

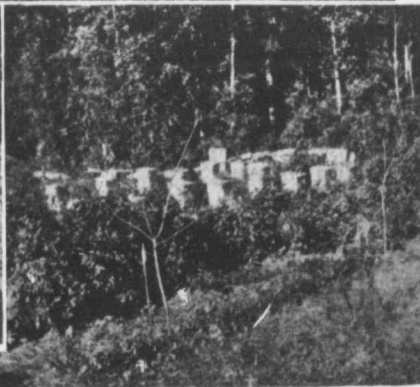
The  
**Canadian Bee Journal**

Devoted to the Interests of Bee-Keepers

Vol. 17, No. 6.

June 1909

\$1.00 Per Annum

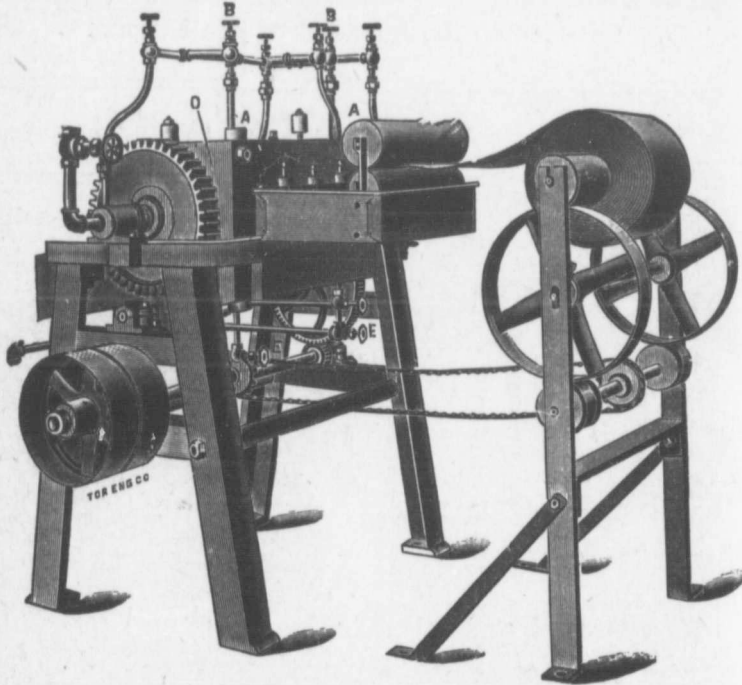


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# The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

Published monthly by

The HURLEY PRINTING CO.,  
Brantford, Ont.

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Brantford, Canada

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June, 1909

# The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA

Vol. 17, No. 6.

JUNE, 1909

Whole No. 532

We fear there will be quite a stretch between the close of fruit bloom and the opening of clover flow, during which the bees will gather little or nothing. If great care is not taken in feeding during this time there may be a lot of starved brood—or very poorly-fed brood. Brood that is poorly fed can easily be detected, and careful observation will show whether or not the bees are neglecting the brood. Well-fed brood is white, glossy and fat. Under-fed brood has a yellow cast and is dry and shrunken and lacks the white, glossy appearance. If this condition of affairs is observable, feed them syrup, about half and half. Do not feed large quantities at one time. Feed a little and often. A little precaution at this time will be worth many dollars later on.

◆ ◆ ◆

Mr. Byer refers to a very important matter in his Notes this month in reference to queens. We sometimes have experiences that knock some of our pet theories all to pieces. This spring we purchased some bees from a farmer in the country. We moved them on the farm of our friend, Mr. John Symington, about five miles south of Brantford. The bees had been taking care of themselves for about fifteen or twenty years. Requeening was something never attended to. The same is true of the bees owned by Mr. Symington. And yet a finer lot of brood from queens we have never seen. In our home yard we requeened last year. Every hive was given a young and vigorous queen from choice stock. We would naturally expect that the home yard would show some superiority in its brood chambers over those which had

run for so many years without care and without selection. Allowing for the better care our home bees received during the winter and spring, we can see but very little difference. We do not know for sure whether the queens are young or old, but at present writing they have five, six and seven beautiful frames of brood. The queens appear to be prolific and vigorous. The bees appear to be a cross between black, Carniolan and Italian—with black predominating. Mr. Symington put twelve away last fall in his ordinary farmer's root cellar, and brought them all out in the spring in good condition, but later lost one through robbing—and it was not a very weak one, either. Certain it is, we would not ask for better work from queens than we have seen from those under review. There must, of course, be old ones among them, and yet they have taken care of themselves for twenty years! Is it not possible that we often attribute to the queens faults that are the results of other causes?

◆ ◆ ◆

The C.B.J. extends its sincere sympathy to brother W. Z. Hutchinson in his illness, and hopes for a speedy recovery.

◆ ◆ ◆

Mr. Byer deals with absorbent and sealed covers, and brings evidence to show that in his locality Mr. Root is wrong and Mr. Cogshall right: "A few years ago, during an excessively cold winter, nearly all the bees around here perished under sealed covers, while those with absorbent ones came through in good shape." This tallies with our experience.—D. M. Macdonald, in "British Bee Journal."

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Mr. Alpaugh, dealing with spring dwindling, blames sour stores and ice-cold water as two predisposing causes; so he heats his water, as has frequently been advised on this side. Further, he has 'his to say of the water he supplies in spring: "To every pail of water I add a small handful of salt. I believe this salt will do more towards keeping the bees free from disease than anything else you can give them. When I first started giving salt I had two drinking-troughs, one salted and one fresh water. I found they would not touch the fresh as long as they could get the salted." The fascination shown by bees for saline water about manure-heaps may be due to the greater heat as well as the salt taste.—D. M. Macdonald, in "British Bee Journal."



Keep your eyes on the toads. One of the hives we bought this spring was an old chaff hive. It was set down hurriedly on four bricks. It had very little alighting board space, and we foolishly placed a board in front of it for this purpose. On visiting the yard on June 3rd we found that it was about depopulated, while it had been quite strong on May 25th. That the bees had been there was evidenced by the great abundance of capped brood. We took this as an evidence that abundance of bees had been there until very recently. There had been no robbing. It was clearly a case, therefore, of the bees having deserted the hive and gone to another one—a thing most unlikely where there was so much brood—or else the bees were being destroyed. We therefore looked for the cause. We think we found it. Here was a large, fat toad perched up at the entrance, which started to hop away as we disturbed it. It is needless to say we were not slow in giving him his quietus. We are of the opinion that it had eaten about one-third of the bees of that hive. Hives should be elevated sufficiently to be beyond the reach of toads.

My opinion—I think the common opinion—has been that, on the same journey, a bee gathers both pollen and nectar. So high an authority as Gaston Bonnier says that the same bee gathers only pollen or only nectar or only water or only propolis.—Dr. C. C. Miller, in "Gleanings."

Editor Root adds:

Our bees are busily working on dandelions. We can see the pollen in little lumps hanging to their legs, while their abdomens are very much podded out, indicating that they have gathered considerable honey at the same time. If both honey and pollen are present in the same blossom, it would seem very strange if the bees ignore the honey and take only pollen.

On June 3rd we followed a bee in its work on dandelion, and noted particularly all its movements while passing from flower to flower. It sunk its head and tongue down deeply into the flower, sipping up any nectar that was to be had. At the same time we noticed clearly that the pollen was gradually adhering to its legs as it moved to and fro. We feel perfectly safe in saying that the bees do gather both pollen and honey at the same time.



Here's to you, brother York! May you guide the destinies of the "A.B.J." another twenty-five years! Yours is an A1 journal, fearless and independent. More power to you!



All subscribers are valuable, but all are not of equal value. Those who have ideas to express and who write to the editor occasionally are the most valuable kind. The one who protests against certain editorial practices or policy is just as great an asset to a publication as the one who congratulates and selects certain features for special praise. Both these classes rank with the class which writes letters for publication. The least valuable subscriber is the one who never says anything which the editor or his fellow-subscribers may hear.

In America, too often, when a subscriber differs with the editor he simply pockets his disgust and cancels his subscription. In Great Britain the usual

custom is to combatting his printing better method inclined to offish." We if we disagree seldom try issue. We writers.

If Canada unified ratio an interchange ple of the va those who h pirations and is in a better exchange of Courier." H ence on any "Canadian Co Substitute "Canadian Co you have our not follow th mits his reader that those op He desires to many of his re they agree or c as an equal o to discuss any is a difference not quarrel wi notes healthy a as a result the mately nearer.

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Journal, says: "In a recent assertion that s cient to clear ou The Editor in and says, 'I ent l, in turn, disag ment, and give this and the oth contention. Dr. teriology, in Ap 'Use no bee-sup apiary unless the fected.' Just w ways safer to all a new hive or thoroughly disinfect

custom is to write a letter to the editor combating his views, and insisting on his printing it. The latter is much the better method. In Canada we are rather inclined to be American and "stand-offish." We agree or we disagree, and if we disagree with the editor we too seldom try to discuss the question at issue. We are not a nation of letter-writers.

If Canada is to be great and to have a unified rational opinion, there must be an interchange of views between the people of the various sections and between those who have opposite or diverse aspirations and ambitions. No periodical is in a better position to facilitate that exchange of opinion than the "Canadian Courier." Hence we invite correspondence on any and every national topic.—"Canadian Courier."

Substitute "Canadian Bee Journal" for "Canadian Courier" in the above, and you have our opinion exactly. It does not follow that because the editor permits his readers to express their opinions that those opinions are necessarily his. He desires to get the view-point of as many of his readers as possible, whether they agree or disagree with him. So long as an equal opportunity is given to all to discuss any question upon which there is a difference of opinion, readers should not quarrel with the editor. This promotes healthy and helpful discussion, and as a result the truth is brought approximately nearer.

**DISINFECTATION OR NO DISINFECTATION**

Mr. D. M. Macdonald, in "British Bee Journal," referring to The Canadian Bee Journal, says:

"In a recent extract I ventured the assertion that simple **shaking** is insufficient to clear out the dregs of foul brood. The Editor in March issue quotes me, and says, 'I entirely disagree with you.' I, in turn, disagree with his pronouncement, and give emphatic testimony from this and the other side in support of my contention. Dr. White, expert in bacteriology, in April 'Gleanings,' says: 'Use no bee-supplies from an infected apiary unless they are thoroughly disinfected.' Just what I said. 'It is always safer to allow the bees to go into a new hive or a hive which has been thoroughly disinfected.' Just what Mr.

Cowan has ever taught. Mr. Root is equally emphatic on this feature. His words are: 'Too much emphasis cannot be placed on this point. Our own experience has demonstrated that foul brood could be (and has been) communicated by the hive alone. All hives should be disinfected.' Mr. Hurley should fall in line!"

Such an array of authority does seem formidable. I lay no claim to be an authority on this matter. Experience is my only authority. And I cannot refrain from still believing that old hives may be used without disinfection. I have Dr. White's bulletin No. 75, part IV., before me. In this he says: "Some preliminary experiments have been made, but the results do not indicate that drugs, in the treatment of this disease, have the value advocated by some English writers." I remember the launching of the formaldehyde cure, and its subsequent miserable failure. Now as to disinfection of hives and frames, it is my firm belief that when the diseased combs with their contained honey are taken from the bees, and subsequent robbing therefrom is absolutely prohibited, the four-day treatment on starters and subsequent sheets of foundation will effect a permanent cure with the use of old hives, without any disinfection whatever. It has been done thousands of times, both in the United States and in Canada. It is true that Mr. E. R. Root expresses an emphatic opinion that "foul brood can be (and has been) communicated by the old hive alone," but I doubt very much the absolute certainty of it. With so very many opportunities for the bees reaching infected honey, and the possibility of their taking some of it with them from the starters, I cannot understand how one can say **positively** that it came from the non-disinfected hives. But Mr. Root says further: "While, 99 times out of 100, merely shaking on to foundation is perhaps sufficient, yet if there is one case in a hundred where disease is transmitted through the hive (and we have ample proof that there is), **all** hives should be

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disinfected." My comment on this is that the exception should prove the rule!—especially when the cause of that exception is not absolutely known. But Mr. Root adds one more sentence to the above, which, in my opinion, has special significance. It is this: "And we are glad to note that our Government officials stood out square and clear on this proposition." Why glad?

Our Provincial Government here in the Province of Ontario is assisting the bee-keepers of the Province perhaps as well and as generously as any government in Europe or any State in the neighboring Republic, and the method pursued by all of its fourteen inspectors is that of shaking on starters and foundation, and disinfection forms no part of its formula. Not one that I know of disinfects old hives, and old hives are in constant use. The same methods are practised by the inspectors of the United States, notwithstanding the fact that Mr. Root declares "We are glad to note that our Government officials stand out square and clear on this proposition."

How square do they stand? How many are there?

