOURNAL.

Only 25 cents per year, sample copy free. Address

J. B. MASON.

McFalls, Maine.

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 bee-hives, etc. to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. F. &

JOHN BARNES 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