

# The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

Vol. 18, No. 2.

February 1910

\$1.00 Per Annum



THE true man, therefore, employer or employed, capitalist or working man, poor or possessed of inherited wealth, will conceive himself to be here to take a hand in the growth of society. Social conditions are as yet uncivilized. He is here to promote ideal or civilized relations.

The world catches a vision of a nobler industrial, civic and political development than has ever been worked out. The poorest man is here as one of its builders or creators. He is here for what he can get, only as his gettings are incidental to what he can do. No man can say "Let well enough alone," in the face of the millions who live oppressed lives, in the face of outrageous luxury and ostentation, in the face of dense masses of ignorance and superstition in every part of the world, in the face of a burdensome tide of military expense and wasteful taxation of the poor. A man, if he is a man, must be something of a radical; he must feel the zest of movement, the joy of seeing inert matter yielding to divine power. Here is the isthmus to be cut through. The man is here, whether as engineer or common laborer, to help work out the job. This is his life. No man knows what his life means till he sees this.—The Ethics of Progress, by Charles F. Dole.

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BRANTFORD, CANADA

## THAT PILE OF OLD COMBS

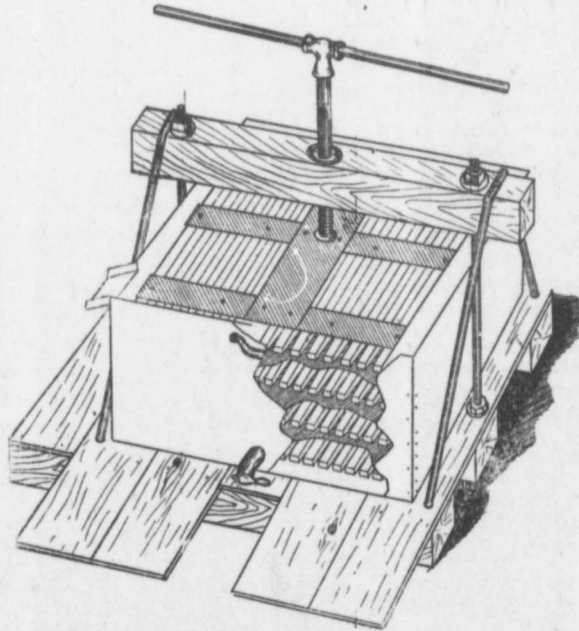
THE Honey Season over, and the bees snugly packed away for the Winter, the Bee-keeper will be able to turn his attention to the accumulation of old and broken combs in the honey house and other places. To the careful Apiarist this accumulation represents so much extra cash over and above his honey crop, and will be treated accordingly. He uses a Wax Press, of course—the latest and best.

The old systems of boiling and steaming did not extract much more than half the wax the comb contained, the steam press was better but still there was sufficient left in the refuse to make it excellent but expensive fire kindling. The latest and best is that of pressing under water, which separates and washes out the wax, practically removing every particle of the valuable.

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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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# The Canadian Bee Journal

Brantford

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Vol. 18, No. 2.

A friend of Brantford, has spring. All i Langstroth fra cellar. Write

There is a g not a very gr Those who can dollars a colon; tunate. The v alert.

The British page 33, has a our good broth view, accompan gravure. Broi success, and all him.

Referring aga graphs shown some of which ment have ord wish to add t those of foul-bi vertently omitte month.

We are having ter, which gives crop next season frequently taken a good clover a no time has it b day, Feb. 6th, t to about 10°, bu We have no he hopes that bees winter well, and be expected next

February, 1910

1910

# The Canadian Bee Journal

PUBLISHED MONTHLY

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

Vol. 18, No. 2.

FEBRUARY, 1910

Whole No. 540

A friend of the writer, living near Brantford, has 48 colonies for sale this spring. All in good condition and in Langstroth frame hives. Bees now in the cellar. Write the Editor of this Journal.

\* \* \*

There is a great demand for bees, and not a very great many are for sale. Those who can buy bees for five or six dollars a colony next spring will be fortunate. The wise ones will be on the alert.