With the exception of Dr. White, who among the inspectors stands for disinfection? Dr. White's statement is a careful one, with which I can find no fault. He speaks as a trained bacteriologist, in whose nomenclature disinfection is a familiar word. But his statement is not necessarily final, against the word and work of the active men in the field. Dr. White also says: "We do know that in foul brood it is possible to obtain bacillus larva from the honey, and we do know that when bees are fed the spores of bacillus larva in honey, American foul brood will appear in the apiary." Very good, but who first discovered it? Was it Dr. White, or some brother bacteriologist? On the contrary, when the announcement of this discovery was made, a certain bacteriologist gravely remarked that he would stake his reputation that it was not true! But when another bac-

teriologist more worthy of the name discovered that it was true, he declared that the man who made the discovery "was a Moses in the wilderness trying to lead the bee-keepers to a promised land," or words to that effect.

Now for the "Government officials that stand out square and clear on this proposition": Mr. N. E. France is reported to have said at the last National meeting at Detroit:

"I am not as old as Brother McEvoy across the water, but I have put in twelve years of inspecting and treating diseased bees. In the first year I boiled the hives, and if ever I saw anything that was sickening to a bee-keeper it was a lot of boiled hives. They all warped out of shape, and I found they were no use, and in later years no hives have been boiled or burned, and they are all in use today."

We quote again from the last National convention at Detroit:

"Mr. Mainwaring—We have been told by Mr. Taylor [The Hon. R. L. Taylor is inspector for Michigan] and others that it is safe to use hives in which foul brood has been found. I would like to know whether that is the universal belief, or whether there is any exception to that. I understand from Mr. Taylor that all that is necessary is to clean out an old hive and you can use it again.

"Mr. Taylor—I can't tell what the general belief is, but that is the belief in my house.

"Mr. Williams—Mr. Taylor speaks of using the hives again. Does that include using the frames over again?

"Mr. Taylor—I have. If you boil them thoroughly I consider it safe. In fact, I think it would be safe without it in the majority of cases, because the foul brood does not go up to the frames, and if I cut out the combs I would not be much afraid to use them just as they are."

Again, in answer to an enquiry by Mr. Holtermann in reference to this subject, at Detroit, Dr. White replied:

Dr. White—As far as I know, there has been no work done upon this line. The paper read that it would be safer to disinfect the hives, but whether it is necessary or not we do not know. If there were honey or burr combs containing honey left in the hive, it would be almost necessary to remove them.

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set the fruit, ar plants are laden red raspberries, rosy-cheeked ap

To attract these out of its abund nectar, loading until, with meas hie away home. when strolling a hen on her nest, have counted he you tell me exact how many fema those eggs?"

"No; I don't t "But we can d A bird's nest has but a bee has a egg, which we c



Now, friend Macdonald, is this "astounding"? This is the evidence, at all events, that I adduce to prove the faith in me, backed by my own personal experience. I am not an authority, and where doctors disagree I shall not attempt to decide. Possibly, however, my not being in the supply business may have something to do with it.

JAS. J. HURLEY.

### PARTHENOGENESIS

"What did you mean by that big word you used just now?"

"Well, you have seen something of fruit fertilization, and have read, 'Male and female created He them.' This applies to the animal as well as to the vegetable kingdom. You have perhaps watched a bee enter a bloom and come out with her body hairs covered with pollen-grains, which are the fertilizing dust from the anthers or male organs of the flower. Away through space she flies with 'cupid wings' till entering another bloom she unconsciously dusts the pollen-grains on to the stigma or female organs of the flower she visits, and, traveling down into the ovary, these pollen-grains set the fruit, and in due time trees and plants are laden with luscious fruit, ripe red raspberries, melting strawberries, rosy-cheeked apples, and mellow pears. To attract these insect visitors plant life, out of its abundance, spreads a feast of nectar, loading them with pollen-grains, until, with measured beat of wing, they hie away home. You have sometimes when strolling along a hedgerow seen a hen on her nest, and on peeping in you have counted her pretty eggs. Could you tell me exactly how many male and how many female chicks there are in those eggs?"

"No; I don't think I could."

"But we can do this in the bee's nest. A bird's nest has only one compartment, but a bee has a compartment for each egg, which we call a cell. These cells

are larger for the male than the female. Can you give me the size?"

"Yes; drones are about eighteen and the workers nearly twenty-nine cells to the square inch."

"Well, now, you see the queen-bee must lay every egg in the right cell—male eggs in drone cells and female eggs in worker-cells, and the Almighty knew what a wise provision He was making when He gave the queen the means to accomplish this end. It is this that we call parthenogenesis, which to the honey-bee is a real necessity. The word itself means reproduction without fertilization; which in plant life would mean that an apple tree could produce apples without pollen-grains being carried from anther to stigma. The drones are so produced in bee-life."—Joseph Gray, in "British Bee Journal."

### A NON-SWARMING IDEA

If you have a liking to try something new to prevent a colony of bees from swarming with one manipulation, then simply remove two combs (those containing the most honey) from the brood-chamber, and spread the remaining combs (use no dummies) evenly apart. In a ten-frame hive this would be eight combs in ten-frame space—about 1/8" from centre to centre. We have not tried the idea in an eight-frame hive, but we are confident it will work out all right, although the spacing would be about two inches from centre to centre. This extra spacing of six combs in an eight-frame hive we do not think would interfere with the practical working of the plan. Do the manipulating just before the clover honey-flow. If you have sufficient faith, try the plan and report.

A good deal is being said about shaking bees. Well, if you are going to shake 'em, shake 'em a good distance from the front of the hive, and give them a good long promenade home.

WM. BEUGLAS.

Plattsville, Ont.

### Notes and Comments

[By J. L. Byer]

Our preconceived notions and ideas often get rudely jolted when we are the least expecting it. Take the matter of queens, and while it requires no great amount of logic to prove that young queens are a much safer asset than old ones—the young may die, while the old **must**—yet sometimes these same old queens will surprise us in the way they show up. As regards this question of requeening, if I could always have things as desired, we would not carry over many that were over two years of age, but we generally manage to have quite a few over that age, and it is in that connection that I am led to make the following comments on this subject:

As the home apiary is in a section almost devoid of early spring feed, as well as fall pasturage, we often move part of the bees away, bringing them home again for the clover flow. In the fall of 1907 we moved eighteen colonies to a friend's place about four miles from home. Last spring they were all alive and seemed to be very strong when they first had a flight in the spring, but when I came to clip the queens in fruit bloom nearly all of them had dwindled badly. This was the only lot of bees that suffered that way, and, being at a loss to place the blame, I decided that the old queens were at fault, for on clipping—or rather **finding**—the queens, nearly all of them were found to be two years old. The season proved so bad that I never bothered bringing them home last summer, and they were left in the same place this past winter. We had calculated requeening a lot of them last year, but, through pressure of other work and a bad season for honey, the matter was neglected. Naturally we expected that these bees would be in bad shape this spring on account of the old queens in the hive, although we might reasonably expect some of them would be superseded. Well, somewhat to our surprise,

we found them in pretty fair shape when they were examined about the 17th of May. Out of the eighteen, fifteen were strong, two weak, and the other one was very populous, but had a young, drone-laying queen—no question but that an old queen was to blame for that misfortune. Of course, when we arrived at the place and saw how strong the bees were, we jumped to the conclusion at once that all those old queens had been superseded, but an examination proved otherwise, for among the fifteen strong colonies all had the same old queens but four. The funny part of the story is that both of the weak colonies had young queens. No, I don't blame the trouble to young queens, but it struck me as a strange termination to the ideas I had formed when I first walked into the yard. This is not given as an apology for having old queens in the yard—far from it—but it only goes to show that sometimes we are apt to blame old queens for causing trouble, when some other factor has been the disturbing element. In the case under discussion I can only incline to the view that the bees suffered by being covered over with snow so long a time, as was the rule in the winter of 1907-08. But then a whole lot of bee-keepers allowed their bees to be that way all winter, and then found that the bees came through all right. However, all the rest of my bees were kept pretty free from snow, and as the old queens have now proved an alibi, I have to blame the dwindling to something.

Here it is June 1st and apple blossom just nicely opening, with ideal weather conditions. For some reason, though, there appears to be little nectar in the bloom, although there is enough coming in to make work pleasant in the apiary. Bees are in fine shape, but there is not as heavy a field force as is the case some seasons at this date—this condition is no doubt accounted for by reason of the cessation of brood-rearing in late April. There was a heavy loss of the field bees

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during the cool weather in first two weeks of May, and, as there were no hatching bees to take their place, naturally the population of the hives decreased for the time instead of increased. Now there are hosts of young bees in the hives and, barring unforeseen conditions, the colonies should be in grand shape for the clover, which is late, and will not bloom with us for about three weeks yet, judging by its present looks.

Any bee-keeper who has any waste land available should not forget to set out some of the large-growing variety of willows when he is thinking of providing feed for his bees. I am not botanist enough to tell the best kinds, but with us we have at least three kinds of the large willows that are profuse secretors of nectar. The Golden Willow is a good yielder, but it takes second place to another kind that is largely planted around old mill-dams. When the weather is fit for the bees to fly, how it does yield nectar! Really, I doubt if the much-vaunted basswood can beat it. This spring one colony at home here drew out a half-depth super of foundation and nearly filled it with this willow honey during the few days that the willows were blooming. In color it looks almost as white as clover, but the flavor is very "herb-like." One taster compared it to soothing syrup; needless to say, he was a family man. I want to try and extract it when thoroughly sealed and see what the flavor will be like then. Perhaps it will be of value in the same way as the medicine that my friend compared it to. Any one wanting a sample for that specific purpose will know where to apply.

R. F. Holtermann says in "Gleanings" that bees used an unusual amount of stores during this past winter, on account of the mild winter. Not in our "locality," unless our bees were unusually heavy last fall, as I have just about finished making an examination of them all (June 1st), and in the lot I did not find

a single colony that was at all short—in fact, every one of them would have gone for two weeks, even if not a drop of nectar had been coming in. Say, during this past cold spring it was a deal of comfort to know that all were heavy with stores, and I want to remark just here again that the fellow who wants to stimulate during April and early May is at perfect liberty to do so, but as for this chap—well, please excuse me in the matter. I might say that for the first time in our experience we have found it necessary to take away combs of honey from a number of colonies—a very pleasant operation as compared with some former experiences, when we had to feed in the spring to avoid starvation.

Referring again to that colony that has stored the willow honey, I am reminded of the fact that last spring the same stock filled a large super with honey from willow, dandelion and apple blossom. This spring the same old queen is there, and, as may be surmised, the stock is one of the strongest I have ever seen for a late, backward spring like the present. Are they beautiful Italians? Not on your life, but on the contrary, as nearly as I can tell, they are a mixture of Carniolan and Black bees; not a thing of beauty, but a joy as long as the old queen continues to do duty, as, apart from being such hustlers, they are very quiet and nice to handle. Some one might say, "Breed from them," but I have found that there is nothing dependable in the progeny of mixed stock like this, as they are just as apt to be very cross and only ordinary honey-gatherers as they are to be like the parent stock. Not being able to control the drone side of the parentage, we will always be up against this difficulty in a yard of mixed bees. Speaking of cross bees leads me to remark that of all the cross bees I have ever possessed, the progeny of pure Italians crossed with black drones are the worst. The second cross is not nearly so bad, but these nervous little brats

with a single bright yellow band are the limit.

By the way, a year or so ago the writer was rather ridiculed for claiming that the nicest way to clip queens was to have a neat pair of curved shears and clip the queen on the combs without touching them with the fingers at all. This spring a number—about a dozen in all—have either written or told me that they were following the plan with perfect success. After you have had the satisfaction of having a good queen or two balled after being in your fingers, you will find the other plan to be really the best ever. Try it sometimes and be convinced.

The interest taken in the local Associations is a fair criterion of the state of the bee-keeping industry in the Province, and this spring these meetings have been well attended, with much enthusiasm in evidence. On Saturday, May 22nd, the York Association held their annual meeting in Markham, Mr. J. T. Storer, of Lindsay, being the chief speaker. He gave an address on "The Pleasures, Discouragements and Profits of Bee-keeping," as gleaned from a thirty years' experience. Mr. Storer was for a number of years foreman of the G.T.R. machine shops at Lindsay, and he stated that if he had given up the job sooner, he would have been better off in pocket and have enjoyed life better if all that time had been spent in keeping bees exclusively. The address was well received and many questions were asked the speaker. A large number of questions made up the Question Drawer, with Mr. Timbers in charge, and, needless to say, he handled them in the way he is so well qualified to do.

Resolutions were passed thanking the Department for the assistance being given to the industry, and a suggestion was brought up asking that the Apicultural Station import Carniolan and Italian queens, test them, and then send out desirable strains to members of the On-

tario Bee-keepers' Association for further testing purposes. Walter Scott of Victoria Square is next year's President, with D. Ramer, of Cedar Grove, Vice-President.

On Monday, May 24th, the Victoria County Association held their meeting in Lindsay, and it in almost every respect was similar to the York meeting, in so far, at least, as attendance and enthusiasm are concerned. Mr. Sibbald was sent there by the Department, and he gave two splendid addresses on "Introduction of Queens" and "Wintering." Resolutions of thanks to the Department were also passed here, along the same line as those of the York Association, and altogether a very profitable and pleasant time was spent. J. T. Storer is the President again, with Mr. Hopkins Vice-President and A. Noble, Cresswell, Secretary. Victoria County prospects are unusually good this year, as the bees are in good shape and the alsike is there by the thousands of acres.

#### A PROGRESSIVE BEGINNER

As an amateur apiarist I highly appreciate your suggestions through The Canadian Bee Journal to promote the bee industry in general. I will therefore tell you some of my ventures in apiculture, together with some problems that confront me, and will be glad for any suggestions that may further my interests.

My purpose is, then, to share the benefit of my experiments with the bee-keeping fraternity by reporting my progress through the medium of the C.B.J. occasionally. I became interested in bees by capturing a stray swarm, clustered on a grape-vine in our garden. I experimented with this swarm and frequently purchased more. My early experiences were confronted with a temptation to manage more colonies than my experience justified, also to experiment too extensively with new methods, which may have

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proved a success in some instances, but failed under my inefficient management. While some of these experiments were expensive, they have taught me valuable lessons, which I believe will prove beneficial in the future.

I feel assured I have pursued bee-keeping a sufficient time to have discovered any unpleasant features connected with it. Nevertheless, the pleasure it will afford me, together with the knowledge of having made it a financial success, seems to me an enterprise worthy of my best efforts and consideration. In fact, I am thankful my lot has fallen in such pleasant places.

As I am at present situated, it would appear commendable for me to devote my entire time to honey-producing, and I certainly believe the pursuit is worthy of such an undertaking. However, I am somewhat in doubt, although I am decidedly in love with the bees, whether the establishment and supervision of out-yards might not become a drudgery, whereas a combination of pursuits, well adapted together, would enable an individual to indulge in some of the many little comforts which are conducive to health and happiness. Will the Editor, or some of the progressive bee-keepers, assist me to solve this problem?

I have met with very few bee-keepers. I might say, a few years ago I suddenly lost my hearing, thus I am unable to engage in conversation. However, I am thankful for the privilege of enjoying the bee journals.

While the C.B.J. has been valuable to me in connection with bee culture, I wish to make special reference to an editorial item which appeared in the Christmas issue, and reached me at a time when our home circle was saddened by the death of our dear mother, whose affectionate smiles often lessened the pain when I was stung by an angry bee. I relate this instance to show how a kind word or act may be the dawn of hope to a sorrowing heart in the midst of despair.

I also wish to refer to Mr. Armstrong, who traveled through this part of Waterloo County last fall, and whose kind suggestions were highly appreciated by the few isolated apiarists of this vicinity.

JOHN W. HONDERICH.

Baden, Ont.

[Thanks for your very interesting letter. We are glad to be told that you have met with some success, and that apiculture is to your liking. You need not be at all afraid of undertaking an out-apiary if you feel that your home field is fully stocked. An out-apiary run for extracted honey can easily be attended to with one visit every week or ten days, provided you have ample supplies at hand for the work. An out-apiary of about twenty-five colonies to start with would lead you up to the task very nicely, and disclose to you your capacity and limitations for enlarging the work. You will find bee-keeping particularly interesting if you are deaf. A deaf person is necessarily pretty much alone. Your time cannot be occupied in a more charming manner than at work with the bees. We deeply sympathize with you in this, as we are similarly afflicted ourselves. It is one of our greatest regrets that we cannot attend conventions for this reason. We lose the discussion, the charm and interest and advantages of such gatherings. We feel this affliction the more keenly as we realize the great disadvantage it is in our work in conducting the C.B.J. Our acquaintance with our bee-keeping brethren would be much more extensive were it not for this impediment. However, we are not complaining. We trust that the secretaries of the various county associations will bear this in mind, and not forget to send us a brief report. We are particularly touched by what you have said regarding our Christmas greeting last December. A kind and sympathetic word will go as far to do good and carry comfort to some sorrowing spirit as a harsh and cruel slanderous word is capable of doing injury. We are pleased to note also what you say of Mr. Armstrong. He is a perfect gentleman, and we trust he will be kindly received by all bee-keepers upon whom he calls. He can be depended upon to do his work thoroughly, and can impart valuable information as to the handling of bees. Mr. Honderich, we will be glad to hear from you again.—Ed.]

June, 1909

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### CONSIDER THE BEE

[By Peter McArthur]

"Do bees pay?"

"They do. For the amount of the investment, and the labor required, they pay better than anything else a man can raise."

"Then why doesn't everybody raise bees?"

Those who are able to handle bees successfully always laugh at those who are not—the whole thing seems so simple to them. On the other hand, those who have tried and failed are liable to ruffle up when they hear bees mentioned, as if they could still feel the stings. In such a discussion an enthusiast on bees who has at the time of writing a cauliflower ear due to a bee sting may be expected to tell the truth. Therefore perpend.

Bees certainly pay, if given a ghost of a show. Any one who keeps an eye on the farmers' sales in the spring can buy good, strong hives for five dollars each. If he has the proper appliances, and gives the necessary attention at the right time, such a hive may reasonably be expected to yield ten dollars' worth of honey, at least two swarms, that, if properly hived, will each be as valuable for another year as the parent hive, and that may yield in the first year another ten dollars' worth of honey. As a handy man can make his own hives and can buy the fittings (frames for the honeycomb, pound sections, etc.) very cheaply, the actual money investment need not be large. The time investment is so small that it need not be taken into account—it can be credited to that indefinite part of farm work called "chores." Let us now see how this figures out. Expenses: Parent hive, \$5; extra hives, appliances, etc. (say), \$5. Returns: Honey, \$20; three colonies of bees worth \$5 each, \$15, total \$35; profit, \$25. Can you beat it? If a company were formed to handle bees on that basis the prospectus would be excluded from the mails, and very properly, for the business seldom works out

that way. A successful bee-handler seems to be born, not made.

"Don't you feel frightened when bees light on your hands and face?" a successful bee-keeper was asked.

"No, but I sometimes feel uncomfortable. Their feet tickle me when they walk about."

A farmer to whom this was repeated snorted: "That's just it. There are some folks that bees will walk all over without stinging, and others that they'll sting all over without walking."

For two weeks the writer moved about fearlessly and unharmed among ten hives of bees, and indulged in the beautiful moral reflections that the thrifty colonies are supposed to inspire. Their constant industry recalled in an improved version the words of the poet:

"How do the busy little bees  
Improve the shining hours  
By making honey all the day  
From other people's flowers."

In spare moments he put together pound sections, fitting into each a strip of "starter"—wax foundations for combs—and similarly prepared frames for the larger boxes from which the honey will be extracted later on. At last the fateful day arrived when the pound sections were to be put on some of the hives, and the boxes with frames on others. A demonstration in practical bee-handling was to be given for his benefit. The demonstrator took the usual precaution of wearing thick woollen gloves and an ample gauze veil. The cautious observer, who never could see the use of taking unnecessary chances, viewed the proceedings from behind a screen door. Very simple the work seemed. The top of the hive was lifted off, a box of frames or pound sections put in place, and the top put on again. All went merrily until an old and somewhat imperfect hive was reached. It was found that the top had been gummed down by the bees, and a chisel was needed to pry it loose. This fussing angered the bees, but everything would have gone off right had not a sud-

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den gust of wind blown the veil against the demonstrator's face. Instantly three bees got in their fine work. At this point another veil must be drawn.

When bees have once been angered, as were the inhabitants of this hive, it takes them some days to settle down—as the writer knows to his cost. On the morning after the demonstration he was standing fifty yards from the hive, admiring a fine plump broiler, and wondering if he would have him served fried, with brown gravy, broiled, or a la Maryland, when a scouting bee lit for one hot moment on the Darwin tip of his ear. A wild slap that almost knocked his head off, a jump of two feet straight up in the air, and a staccato yell that roused the whole neighborhood did no good. It was everlastingly too late—hence the cauliflower ear referred to above. This morning, three days later, an attempt to split some kindling wood within twenty yards of the hive led to another attack. Fortunately the bee was killed at the first swipe, and splitting kindling wood is a nuisance that one is only too glad of a good excuse for being rid of.

Bees are so scientific in their methods that it is easy for the skilled bee-keeper to meet them half-way and get the best results. The literature on the subject is so copious and precise that any one can have expert knowledge with a little study, and then, if he keeps on good terms with his colonies, he can handle them with ease and profit. He can be fully instructed just when to give them extra working room fitted with proper appliances, how to take the honey from them and induce them to do the greatest possible amount of work, and how to feed them with sugar in the fall so that they will be well prepared for the winter. The question of wintering the bees is the one that causes the beginner the most trouble, as a hive may be so weakened that it will not survive the winter, or will not be thrifty enough to do well

in the spring. As for being on friendly terms with the bees, full instructions are given on that point. It is said that any one can acquire the knack of handling them without being stung; but the writer will listen to these stories with a more open mind when his ear feels better.

It seems only a few years since the man who had bees got his honey by smothering the hive. A hole was dug in the ground, and in the bottom a number of twigs were placed so as to hold up a bunch of cotton rags coated with melted sulphur. At night, when the bees were all in the hive, the sulphur was lit. The hive was then lifted cautiously and placed over the hole. A blanket was thrown over it to keep in the fumes, and the bees were quickly smothered. Even when such destructive methods were in vogue bee-keeping was considered profitable. It should be much more profitable now, when nothing is wasted and the bees are carefully preserved.

In those "bad old days" the hiving of a swarm of bees was an altogether different matter from what it is now. It was once believed that unless a terrific noise was made so that the bees could not hear the buzzing of the queen bee, they would fly away at once to some hollow tree in the woods that their scouts had previously located. Because of this the swarming was attended by a fearful clamor of ringing cow-bells, beating pans and blowing horns until the bees settled on some bush or branch where they could be captured and hived. The bee-keeper of the present knows that swarming bees always alight before starting for the woods, and the glorious racket dear to our childhood is dispensed with. When the swarm has come to rest it is scooped into a pan or bucket and placed in the hive that has been prepared for it. There are some who take no precautions at such times, but scoop up the bees with bare hands without fear of being stung. When swarming, the bees are stuffed with honey and better natured than on

ordinary occasions. Nevertheless, most bee-keepers wear veils and gloves when hiving a swarm, and far be it from the writer to taunt them with cowardice. The "short, sharp shock" of a bee-sting is not a thing to be faced with impunity.

The conclusion of the whole matter—the sting, if you like—is that bee-keeping is light, interesting and profitable work for those who master its secrets; but the fact remains that most people are afraid of bees, and not without reason. Whether one can become a successful bee-keeper can only be learned by experience. Fortunately that experience can be gained easily, and can be gained in town almost as readily as in the country, for bees will travel far to find the blossoms from which to gather their honey. There is no reason why hardy suburbanites should not go in for bee culture as well as farmers—but—but—in spite of all the nice things that enthusiasts write about them, bees do sting.

I don't know what was the trouble with Mr. Wheeler's bees (p. 185), but that  $\frac{3}{8} \times 2\frac{1}{2}$  entrance (only 15-16 of a square inch) may not have been enough for strong colonies. Best wishes.

C. C. MILLER.

Marengo, Ill.

#### Western Fair, London—September 10th to 18th

The management of the Western Fair, London, Ont., have just issued their 1909 prize list. It is a very neat and attractive book and contains a number of important changes. A large number of new sections have been added and increases made in several departments. Especially is this the case in the Cattle and Live Stock classes, and there will no doubt be the largest exhibition this year ever held in London. Stockmen who have not previously exhibited at London should send for a prize list and prepare their stock for this splendid Exhibition.

Prize lists, entry forms and all necessary information will be promptly given on application to the Secretary, A. M. Hunt, London, Ont.

*Send for*

#### A COMMERCIAL USE FOR BEES

Mr. Burton N. Gates, in a very valuable Bulletin (No. 75, Part VII.), shows how the commercial use for bees is growing in his State (Massachusetts) in connection with the cultivation of the cucumber. He says:

##### Bees in Greenhouses

The use of bees in cucumber greenhouses is one of the many phases of bee-keeping, perhaps the most prosperous or certainly that most peculiar to Massachusetts. The industry is little known outside of this State, yet growers in other Atlantic and Central States have undertaken it to some extent. Originating in Worcester County, it has assumed large proportions through the eastern part of Massachusetts. It is a difficult task to obtain satisfactory data on this phase of apiculture. Market gardeners who grow cucumbers under glass do not consider themselves apiarists; on this ground they largely disregard requests for information. Only through a personal canvass among the growers has information been obtained.