\* \* \*

The British Bee Journal of Jan. 27, page 33, has a very fine appreciation of our good brother Hutchinson, of the Review, accompanied by a beautiful photogravure. Brother Hutchinson deserves success, and all the good things said of him.

\* \* \*

Referring again to the colored lithographs shown us by Mr. Holtermann, some of which the Agricultural Department have ordered from Germany, we wish to add that the lithographs are those of foul-broody combs. We inadvertently omitted mentioning this last month.

\* \* \*

We are having an ideal Canadian winter, which gives promise of a good clover crop next season. Abundance of snow is frequently taken as a sure indication of a good clover and fall wheat crop. At no time has it been very cold. On Sunday, Feb. 6th, the temperature dropped to about 10°, but only for a few hours. We have no hesitation in holding out hopes that bees will come through the winter well, and that a bumper crop may be expected next season.

We are pleased to present to our readers in this issue a rejoinder from Mr. D. M. Macdonald, of Banff, in reply to our recent utterance on the subject of disinfection of hives. It will be seen that he steadfastly adheres to his opinion that it is safest and best to disinfect. We do not think that it is necessary for us to say anything more upon the subject, as we expressed ourselves very fully in the article to which he refers. We will only say that we welcome anything from his pen, whether it agrees with our view or not. In regard to the name "European Foul Brood," we quite sympathize with him in his objection. Why it has been called "European" we do not know. We notice, however, that it is pretty generally becoming known as "black brood," and in future that name will be good enough for us. The lines of demarkation between it and ordinary foul brood is becoming pretty well understood.

\* \* \*

The Michigan State Bee-Keepers' Association meets in the Hotel Wentworth, Lansing, Michigan, on Wednesday and Thursday, Feb. 23rd and 24th. On the programme we find the following interesting attractions: "A New Method of Getting Rid of Foul Brood," by Ira D. Bartlett, Secretary of Northern Michigan B.K.A., East Jordan, Mich.; "Size, Ventilation and Construction of Hives," by R. F. Holtermann, Brantford, Can.; "Some of My Experiences as a Farmer Bee-Keeper," by W. J. Manley, Sandusky, Mich.; "Science and Theory of Bee-Keeping," by Hon. George E. Hilton, ex-President of the National, Fremont, Mich.; "A Few Suggestions," by

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N. E. France, manager of the National B. K. A., Plattsville, Wis. Mr. George W. York, President of the National B. K. A., has promised to be present. An interesting and profitable meeting is expected. Mr. L. A. Aspinwall is president of this association.

\* \* \*

A British Columbia reader asks us to explain what Mr. Balmer and Mr. Gill mean by "lay workers." The above term is not just as clear as it should be. It should read "laying workers." The worker bee is developed from the same egg that will develop a queen, the difference being in the case of the queen, a larger cell and more abundant feed. Therefore, the "worker" bee is known as an undeveloped female. When a hive becomes queenless, and there being an absence of larvæ from which to raise a queen, it often happens that one or more "workers" will start laying eggs. Hence the term "lay workers" or more properly "laying workers." The eggs from these workers will develop into only a poor class of drones. When you observe a mass of drone cells where natural brood should be; where "worker" cells are all drawn out and elongated, showing an effort on the part of the bees to convert the worker comb into drone comb, then you may be quite certain that you have a "laying worker," to be gotten rid of as described by the gentlemen above named.

\* \* \*

In a recent issue of Gleanings, page 38, Mr. Byer raises the question of varying virulence in black brood. We have heard it stated that foul brood varies in virulence. If we remember rightly Prof. Harrison made some such statement at one of our conventions at Toronto. We have always received this statement with some scepticism. Still we do not know. It would be entirely wrong to intimate that Mr. Byer is an alarmist. But he certainly was most emphatic in declaring the disease as he saw it, as most swift

and deadly. And there may be, after all, something in this contention. Replying, Editor Root says:

"Regarding European foul brood, we doubt very much whether there was any difference in its virulence in different localities; but we do know that a difference in the strain of the bees does have a marked influence in the matter of cure. It is possible that, in some localities, there is more of the Italian blood than in others. It is possible, also, that there is a strain of blacks, with just enough of Italian blood, that will resist the plague as much as or more than the Italians. Dr. Miller uses hybrids very largely. It will be remembered that he has been working for years to produce an extra energetic strain of bees without regard to markings. That he has to a great extent been successful is borne out by the fact that he has secured high averages per colony. This was especially true in 1908. Now, it is possible that the Dr. Miller strain of hybrid hustlers also have a great resisting power against European foul brood—as much as or more, perhaps, than some of the good strains of Italians.