There are at least 118 greenhouse cucumber growers. Only 73 of these, however, have furnished definite figures. These growers, including some of the largest and many of the smaller producers, use on an average eight colonies of bees a year to set the crop. If the 118 known growers, which is not by any means the total number, require on the average eight colonies each, nearly a thousand hives of bees would be utilized annually, and, if the statistics from every grower were at hand, the writer feels sure several hundred colonies more than a thousand would be needed. When it is considered that practically all of these colonies are totally ruined while in the greenhouses and that the demand for bees is on the increase each year, it may be readily seen what excellent opportunity there is of producing bees for greenhouse use. Considering the recorded sale of bees in 1906, which amounted to 1,027

colonies, it must have been a great demand for the exportation of the bees for this purpose. It is not surprising that one grows several colonies annually; another grows many more; another grows five to twenty; another grows a few, as a class, by different methods, but they all feel that the cost of competition is the cost of life.

Bees are in great demand in greenhouses as soon as they begin to bloom. Two or more hives of the house, a few on the beds or hung in the air. Various other methods of hives are also used to secure sufficient bees for the colonies during the seven or eight weeks of the common practice of feeding their bees with sweets. Besides the nectar to any extent, the blossoms, the pollen gather much pollen as a factor in the colonies. During the winter, however, bees are in great demand because they are used in ventilators and for their exit, to secure nectar and for these circumstances several colonies with no bees and starved brood. Under such conditions such a great amount of bee-keeping is obvious, comes weakened on the combs. The number of colonies dwindled col-



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colonies, it is probable that these sales must have been largely a result of the demand for greenhouse use. In illustration of the extent to which bees are used for this purpose it may be mentioned that one grower who picks 10,000 bushels annually requires eighty colonies of bees; another having forty acres under glass requires 35 to 40 colonies; a great many of the smaller growers use from five to twenty colonies. Cucumber growers, as a class, know little of bee-keeping methods, but they are anxious to learn. They feel that they must, in the stress of competition and high expenses, reduce the cost and loss in bees.

Bees are introduced into the greenhouses as soon as the cucumber vines begin to bloom. If the houses are large, two or more hives, according to the area of the house, are placed on boxes on the beds or hung in the gables of the house. Various other methods of introducing the hives are also employed. Not being able to secure sufficient stores in the winter, the colonies dwindle or become depleted in seven or eight weeks or less. It is a common practice among the growers to feed their bees sugar syrup or other sweets. Besides not being able to secure nectar to any extent from the cucumber blossoms, the bees are also unable to gather much pollen, which is probably a factor in the rapid depletion of the colonies. During the spring and summer, however, bees in the houses fare better, because they are able to escape, through ventilators and lights of glass removed for their exit, to the fields, where they secure nectar and pollen. Even under these circumstances the writer has seen colonies with no stores, with only a handful of bees and with scattered and half-starved brood. It is not surprising under such conditions that bee moths are such a great annoyance. To an experienced bee-keeper the reason for their presence is obvious; when a colony becomes weakened the moth gains headway on the combs. No remedy for the moth in dwindled colonies can be suggested

save killing the larvæ as they appear in the hive. A means of keeping the colonies strong must first be looked for, which will relieve the bee-moth nuisance. Without doubt, however, the pest could be reduced if the greenhouse men would be more careful in disposing of hives in which, the bees have died. The moths breed by thousands in discarded hives, and later are at hand to infest fresh material. Under no circumstance should discarded combs be cast outside on the rubbish heap to be devoured by the bee-moths. Such a practice is a menace to bee-keepers for miles around.

#### Ottawa's New Grand Stand—1909 Exhibition

The new grand stand and the attractions to be provided in front of it will be the big feature at this year's Central Canada Fair in Ottawa. Contracts have just been let, and the work is now under way, the contractors being the General Contracting Company, of Toronto. The cost will be about \$80,000, and a condition of the contract is that the structure will be completed in time for the Fair. It will be one of the finest grand stands in the Dominion, having a seating capacity for twelve thousand people. It will be absolutely fireproof. Steel and reinforced concrete will be alone employed in the construction, and the total length will be 470 feet and the depth 103 feet. The Exhibition Association is this year reverting to the old and popular custom of a spectacular performance each night of the Fair, and the Siege of Setastopol will be put on with all the realism of military display and pyrotechnical effects. In the afternoon before the grand stand there will be horse-racing and a long list of special attractions, introducing many of the best and most thrilling acts available. Contracts for these have already been closed. Howick Hall, which in the last three seasons has been utilized mainly as an auditorium for vaudeville performances, is being turned into a process building, where machinery will be installed and many firms will exhibit products in the process of manufacture from the raw to the finished article. The new grand stand replaces the large wooden structure burned a year and a half ago, and the temporary one used last fall has been removed.

### BEE-KEEPING IN THE UNITED STATES

We reproduce the following from Bulletin No. 75, Part VI., on The Status of Apiculture in the United States, by E. F. Phillips, Ph.D., in charge of Apiculture. It is a very valuable and thoughtful contribution, and will doubtless prove profitable to our readers:

Few persons realize the magnitude, importance, and possibilities of the present bee-keeping industry in the United States. Those who are conversant with the pursuit, and even those who are extensively engaged in it, generally fail to comprehend what an important factor in the agriculture of the country apiculture is as a whole, or how much the honey bee, by collecting nectar and storing it to produce a commercial product, is instrumental in saving our resources. Although the total value of bee products is small as compared with the value of the products of many other branches of agriculture, it nevertheless has an importance which should not be overlooked. The object of this paper is to review the present status of the industry with a view to pointing out where we may look for advancement.

Few rural pursuits have made greater progress during the past half century than has this one. Before that time the bees of this country were kept in box hives, and as a result the annual average crop of honey per colony was small. In addition to this handicap in not being able to manipulate the bees as was needed, bee-keepers generally lacked a knowledge of the methods of caring for them. With the invention of movable-frame hives by Langstroth in 1851 it became possible to care for bees properly and to manipulate in such a way as to get the best crop. As the use of this type of hive and of the honey extractor became general, bee-keepers have become better educated in modern methods of manipulation, and the industry has advanced

from a negligible quantity to its present important place in agriculture.

In the vast majority of cases bee-keeping is not the principal occupation, but is carried on in conjunction with some other business. According to the census of 1900, the average number of colonies on farms reporting them was 5.8106, valued at \$14.40—a very small investment. In some recent work of this Bureau it has been found that in the State of Massachusetts the average number of colonies reported was 5.5 per bee-keeper. This last figure should not be taken as an index to the condition in the whole country, for as one goes farther west the holdings are found to be larger. In California, for example, while there are some small apiaries, the majority are quite large, and the average is several times that of Massachusetts. The number taken from the census can scarcely be accepted as correct.

The number of men who rely solely on the production of honey and wax for a livelihood is rather small, and most of the extensive producers of the West carry on some other business, at least for the part of the year when the bees are less active. The reason for this is found in the nature of the industry. Any location is limited as to the number of colonies of bees which it will support, and in consequence a bee-keeper must either carry on some other business or establish numerous out-apiaries to enable him to keep bees enough to make it an occupation which will support him. Since the establishment of out-apiaries is attended with certain disadvantages, it usually follows that bee-keeping becomes a minor part of a man's occupation or even a side line.

Then, too, bee-keeping is taken up by many as a recreation or a subject of nature study. Such persons do not wish to make it their sole or main occupation. Many farmers also keep a few colonies of bees and add to their income to some extent in that way. It is obvious that bee-keeping must continue to be an avocation in the majority of cases.

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This brings up for consideration a question which has been much discussed by those interested in bringing about an advance in the industry: Shall an attempt be made to increase the number of bee-keepers, or to make better ones of a smaller number? Bee-keepers who follow the pursuit on a commercial scale are usually anxious that there be no increase in the number engaged in the business, but rather a decrease, with an accompanying advance in the proficiency of those so engaged. This desire is not wholly selfish, for unless the increase is directly in the territory of the individual his crop is not affected.

It frequently happens that a local market is ruined, temporarily at least, by some uninformed bee-keeper who keeps a few colonies and sells a poor grade of honey for a ridiculously low price, thus making it almost impossible for the up-to-date bee-keeper to sell his honey for what it is worth in the same community. This condition of affairs would not occur were it not for the fact that, for table use at least, honey does not rank as a necessity, and the usual causes for changes in market price do not operate so completely as is the case with other commodities.

The main objection to numerous small bee-keepers, rather than fewer and more expert ones deeply engaged in the industry, is, that when the larger number is interested it cannot be hoped that all will become proficient. Under normal circumstances this matters little, since any one has a right to neglect his bees if he so desires, but when some contagious disease is present in a region this becomes a serious matter. The expert bee-keeper cannot hope to rid his bees of disease if there are a great many unqualified bee-keepers in his neighborhood. Under such a circumstance—which unfortunately is becoming quite general in this country—the negligent bee-keeper keeps property which, if diseased, constitutes a nuisance, and is a constant menace to the progressive man, for it is

impossible to tell when neglected colonies may become infected.

If progress is to be made toward getting the largest possible honey crop from the United States, it will hardly be done by making bee-keepers who own an average of five colonies. It must be done by progressive bee-keepers financially interested to an extent sufficient to compel them to combat disease and to do their utmost to get the entire crop. We may not hope to attain this ultimate condition, but an effort might be made to discourage negligent and indifferent bee-keeping.

In spite of the fact that bee-keeping is the sole occupation of but few, it nevertheless commands attention in that it adds considerably to the resources of the country and increases the income of thousands of people. The possibilities for its increase are great, and the advancement of this vocation is a worthy object as aiming to save for human use a resource which is now so generally wasted.

It is very difficult to estimate accurately the annual value of the products of the apiary, but from various sources of information it is reasonable to suppose that the value of the honey produced annually in the United States is on the average about \$20,000,000 and of wax about \$2,000,000. Since the honey harvest depends so completely on various climatic conditions affecting the secretion of nectar, it is obvious that there is an enormous variation in the annual yield.

As nearly as can be learned, the number of sections for comb honey manufactured annually by supply dealers is between 60,000,000 and 75,000,000, and that may be considered as a fair estimate of the average number of pounds of comb honey produced in the United States, since relatively few sections are exported. Extracted honey is produced more extensively, and it is safe to say that the annual crop is three or four times that of comb honey. Taking into consideration also the chunk honey sold and the honey not marketed but used in home consump-

tion, the estimate of \$20,000,000 is none too high.

#### Present Sources of Loss

There are several sources of great loss to bee-keepers which might be eliminated to a large extent by careful manipulation, but there is much work which must be done before bee-keepers are able to overcome all these difficulties. Certain losses are expected regularly, and, while some do their utmost to overcome them, an annual loss must figure in their calculations.

**Swarming.**—The average bee-keeper loses many of the swarms which issue from his hives, and these escaping swarms may well be valued at a high figure. By careful manipulation and the use of large hives swarming may be largely controlled, but among the majority of bee-keepers too little attention is given to this phase of the work, and nothing is done until the swarm actually issues. In the production of comb honey smaller hives are generally used, and the control of swarming becomes more difficult. It is doubtless true that swarms aggregating in value \$1,000,000 are lost every year. This loss may be considerably reduced.

The greatest obstacle in the control of swarming is the fact that the activities bringing on swarming are so little understood. This phenomenon represents the bee's natural method of increasing the number of colonies, and it may be attributed to instinct. This, however, does not explain what factors induce the bees to swarm or what their activities are previous to swarming. When the behavior of the bees before and after swarming is better understood, we may have greater hope of a method of control.

**Winter Losses.**—The losses in winter are considerable, due largely to starvation, dampness, too long a time without a cleansing flight, or extreme cold weather. By wintering bees in cellars in the North this loss may be considerably reduced, but while much has been written on this subject, the general loss to northern bee-keepers is probably at least 10 per cent.

every winter. An even temperature of about 45° F. and a dry atmosphere are considered best, and the best method of obtaining these conditions is an individual problem.

Where bee-keepers do not pay any attention to the selection of their best stock for breeding purposes, the loss of 10 per cent. or more of their colonies in winter must not be looked upon as a total loss, for generally the poorest colonies succumb. In the southwestern part of the United States the winter problem can be said not to exist in the way it does in the North, and, as a result, a large part of the bees kept there are of poor stock, vastly inferior in many cases to equally neglected stock in portions of the country where winters are severe.

On the other hand, in these warmer portions of the country it is necessary to leave much heavier stores of honey in the hives to carry the colonies over from one season of activity to the next, so that "wintering" is very expensive. It has been suggested seriously that colonies be placed in cold storage for several months to save this heavy consumption.

"Winter loss" is in many cases caused by disease, which so weakens the colony during the summer that it is not able to survive the winter. In such cases the bee-keeper is usually ignorant of disease.

**Waste of Wax.**—No other manipulation of the apiary is so primitive as wax extraction, and nowhere is there more room for improvement. As every bee-keeper knows, it is difficult to remove wax from the comb, particularly in the case of old combs which have been used for brood-rearing for years. The amount of wax wasted every year by inadequate methods of extraction amounts to thousands of dollars annually. In most cases over 10 per cent. of the wax remains in the "slungum," and even by careful work 5 per cent. is left. By repeated rendering the amount may be reduced, but the time necessary for this usually makes it unprofitable.

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With the advent of the movable-frame hive and honey extractor it became orthodox to continue the use of combs year after year. The invention of methods making this possible was of such great benefit to the apicultural industry that it may almost be said that without it there would be no industry. At the same time it may be that bee-keepers have formed the habit of using their combs in this way, and in consequence are losing wax. It must not be overlooked that it is part of the life activity of bees to build wax, and in working bees to get the maximum financial return from them it may be desirable to allow them to spend some energy on wax production. For example, immediately after swarming, under natural conditions, bees secrete a large amount of wax; they also, of course, build wax at other times, but there is much more of a tendency then than at any other period of their activity. There is good reason to believe, also, that at the time specified the amount of honey consumed in building a pound of wax is less than at any other time. With wax worth so much more per pound than honey, it would seem to be desirable in some cases to take advantage of the wax-building ability of bees.

In rendering wax from comb the usual procedure is to squeeze the combs in a press while hot. With but few exceptions, this is the only method used. Since this takes too long, and especially since all the wax cannot possibly be removed, it would be wise to look for some other method. A better method would not only mean greater profits, but would be a gigantic step in advance in bee-disease eradication.

The loss due to inadequate extraction does not, of course, include the enormous loss from wax which is thrown away or which is allowed to be destroyed by wax moths for lack of fumigation.

#### The Needs and Possibilities of Apiculture

That there is room for growth in the

bee-keeping industry admits of no doubt. The fact that honey for table use is a luxury rather than a necessity makes possible a great increase in marketing by the creation of a desire for it. This is recognized by those who are engaged in the building up of a local market for their product, for it is found that the amount of honey consumed in a community increases rapidly when honey is brought to its attention.

A large part of the honey put on the general market does not go into retail trade, but is used in manufacturing. This phase of the market is of relatively recent growth, and, in spite of the fact that most bakers and confectioners pay a small price for honey, there is in this case also room for more. Several confectioners have stated to the author that they find it difficult to get enough honey in the general market for their own use.

In discussing the needs of the bee-keeping industry these may perhaps be best divided under three headings—scientific, economic and educational. In naming them it does not follow that all are absolute necessities before the industry can reach its highest perfection, but there are many lines which should be taken up which, while not necessary, are very desirable in order that the men engaged in the industry may be well informed concerning the various phases of the science.

#### Economic Needs

There is or should be no sharp distinction between scientific and practical bee-keeping. Practical bee-keeping is but the application of discoveries made by scientific work. It is not always recognized, but it is nevertheless true, that careful systematic work on methods of wintering, production of the maximum crop of comb or extracted honey, or the like, is really scientific work on the behavior of the bee, and, if done properly, is just as truly scientific work as any that has been mentioned previously. Breeding of better bees and inspection

for disease or for honey adulteration are but practical applications of scientific investigations.

#### Educational Needs

While the problems above enumerated represent a vast amount of work which must be done, the problem which entails the greatest amount of labor is the spread of information to the individual bee-keepers who want it. Several agencies are now at work doing valuable service, among which may be mentioned the journals devoted to bee-keeping, associations of bee-keepers, the teaching of apiculture in some agricultural colleges, and the work of some experiment stations. The Bureau of Entomology aims to aid in the work. Most of the text-books on bee-keeping are educational rather than records of personal investigation, for in large part they very properly draw from many sources and prepare the data for the use of the bee-keepers.

First of all there must be an improvement in the methods of compiling the work done by others. The literature on bee-keeping is so enormous that the average individual cannot attempt to cover it, and to aid in this phase of the work this Bureau is arranging a bibliography of apicultural papers and books. This has been begun only recently, but it now contains about 3,000 titles and is growing rapidly. This bibliography is in conjunction with the files containing the results of investigations carried on in the Bureau, as well as synopses, translations and notes on the work of others in various branches of the subject.

The greatest difficulty encountered is the finding of the way to get in touch with the bee-keepers to present to them the results of work. Naturally the bee journals are anxious to do the same thing to increase their subscription lists, and the associations to increase their membership. The Bureau of Entomology has recently tried, as an experiment, direct communication with all the bee-keepers in Massachusetts, and the results are

highly satisfactory; so much so, in fact, that the same work is being carried on in two other States. The amount of time and work that is necessary, however, makes it impossible to carry out this work generally.

Under this heading comes also the education of the public to the use of honey. In most cases this must be done by the bee-keeper in his own locality. The average amount of honey consumed per individual is now too small, and can be increased by some proper means of bringing it to the attention of the public.

When the situation is carefully studied, it becomes evident that the possible annual crop of honey and wax is several times greater than the present crop. If bee diseases can be properly controlled and good information be properly disseminated, there is good reason for considering the future of commercial apiculture as very hopeful. The industry of apiculture depends on commercial bee-keepers and not on the bee-keeper with small interests.

#### THE NEW BACHMANN SUPER

The following description and illustrations show some manipulations of the Bachmann Comb Honey Super. Its inventor is Mr. C. H. Bachmann of Guelph, Ont. :

The most important advantages of the Bachmann Super are that the entire body of sections, with honey, no matter how much the bees have propolised same, can be released in an instant without the slightest difficulty, and the collapsable section-holder can be readily removed and the sections separated with greatest ease and rapidity, and the sections are always clean. For storing or moving these supers, they are laid out flat and piled up like boards, thus the empty supers occupy but one-fourth the space. The section-holder is also flat and thin, and will take up but very little room. There are also other advantages which this super affords to the comb honey producer.



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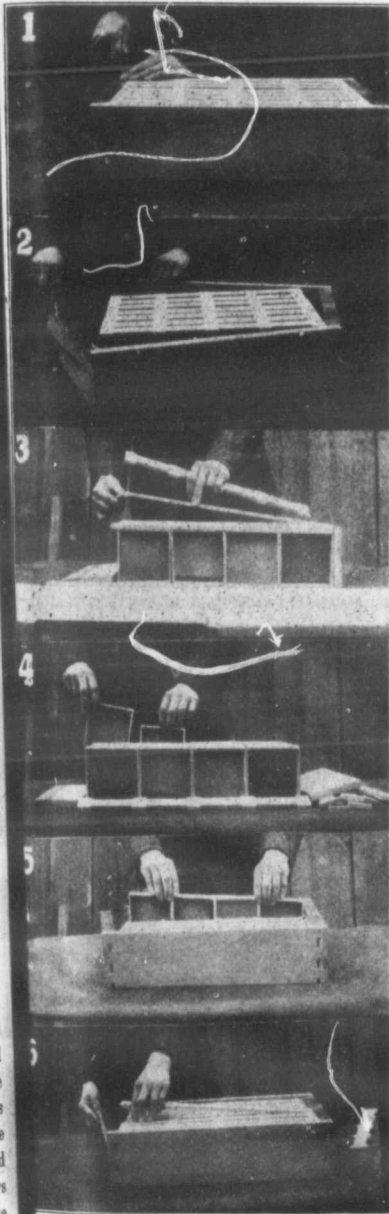
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4.—Separating sections.

No. 5.—Refilling super, putting in four sections at a time with one separator.

No. 6.—Replacing cover-slats, and locking same in.

**ONTARIO CROP REPORT**

The following information regarding agricultural conditions in the Province about the middle of May has been issued by the Ontario Department of Agriculture:

**Vegetation**—In the opinion of many correspondents, the growing season of 1909 is the latest for at least a score of years, it being placed at from one to two weeks later than the average. The exceedingly wet and cool weather prevailing during April and the early part of May is the cause. Returns were made to the Department as to the conditions about the middle of May, and at that date more favorable weather conditions had given a fresh impulse to growth in both field and forest. Up to that time only the earliest varieties of trees were coming into leaf, and in most localities pastures were only beginning to permit of live stock being turned upon them.

**Fall Wheat**—Reports concerning the prospects of fall wheat vary greatly, even in the same localities, some describing the crop as looking well, though late, while others state that the fields are not only backward in growth, but are thin and much "spotted." Owing to the dry period prevailing when most of the seeding was done, much of the new fall wheat did not start until the rains of late September came, and the young plants entered the winter with very little top. Winter conditions, however, were not unfavorable to the crop, except where ice formed, and an early spring growth would have brought the fields along nicely; but the cold and very wet weather of April retarded growth, and on poorly drained or low land almost drowned out the crop. Much better growth was made on sandy and gravelly soils than on clays, owing to the excessive

moisture. While there are many patchy spots, plowing up of the crop will not be generally resorted to, owing to grass being seeded with the wheat, but barley or other spring grains will be drilled into the bare spots. The latest reports are the most favorable, showing that the crop is rapidly recuperating with the growing weather. There is less injury than usual reported from insects.

**Winter Rye**—The acreage of this crop is comparatively small, it being raised chiefly for pasturing, soiling, or for plowing under. It has done better than fall wheat, and is looking very well.

**Clover**—Old meadows poor, new meadows promising, is a fair summary of the returns received regarding this crop. Early reports spoke of considerable heaving, but later returns state that much of the loose sod is returning to place. Clover was injured by the long dry spell covering the latter part of last summer and the early part of the fall, and in many instances it was pastured too closely, owing to the scarcity of fodder. The unusually cold spring, with frequent rains, also hurt the crop, particularly on low or badly drained land. Like fall wheat, clover looks best on high land and on light soils. While many correspondents predict a good yield of hay, others are looking for a comparatively light cut.

**Spring Sowing**—The small portion of the spring crops that were put in early found an excellent seed bed, but heavy rains immediately followed, and the land got too soft to work on, making further sowing almost an impossibility for weeks, except in a few cases where, to use the expressive language of some correspondents, the seed was "puddled" in. While those on high, light or well-drained land have made fair headway with their spring seeding, the bulk of farmers were not more than half-way through with that work in the second week of May, a most unusual record for Ontario. However, farmers were ready and eager to get on the land with the first appearance of dry

weather, and while some correspondents were taking a rather gloomy view of the situation, others were most hopeful that with the advent of warm weather there would be a quick advance in the growth of spring crops.

**Fruit Trees**—All classes of orchard trees have come through the winter in good condition, so far as injury from the weather or mice is concerned, although bark-splitting is reported in some northern localities. Unfortunately, there are a number of references to the presence of San Jose scale and the oyster-shell barklouse, and it is very evident that a steady warfare must be waged against these and other insect pests if our fruit trees are to thrive. Several correspondents declare that too many of our orchards are still badly neglected. While leafing and blossoming were about a week or two backward, reports were to the effect that, barring late frosts and heavy rains at the time of bloom, a good yield of fruit may be looked for. Peaches, especially, are looked to for a large yield, as the buds were but little injured by the winter.

**Fodder Supplies**—But for the comparative mildness of the winter there would have been much scarcity of fodder before live stock got upon the late grass. As it is, many farmers have had to feed most economically, and some barns are rather bare of supplies. The scarcity of straw and roots told against generous feeding and in many cases the situation was saved only by the good crop of corn and the use of the silo. Hay is in good demand, but in most cases there is only sufficient for local demand, as a good deal was baled and shipped during the winter. Oats and wheat are higher in value than for years, but the slow sale this spring at very tempting prices prove that farmers have only about enough for home consumption. In Eastern Ontario oats for seeding are at a premium; in fact, all kinds of provender are scarce in that section than in the more western counties.

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## PRODUCING COMB HONEY

[From Alexander's Writings]

Although it is now about twenty years since I gave up this part of the bee business, I often think I should like to call the attention of comb-honey producers to some important points connected with this branch of bee-keeping. The natural desire to swarm has always been a serious trouble in producing comb honey. Then the frequent change in our atmosphere, causing the flowers to stop secreting nectar sometimes for several days at a time during our otherwise best harvest is another serious trouble in producing comb honey of the finest quality; and with many the trouble of getting their sections all well filled at the close of the season is a hard problem to solve.

We will first consider the natural desire to swarm. This is the honey bees' natural way to perpetuate their race, and is the most strongly imbedded law, not only of the whole animal world, but the vegetable world also, except the desire for food, of any law connected with our existence. This is why we have made no progress in changing the nature of our bees since man first tried to domesticate them. It is true that certain strains, or, more properly speaking, certain families, have far less desire to swarm than others. This same law can also be said to apply to other animals, including man. Now let us see what we can do to prevent the desire on the part of our bees to carry out this main object of their creation. First we will keep only bees that have but little natural desire to swarm; then we will raise their hives from their bottom-boards all around about half an inch as soon as the weather begins to get warm. In this way we shall give them two or three entrances in the shade at all hours of the day. This, I know from experience, goes a long way to prevent the desire to swarm. Then we will supersede every queen at the commencement of our harvest, with one just fertilized, which, we all know, of itself will to quite

an extent prevent the desire to swarm. Then we will see that their hives, including their clamps of sections, contain but a small amount of capped honey for any length of time.

Here is one thing that I used to be very particular about during my thirty years of producing comb honey: As fast as I could find four or five nicely finished sections in a clamp they were taken out and empty ones put in their place, never using more than two clamps at one time on a hive. I don't wonder that your bees swarm when two or three clamps of mostly capped sections are on a hive and a lot of capped honey in the hive below, and then only one entrance where the sun can shine down on the bees through the hottest hours of the day. This will make almost any colony restless, and frequently start a desire to swarm.

The honey-producer, until recently, has been justified in keeping his queens longer than one year, for it is only since Pratt gave us his method of rearing queens that we can have all we want early in the season with only a little trouble. If you will do as I have suggested in the above you will almost wholly prevent the desire to swarm.

Next we will consider the matter of a steady harvest, with no lost days, even if the flowers do fail to secrete nectar for several days at a time. This can easily be acquired in this way: First divide your apiary into two equal parts as to number of colonies, but have all your strongest colonies in one part and your weakest ones in another. Then run the weak colonies wholly for extracted honey and the stronger colonies for comb honey; and attach a good practicable feeder under every hive that is producing comb honey, and extract all you can from your weak colonies and feed it to those that are working in sections. Be sure to give them some every night. If the weather is fine, and they are getting considerable from the flowers, it will not be necessary to give them much; but if from any cause they fail to gather from the flow-

ers, then feed enough to keep them busy in their sections night and day, with no stop until the harvest is over and every section is finished in fine shape.

Now don't say this cannot be done, for I know it can. I used to produce comb honey in this way twenty-five years ago, and I am sure fifty colonies managed like this, with fifty more to furnish them with honey during bad weather, to work over into comb honey, will produce more first-class section honey than you could possibly obtain from the 100 colonies if they were all run for comb honey at the same time, as nearly all comb-honey producers do. The point is right here: In this way your comb-honey producing colonies can have a good steady harvest from the day you put on your first clamp of sections until the last section is finished, and that is what counts, both in quantity and quality.

Nor, don't get this method mixed up with that of feeding back at the close of the harvest, but do the feeding when the harvest is on and everything is in proper condition to produce comb honey. Make your extracted honey quite thin and give them one grand big harvest, and you will see your sections finished as if by magic. With two clamps of sections on, and a good young queen in the hive below, you need not be afraid of their storing too much in their breeding-combs. Then examine them often; and as fast as you can find five or six full sections in a clamp take them out; don't leave them to become soiled and travel-stained by the bees, in order that you may save yourself a little work and take off a whole clamp at a time; for, as sure as you do, your bees are liable to sulk away their time and possibly fix for swarming.

It looks nice to go into your storehouse at the close of the season and see several tons of choice comb honey with hardly a section that is not of the finest quality; and to see the clamps all empty, with no partly filled sections lying around is another thing which shows there has been

some skill used in producing that crop of honey.

Some of you may think that this implies a lot of work, which I will admit, and so does everything connected with the successful management of bees. I know many let them take care of themselves, and appear to be satisfied with whatever they can get; but I never should like to run a business in that way.

In the above I have called your attention to the three worst troubles in producing comb honey, and I have also given you a practical way in overcoming them.

About twenty-six years ago I sold nearly three tons of comb honey that was produced in this way to a dealer for two cents a pound above the market price, on account of its fine appearance. It is the same in producing comb honey that it is with extracted. You must adopt methods whereby you can combine a fine quality with a large quantity, and then you are on a straight road to success. If I should ever again return to the production of comb honey the above method is the one I should most decidedly adopt.

When I was running my bees for comb honey we had no practical feeders as we have now, whereby honey can easily be fed to our comb-honey-producing colonies; neither did we realize how easy it is to have an abundance of choice young queens early in the season to supersede our old queens with. Had I known then as I do now how easily these two important factors can be acquired I would not have changed from comb honey to extracted as I did; for I am sure there is more money in producing a choice grade of comb honey, as I have described, than there is in producing extracted honey.

#### THE MARKETS

MONTREAL—Business in honey is rather slow, but as the offerings are not large, the undertone to the market is steady. We quote: Clover, white honey, 15c to 16c; dark grades, 12c to 13c; white extracted, 11c to 12c; buckwheat, 8c to 9c.

#### EARLY INS

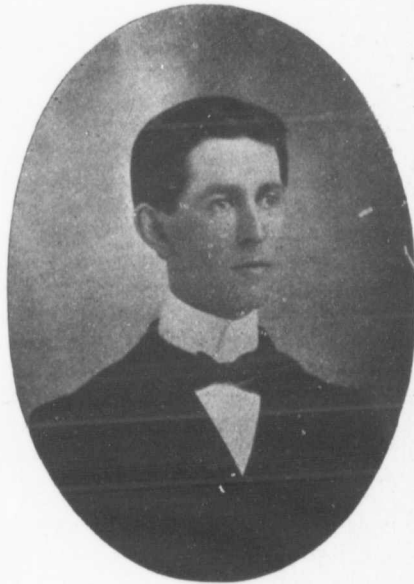
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### EARLY INSPECTION IS THE BEST

Why should all inspection work be tied up and "side-tracked" for six weeks from the 1st of April until the 15th of May—the time when more disease is spread through bees robbing than at any other time in the year? But we are told that a man will be sent in an urgent case if applied for. Oh, yes, but all the bees within flying distance will get there first and rob these "urgent cases" (colonies almost dead with foul brood) before the man gets there, and then the owners will have to stand the loss. All suspected apiaries should be inspected early in spring before any robbing is done. Any diseased colonies found near valuable apiaries should be moved away a safe distance from all bees and left there until cured, the very thing that Mr. Chalmers proposed to have done, which should be backed up by every bee-keeper in the Province. Oh, yes, Mr. Byer, Mr. Sibbald did say at the Brantford Convention that if "he knew of a case of foul brood near his apiary in early spring, that he would go and see the man and ask him to contract all entrances and otherwise guard against all robbing till suitable weather came to allow inspection." Well, that was not what he did some years ago when he lived at Cooksville. When a man moved some colonies near his before spring that were supposed to have some disease in them, Mr. Sibbald was determined to have the man move his bees away, and I had to go and attend to the case. The snow was not all off the ground, and it was anything but "suitable weather" then. Before I could ask the man to move his bees away I had to inspect his colonies. I found a few cells of foul brood in one colony and advised the man to move his bees away until cured, and he did. This was once that Mr. Sibbald believed in quarantine, and if it was right to quarantine in his case, it should be in other cases. I got diseased colonies moved away in many places until cured.

Mr. Chalmers proposed that the inspectors take a piece of foul brood comb with them on their rounds. This is what should be done, because more good can be done by showing it and explaining than can be done by any photo ever taken of diseased comb. I took combs on the rounds with me for years. Once a man sees the real thing in the comb he keeps his eye on his brood after that, and never lets the disease get headway in his apiary.

WM. McEVOY.



MR. MORLEY PETTIT  
Ontario's Experimental Apiarist

### LISTEN!

Did you hear Chalmers crow? He said crowing was foreign to him (his article certainly sounds like it), but he volunteered to crow, and perhaps thinks he did, and now has the right to sit on the perch until he gets ready to come down himself. Perhaps if he sits there until he feathers out, crowing will not be so foreign to him.

J. ALPAUGH.

Belwood, Ont.

### BEE-SPACE ABOVE OR BELOW FRAMES?

G. A. Deadman, in *The Canadian Bee Journal*, makes out a pretty strong case in favor of having the bee-space in hives and supers at the bottom instead of the top. He argues that with the space at the bottom any perfectly flat surface may do for a bottom-board, and no matter where the hive is set down a lot of bees will not be killed, as is the case with the usual space at top. Also, it is easier to scrape bur-combs and propolis from the tops of frames if there is no space above. Perhaps not every one could readily say just why the space is so generally at the upper part.

Likely Mr. Deadman does not use flat covers. They are, however, in very general use, and their users would not readily give them up. With no bee-escape above, a flat cover would kill just as many bees as a flat bottom-board with no space below. A section-super can hardly be made so that there will not be some shrinkage as it grows older. If it is made with no space above—the sides of the super being exactly flush with the tops of the sections—then as the sides of the super shrink the tops of the sections will project above the top of the super, and there will be trouble when another super is set on top.—*American Bee Journal*."

### MANY COLONIES PACKED IN ONE LONG WINTERING CASE GAVE POOR RESULTS

[By Wm. McEvoy]

In the C.B.J. for May (page 185), Mr. Wheeler, Barryton, Mich., gives his experience in packing thirty-two colonies in a long winter case, and the result was anything but satisfactory. The quality of the stores was all right, which is proven by how well his other colonies wintered that were packed in single cases. • A larger entrance would have been better for some, but not for others

in that very long case. This system of packing so many colonies in one long case does not, as a rule, give good results, no matter how well they may be prepared and packed. Some of the very strong colonies with young queens will start too much brood-rearing early in the winter, which will cause the bees to break cluster and after that these colonies will become restless and their uneasy stir will be felt by the bees in the other colonies bound together in that long winter case, and cause a general waking up of all the bees in what should be their season of rest. After this has taken place we can count on more or less loss unless we check or regulate the cause, a thing that is almost impossible to do where so many colonies are all packed in one long winter case.

With bees packed in single cases I can check and regulate to a nicety and bring every colony into spring in fine condition. I experimented a great deal from 1872 to 1880 in packing bees on their summer stands and packed in several different ways. I also tested the size of entrance and sealed and unsealed covers, and some of these things, such as sealed covers, gave me a bitter experience. I have not had a sealed cover on any colony since 1880. Some bee-keepers pack two, and others pack three, and a few pack four, colonies in a case, and the most of these men make a success of it. I like to pack each colony in a single case by itself, so that I can regulate any when going through the winter that gets out of order, and by so doing not only save every colony, but bring all into spring in fine condition.

I pack each colony with four inches of forest leaves in front and back, and the same at the sides. I leave the queen-excluders on because they have a bee-space on the under side, and on these I put a cloth drawn back three-quarters of an inch to let the steam come up off the bees in winter. I then put five inches of leaves on, and on top of the leaves I put

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Woodburn, Ont.

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**HOW TO SECURE PRICES FOR HONEY EVEN IN YEARS OF BOUNTIFUL YIELDS**

[By O. L. Hershiser, Kenmore, N.Y., at Detroit Convention.]

If an unusually large quantity of any commodity is produced, and is thrown upon any particular market in a lump, the price will necessarily fall, owing to competition, and the eagerness of holders to realize on their goods.

If such unusually large quantity of the commodity is distributed in such manner as will supply localities that have had an under production; or if the disposition of the same is spread out over a considerable length of time, keeping a portion of it out of the market until a season of scarcity if necessary, or if new markets are created by reason of increased activity in discovering as many as possible of the latest avenues of consumption, directing, as it were, the product into new channels, and creating a need where need was before unfelt, there is no need to greatly reduce prices in order to sell the goods.

I wish to apply the above propositions directly to honey production and consumption. If the apiarist is so fortunate as to have produced a large crop of honey, he should get busy in search of new markets. If his crop is 50 per cent. more than he has been accustomed to produce, he has just that 50 per cent. with which to work up a new market and create a demand that will be of value in years to come. Suppose he has to carry a portion of his crop over to the next year, it is almost as good as money in the bank, and may yield a much larger percentage.

Mr. Mercer, of Ventura, Cal., because of unsatisfactory prices in the year 1903, held his honey until the following year, and thereby realized \$1,000 more for the crop than would have been obtained if sold as soon as produced.

When prices of honey are abnormally

the hive cover, and finish up by putting on the cover of the winter case.

My entrance is  $\frac{3}{8} \times 2\frac{1}{2}$ ", and this, with  $\frac{3}{4}$ " of ventilation at the top to let the steam up into the leaves, which are pressed down to prevent too much heat from going up with the steam, is plenty of air to suit me. I keep the snow away from the entrance at all times, and lift up the front of every hive once a month in winter and brush off the few bees found on the bottom-board, and by so doing know how all are wintering. If I find any colony a little restless when I am brushing off the bottom-boards I know at once that the bees have broken cluster through too much brood-rearing in midwinter, and this I check by giving more air at the entrance and more ventilation at the top. If these colonies that break cluster too early in winter were not checked they would consume nearly all their stores and dwindle badly in spring, and some of them would "peter out." With a little care, every one of these colonies can be regulated and brought into spring in fine condition. I put my supers on before I unpack and leave the packing on until the weather gets very warm in June.

The colonies brood up faster and store more in the supers when they are kept packed until well on in June. Every colony wintered and came into June in the best condition of any I ever saw. I had a lot of very fine ground oats for many days before natural pollen began to show up, and this boomed brood-rearing immensely.

Woodburn, Ont.

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low, there is no speculation in holding the honey a year or two, and the more bee-keepers there are who are determined not to sacrifice their honey because of a bountiful crop and low prices, the more stable will the market become.

In the last issue of the "Review," editorial notice is made of a bee-keeper who had been offered 7 cents for the best white clover honey that could be produced, laid down in Indianapolis; it would net him but a trifle above 5 cents per pound. I wish to say that the apiarist, as a class, is largely responsible for such market conditions. The jobber is always anxious to obtain goods at as low a price as he can obtain them, for the reason that his profits are correspondingly greater, and because of the lower prices at which he is able to sell, he can do a greater volume of business. He sends out offers for honey, and quotes the current jobbing price of 5 to 7 cents, and in most years is able to supply his wants at these figures. Then, not being a philanthropist, why should he give more?

Once in a while there is a bee-keeper who does not figure the expense of cans and transportation, and thinks one-sidedly only of the 7 cents per pound he is going to obtain. Rather than take 5 cents net from the jobber, the bee-keeper quoted by the "Review" would better sell locally to consumers direct for 7 or 8 cents, and thus save the expense of his cans; and what could not be sold locally might be disposed of at satisfactory prices by a little well-directed advertising. Personally, I do not believe it to be ever necessary to sell honey direct to the consumer at less than 10 cents per pound. I reason that any lover of honey will supply his needs to the limit at 10 to 15 cents per pound in bulk, inasmuch as 10 to 15 cents is a popular price. Lovers of fresh butter in the cities and villages satisfy their wants at 25 to 30 cents per pound, simply because that has come to be the popular price.

If you have honey to sell, but keep still about it, disposing of it will be slow and tedious. There are various ways of directing public notice to the fact that you have honey to sell. If you imagine that a bountiful crop is to be a burden, remember that the local fairs bring together large crowds, among which are many lovers of honey, who will be as glad to learn where they can get it in its purity as you are to sell to them. Be on hand at these fairs with an exhibit of bees and honey. Show how it is extracted, and impress upon the willing listeners that honey production is your business, and that, being a specialist, you are able to produce it of a quality as fine as bees can make it. Allow prospective purchasers to sample it. Many of you who have exhibited at fairs will bear me out in the statement that a taste of the honey to a somewhat doubtful enquirer will almost always result in a sale if the quality is what it should be. Have some attractive cards with your address and an announcement of your business of honey production ready to hand to all enquirers. Customers gained in this way are likely to purchase of you year after year, and after you have established a trade at a fair price you will not need to lower it, even if you and others have a bountiful crop. If you think you could take naturally to the temporary occupation of a show-man or sleight-of-hand performer, operate a colony of bees in a cage, a la Root, to attract a crowd, and have your salesman ready to sell the honey as the performance proceeds and while the onlookers are spellbound.

If you have a good crop, remember that your brother bee-keepers in other localities may not be so well favored. All bee-keepers who have been in the business for years have a certain steady demand, sometimes reaching into thousands of pounds. They do not wish to lose their trade, and if they allow some other person to pick it up, even for one season, that other person has gained the

customers for it and lost them.

No better advertisement than that of a business, and a crop, than to provide a means for the bee-keepers to avoid the possibility of failure. The best way of reaching this class is by advertising through the press, and by a neat advertisement which attracts the attention of the public and have it inserted in the leading bee journals for a few months, and you will get a great deal of little effort. If you are writing advertisements, pay attention to the attention, and remember that publishers are only too glad to write them for you. Use a vocabulary well stocked with words and synonyms, and use the superlative degree of adjectives. Use words like "finish," "thick," "rich," and the like, and express the highest quality of your product, and thought very highly of. Do not forget to put a copyright on your advertisement. Describe your honey in simple, plain, and freely resorted to words. Do not use the statement shot at you in accordance with the statement of positive injury to your business by every customer who hears of your honey. Do not assume that you are superior. There is no superiority in the production of honey. Just leave your honey to be thoroughly captured and enjoyed by the end of the season, and you will be perfectly satisfied. A few bee-keepers who are in business in selling honey from door to door do not know the method is to be highly successful. It gives an opportunity to the bee-keeper in reference to business. In doing such an excellent business, your own production, and

sell, but keep it will be slow various ways of the fact that if you imagine to be a burden. fairs bring to-ong which are who will be as r can get it in ll to them. Be with an exhibit v how it is ex-on the willing luction is your g a specialist, it of a quality it. Allow pros-mples it. Many ed at fairs will ent that a taste at doubtful en- result in a sale ould be. Have th your address your business of to hand to all ned in this way ou year after e established will not need to d others have think you could nporary occupa- sleight-of-hand- ny of bees in-ct a crowd, an- dy to sell the ce proceeds an- spellbound. il thoroughly capped over, or unt'l the crop, rememb- eepers in oth- o well favore- ve been in th- a certain stea- hing into the do not wish they allow som- ap, even for h- has gained th-

customers for the future, and you have lost them.

No better advice can be given to bee-keepers who intend to make apiculture a business, and who have had a short crop, than to purchase honey off reliable bee-keepers to carry them over seasons of failure. There is no better way of reaching this class of customers than advertising through the journals. Write up a neat advertisement that will catch the attention of those in need of honey, and have it inserted in two or three of the leading bee journals for three or four months, and your honey will be sold with little effort. If you are unaccustomed to writing advertisements that will catch the attention, remember that the publishers are only too glad to help you, or write them for you, and they have a vocabulary well stocked with expressions, words and synonyms that will express in the superlative degree the quality of the goods you have to offer. "Smooth oily finish," "thick rich deliciousness" and the like, are expressions descriptive of the highest quality and catch the eye and thought very readily. There is no copyright on words that will beautifully describe your honey, and their use should be freely resorted to—only remember that the statement should be invariably in accordance with the fact, or their use is a positive injury to you by way of loss to every customer who purchases on the assumption that your goods are really superior. There is no secret in connection with the production of honey of superior quality. Just leave it with the bees, unspelled, until thoroughly capped over, or until the end of the season, and the quality will be perfectly satisfactory.

A few bee-keepers have built up a good business in selling honey by canvassing from door to door direct to families. This method is to be highly commended, as it gives an opportunity to educate the public in reference to bees and honey. Having such an excellent food product of his own production, no bee-keeper should

hesitate as to the propriety of this manner of selling. I am informed that a number of bee-keepers of more than ordinary business capacity have made a good success of this manner of selling. Never having had occasion to sell in this way, it is largely a matter of theory with me, but I am convinced that customers thus gained will purchase of you year after year. A number of bee-keepers have obtained good results from advertising in their local papers.

There is one thought I desire to very strongly impress upon you. If you have a bountiful crop, do not get panicky about it, and offer to sell regardless of price. It is never necessary to do so. Let bee-keepers be determined to obtain a fair price, and not compete against each other unfairly, and the normal demand will be well supplied. If there is a surplus over and above, for which there is no demand at a fair price, carry it over to a year of scarcity. You will thus have nearly as much money as though you sacrificed the whole crop; you will have been spared the real misfortune of having broken and ruined your market, and you will still have the surplus over and above what is required to fill the normal demand to supply your market in years of scarcity that are sure to follow.

Suppose a bee-keeper's normal crop is 10,000 pounds, and in normal years the price is 8 cents per pound wholesale, his income from the honey crop will be \$800. Suppose he obtains a bountiful crop of, say, 15,000 pounds, or 50 per cent. greater than the normal, from the same number of bees. A slight decrease in price in such season of bountiful crop would be no injustice to the bee-keeper, because the additional expense and labor of producing it is less in proportion than that of producing a normal crop. A slight decrease in price might also be charged to the increased supply, but don't let us ever have a panic, because of a bountiful crop, and lose all the latent benefits that nature has showered upon us. If we are

to drop the price from 8 cents in the normal year to 6 cents in the bountiful season, when there is an increased crop of 50 per cent., we have lost every advantage that was ours, but which has been too often sold for a "mess of pottage." Therefore, I emphasize in the most emphatic manner that you try not to sell to a glutted or unwilling market, but carry over that which may not be sold for a fair price, and in the meantime keep busy in developing new markets and outlets for the increased production. A good rule is to sell where there is an anxiety to purchase, and waste no time trying to sell where there is apathy and indifference and a bearish tendency as to purchasing.

The good services of the jobber and wholesaler are always to be recognized, and it is certainly no reflection on them to advise bee-keepers to develop their home market, and supply it fully before shipping to the larger centres of consumption. If the home market is fully supplied, there will be less honey to be disposed of by the jobber, it is true, but if the jobber's volume of business is thereby lessened, he is compensated by better prices and profits on the smaller trade.

I would beg of bee-keepers to avoid the tendency to get into a scramble, and cut down the price of their honey to ruinously low figures in order to get the preference of sale away from other bee-keepers. I have but recently been informed of a case where a bee-keeper sent a consignment of honey to a commission merchant with instructions to sell for 10 cents per pound if it could be obtained, and for less if necessary to effect a quick sale. There is certainly no profit in producing fancy comb honey at 10 cents per pound, out of which is to be paid freight, commission, and for sections, foundation and labor. The consumer is sure to pay from 15 to 25 cents per section for fancy honey before it reaches his table, and 10 cents for fancy comb honey, with charges and cost of supplies out, leaves

the producer but a little over 7 cents per section. The difference between about 7 cents and 15 to 25 cents per section goes to the jobber and retailer, by way of trifling expenses and big profits to the non-producer of the goods, by reason of the conditions created, in large part, by the bee-keeper who is determined to sell, whether he makes any profits or not.

Let me urge you, brother bee-keepers, to follow the example and teachings of a few of the craft who have, as far as possible, solved the problem of marketing their product. You have battled against great odds. You have done well to persistently remain upon the firing line until your crop of honey is safely harvested, but, having emerged from the smoke of the battle of obtaining the crop (the smoke from the bee-smoker, of course), do not be satisfied or claim a complete victory until, crowned with the full reward of a just and merited equivalent for the purest and most wholesome of sweets, honey, you have provided for the tables of the land.

#### A BEE TREE

By the courtesy of Mr. Geo. W. Tebbs superintendent of "The Coombe," Hespeler, Ont., we are permitted to show the two accompanying photographs taken by himself. In the one is shown a bee tree, and in the other a section of the bee tree when honey and bees were removed, also Mr. D. Chalmers, of Poole, inspecting a hive. The finding of the bee tree is interestingly told by the "Galt Reporter" of March 6th last:

A recent interesting episode is a discovery of an actual bee hive by the Robertson boys on their own farm, while felling a large pine tree. They had little thought that twenty feet above their heads was to be found a hive of bees in excellent order. As the tree fell signs of life were soon noticed, and, taking precaution to keep them safely housed, snow was used to keep the apertures closed, so that none would escape and thus be frozen. These thoughtful young men knew of one thoroughly versed in bee life, so immediately sawed the tree to a convenient length of about seven feet, and took

their booty to Irish Boys' Home where were enabled "stung." Mr. having so unus first thing to c hive as a recep this strange hon about two feet something to c results, but Mr. After sawing to idea was to spli ficiently to lift "trunk." This soon revealed, riddle devised b Writ. Snugly w winter in their forest, for "wh cradle will rock bees; now awa long slumbers, pound upon pou but a few com these wise little lous creation su winter months. pounds of hone while two buck was also remove Mr. Tebbs that swarmed some t and chanced to tune dwelling pl Mr. Tebbs can te ures of a swarmi in spite of the Lo times occurs on and there be atte first time he has rich a treat in b ertson brothers an Mr. Tebbs also "Lots of bees in died this past w There is a cider m us, and the refus side all the year opinion that this ble. Am I right. [You may be. I to have some of through the winter may be a great m careful investigatio Mr. Chalmers, the fully look into the report to the Govn keeper this mill mi an intolerable nuis



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their booty to Mr. Geo. W. Tebbs at the Irish Boys' Home at Hespeler. This they were enabled to do without getting "stung." Mr. Tebbs was much elated at having so unusual and novel a task. The first thing to do was to prepare another hive as a receptacle for the occupants of this strange home. The hollow trunk was about two feet in diameter. It meant something to devise a plan to get best results, but Mr. Tebbs was equal to it. After sawing to a convenient length, the idea was to split the log at each side sufficiently to lift it off like a lid of a real "trunk." This done, the sweetness was soon revealed, reminding one of that riddle devised by Samson of old in Holy Writ. Snugly nestling in the depths of winter in their safest of abodes in the forest, for "when the wind blows the cradle will rock," were those myriads of bees; now awakened gently from their long slumbers, while on either side was pound upon pound of fresh honey, with but a few combs empty, upon which these wise little beings of God's marvelous creation subsisted through the long winter months. No less than forty pounds of honey were thus extracted, while two buckets of comb additional was also removed. It is conjectured by Mr. Tebbs that the hive must have swarmed some two or three years ago and chanced to come across this opportune dwelling place in their wild flight. Mr. Tebbs can tell many interesting features of a swarming hive of bees, which, in spite of the Lord's Day Alliance, sometimes occurs on Sunday, and must then and there be attended to, but this is the first time he has had the pleasure of so rich a treat in bee-hiving, and the Robertson brothers are to be thanked for it.

Mr. Tebbs also writes us as follows: "Lots of bees in this neighborhood have died this past winter from dysentery. There is a cider mill one mile away from us, and the refuse is allowed to lie outside all the year round. I am of the opinion that this is the cause of the trouble. Am I right.

[You may be. It would be a good idea to have some of the honey that came through the winter analyzed. This refuse may be a great menace to your bees. A careful investigation should be made, and Mr. Chalmers, the inspector, should carefully look into the matter and make a report to the Government. To the beekeeper this mill might practically become an intolerable nuisance. Under our law

no man is permitted to maintain a nuisance to the injury of his neighbor or his property. It would be necessary, of course, to show cause and effect; more especially is this the case when it is known that many bees suffer from dysentery in good localities, the cause of which is very often obscure. The trouble should be thoroughly investigated.—Ed.]

(Engravings will appear next month)

### ADVICE TO THE HONEY CROP COMMITTEE

We are again on the eve of another honey harvest, and in a few short weeks our attention will be turned toward the marketing of our season's crop. While I would not for a moment presume to dictate to the Committee which advises us at about what price our honey is worth, a few thoughts have come to my mind on the subject.

As in all other articles, the supply and demand must regulate the price of honey. But I think their influence is sometimes overworked. I believe it would take as much honey as the present bee-keepers of Canada could produce to supply the present demand if our crops were directed into the right channels. If that is the case, is it wise to lower the price of honey one iota until that demand is supplied? From my personal experience, the present demand is getting harder to supply every season. One can of extra good honey is almost sure to sell another can, and I cannot see the advisability of lowering the price if a good season makes it just a little easier to satisfy all our customers without turning away a prospective purchaser, as we have had to do in former poor years.

Of course, I realize that there is a possible limit, but if all who read this article have worked up their own territory as I have done, they have not yet found that

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limit. And when that limit is found, remember there are thousands of mouths for us to educate to eat honey, and it is up to us to see that they do get educated. If we are going to allow a good crop to materially depress the price, we certainly are not making the most of our blessings, and we would be about as well off with a poor season, not counting the extra work incidental to a large yield.

I am afraid the most of us do not advertise our business as we should. Up to last season I was very backward in even mentioning my occupation. If some one found out that I kept a few bees in my backyard, and he wanted a can of honey, he got it, but never through any effort of my own. Last season, however, I concluded I would have to get busy and create a demand, or my growing apiary would be a white elephant on my hands. The result was that in many cases I only had to let them know I kept bees and I would sell a can of honey. In one case, in a neighboring town, I unconsciously went over another man's territory and supplied his customers. He eventually found it out and supplied one of the stores and put an ad. in the paper, telling his old customers where they could get his honey. I think he acted too late, however, as those people have got into the habit of dropping me a card when they want more honey. It's easy to create a demand, and therefore not necessary to lower prices.

Palermo, Ont. H. A. SMITH.

### Chalmers' Observations

**Disputed.**—In your foot-note to my May article, Mr. Editor, re teaching how foul brood can best be described to would-be bee-keepers by lithographs, I fail to see the possibility. Take June 1st Gleanings, page 341, for instance, where you will find a good picture of a foul brood comb, and what does the unskilled eye see in that different from the picture of a comb of brood which is all right? I am willing to learn from the Germans,

and can be taught many things by them, and it was not by any means on account of these lithographs being got up by the Germans that I raised the objection to the inspectors being asked to teach the detection of the disease by this means. It seems, however, that I am not original in the idea of having the inspectors carry a piece of foul brood comb with them, as a party in St. Marys told me last week that Mr. McEvoy had a piece of such comb with him when at his place some years ago; and I am pleased to report that is all the foul brood this party has ever seen, as his bees are quite clean of the disease, and that in the midst of a stricken district. The party referred to is Mr. James Moore.

**Honey.**—"By what means can the best honey be produced?" is a question which does not concern so many of us so much as "How can we produce the largest amount?" Mr. D. Anguish, in his paper on "Preparing Bees for Honey Flow,"

read at January which will be for C.B.J., February any bee-keeper bees on scales will see that weighing five pounds one pound at night Mr. Anguish has under certain conditions. I tested some years ago, and I am pleased to report that is all the foul brood this party has ever seen, as his bees are quite clean of the disease, and that in the midst of a stricken district. The party referred to is Mr. James Moore.

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## Evaporation of honey

ings by them, ans on account got up by the e objection to l to teach the y this means. am not orig- the inspectors od 'comb with Marys told me y had a piece en at his place pleased to res- rood this party are quite clean n the midst of party referred as can the best question which of us so much ce the largest h, in his paper Honey Flow,

read at January Brant Convention, and which will be found on pages 63 and 64, C.B.J., February number, states that "if any bee-keeper will place a colony of bees on scales and observe closely, he will see that when the bees are gathering five pounds a day they will shrink one pound at night through evaporation. Mr. Anguish has got it nearly right under certain conditions, but not under others. I tested two swarms of bees some years ago, one hived on comb foundation, the other on full-drawn comb. It was only a one-day test, so would not perhaps be so correct as if a more extended test had been made, but it taught enough to convince me that a better class of honey will be produced where bees have to build their comb as the honey is stored, rather than by giving them full-drawn combs. The colony (or swarm

rather) that was hived on foundation gathered 9½ lbs. during the day and evaporated 1½ lbs. over night, whilst the one on full-drawn combs gathered 16 lbs. and only evaporated one pound in the same time that the others evaporated 1½ lbs. from about two-thirds the amount of nectar, whereas they should have dropped fully 3 lbs. according to Mr. Anguish's estimate. My convictions, therefore, are that to obtain the very best class of honey we must either have the bees commence with comb foundation or else break down all the cell walls of full-drawn comb, let the bees build as they store and "leave all honey on the bees until the end of the season," as friend Anguish advises, and we will have a toothsome article.

DAVID CHALMERS.

Poole, Ont.

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# Canadian National Exhibition, Toronto

## HONEY AND APIARIAN PRODUCTS

Entries Close: August 14th. Fee: 25 cents each entry.

All exhibits in this department to be in place and arranged on Monday, Aug. 30th. All exhibitors must be bonâ fide bee-keepers.

The prizes are awarded only for the quantity of honey specified in the various sections, and no two members of the same family will be awarded prizes in the same section.

Exhibitors must not change their exhibits after the judges have given their awards.

Exhibitors selling honey during the Exhibition will not be allowed to make any removal from their regular exhibit, but may have a special supply at hand from which the honey sold may be taken.

In the solicitation of customers no unseemly noise will be permitted.

Comb Honey must be exhibited in natural form, paper or any other trimming not allowed.

Exhibits in this department will be judged by points.

### CLASS 272

Sec.	1st	2nd	3rd	4th
1. Best and most attractive display of 50 lbs. of extracted granulated Clover Honey, in glass, 50 points for quality, 50 points for display.....	\$5	\$4	\$2	\$1
2. Best and most attractive display of 50 lbs. of extracted granulated Linden Honey, in glass, 50 points for quality, 50 points for display.....	5	4	2	1
3. Best display (Clover, Linden, Buckwheat or Thistle) of 300 lbs. of liquid extracted Honey, not less than 150 lbs. must be in glass, quality to count 50 points, display 50 points.....	18	12	8	5
4. Best 300 lbs. (Clover, Linden, Buckwheat or Thistle) of Comb Honey in sections, quality to count 50 points, display 50.....	20	15	10	6
5. Best 24 sections of Comb Honey (any variety), quality to be considered; clean sections and best filled.....	6	4	3	2
6. Best 100 lbs. of extracted liquid Linden Honey, in glass. Display to count.....	7	5	3	2
7. Best 100 lbs. of extracted liquid Clover Honey, in glass. Display to count.....	7	5	3	2
8. Best 100 lbs. of extracted liquid, A.O.V., in glass. Display to count.....	7	5	3	2
9. Best display of 100 lbs. of extracted liquid Honey, any kind, display to count 80 points.....	7	5	3	2
10. Best 20 lbs. of extracted liquid Clover Honey, in glass	4	3	2	1
11. Best 20 lbs. of extracted liquid Linden Honey, in glass	4	3	2	1
12. Best 20 lbs. of extracted liquid Buckwheat Honey, in glass .....	4	3	2	1
13. Best display of 200 lbs. Comb and extract honey suitable for a grocer's window or counter, space to be occupied not to exceed 6 feet square by 4 feet high	10	7	4	2
14. Best and most attractive display of Beeswax, not less than 10 lbs.....	4	3	2	1
15. Best 10 lbs. Beeswax, soft, bright, yellow wax to be given the preference.....	4	3	2	1
16. Best exhibit of Italian Bees, with queen, in single comb observatory hive .....	7	5	3	2
17. Best exhibit of any other variety, with queen, in single comb observatory hive.....	7	5	3	2
18. To the Exhibitor making the best and most attractive display .....	25	..	..	..

The prize in section 18 is given by the Ontario Bee-keepers' Association.

## Want and

Advertisements received at the office of the Journal, each advertisement strictly paid for. Amounts are too small to be kept. Write on a separate sheet from any other correspondence. Many times ad. is not reached us not each month.

**WANTED**—Lad for light sewing at home; good pay; wages and charges paid. Send particulars. NATIONAL SEWING CO., Montreal.

**FOR SALE**—One or four Langstroth with large honey between the two, \$10. Robert Street, Toronto.

## PURE ITALIAN

**FAST SEASON**—record breaking Italian Queens. Universal satisfaction. Orders were placed all for this season.

It pays to have vigorous, well bred comes out ahead.

**PRICES**  
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 Five tested - \$4.50



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Advertisements for this column will be received at the rate of 35 cents for 25 words, each additional word one cent. Payments strictly in advance, as the amounts are too small to permit of book-keeping. Write copy of ad. on a separate sheet from any other matter, and on one side of the paper only. Say plainly how many times ad. is to be inserted. Matter must reach us not later than the 23rd of each month.

**WANTED**—Ladies to do plain and light sewing at home, whole or spare time; good pay; work sent any distance, charges paid. Send stamp for full particulars. NATIONAL MANUFACTURING CO., Montreal.

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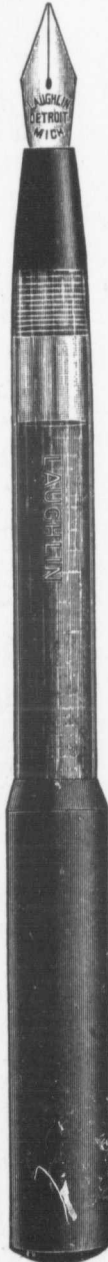
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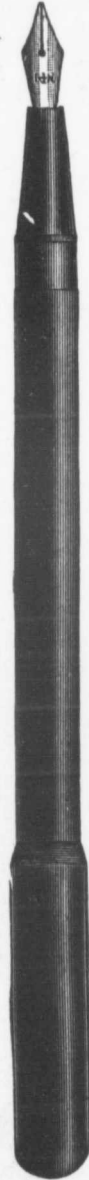
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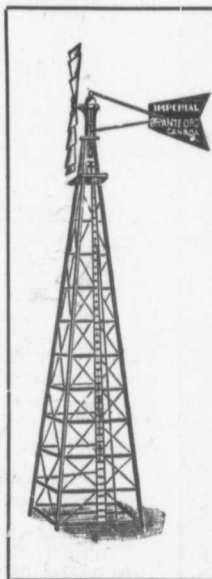
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