Whatever the merits of the Alexander treatment, or the treatment as modified by Dr. Miller, it would seem to us that it would be wise to combine the McEvoy and the dequeening process of Alexander and Miller. Speaking about Mr. McEvoy it will be noted that in the editorial department elsewhere, he says Dr. Miller's experience in the matter of treating European foul brood is quite in line with his own. Mr. Percy Orton, of New York State, who appears to have had a large experience, claims that he has known all along that the Alexander method of treatment, even before Alexander gave it to the public, was effective."

\* \* \*

Mr. R. F. Holterman writes very interestingly in Gleanings, page 75, of his experience in migratory bee-keeping. In the moving of bees he seems to have had a large and varied experience and is not afraid to lay it before the public for the benefit of others. That he has had his successes goes without saying, but the following depicts very clearly one of his most severe trials:

"Our splendid stage got that there might there had apparently derstorm, and frequent given me experience rainfall in a section knew how slippery certain conditions might an advocate of wide one night moving but we had such wheel rest being narrow wagon on foot for passed the clay, and rear slewed around to the road, with setting unless the movement with his wheels. From that have felt that the attempt to compel the use of their business. The clay roads and, before we knew almost over a steep to the rack of the v post on the other pressure on the slope the other side of the of the bees had to situations caused delay time, owing to frequent and fuel ran out. A long spell of dry to get. However, what at last, and our spirit made good time the through the steam-engineer's estimation, reputation were passed. We thought our surmounted as we triumphal procession. The summer tourists the procession from thinking, as one expert scene did not offer a photographer. But the sand we found engine-wheels to secure the engineer had most. It would take scribe the troubles broken cable (for each one cable, thus prevent from the rear wagon by the preceding), bees and engine, etc. did band of workers of every situation at the most critical time. President of the N

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"Our splendid start did not let me forget that there might be danger ahead, as there had apparently been a heavy thunderstorm, and frequent long trips had given me experience as to variations in rainfall in a section of country; and I knew how slippery clay roads under certain conditions might be. I used to be an advocate of wide-tired wagons, until one night moving bees on slippery roads, we had such wheels on one wagon, the rest being narrow. I followed that wagon on foot for six miles, until we passed the clay, and again and again the rear slewed around until at right angles to the road, with every prospect of upsetting unless the driver followed the movement with his horses and the front wheels. From that night to this day I have felt that the advocates of legislation to compel the use of wide tires did not know their business.

The clay roads became more sticky; and, before we knew it, two wagons were almost over a steep bank. With chains to the rack of the wagon, and to a fence post on the other side, we relieved the pressure on the slowly sinking wheel on the other side of the load. A portion of the bees had to be unloaded. Such situations caused delay; and, after a time, owing to frequent stops, our water and fuel ran out. The former, owing to a long spell of dry weather, was difficult to get. However, we reached the gravel at last, and our spirits rose; and as we made good time these feelings gave vent through the steam-whistle, as, in the engineer's estimation, worthy objects of salutation were passed on the road.

We thought our difficulties had been surmounted as we passed, like a triumphal procession through Port Dover. The summer tourists were snap-shotting the procession from every direction, thinking, as one expressed it to me, such a scene did not often present itself to the photographer. But when we came to the sand we found it too loose for the engine-wheels to secure a purchase. Here the engineer had reckoned without his host. It would take too much time to describe the troubles we encountered—the broken cable (for each wagon drew from one cable, thus preventing the strain from the rear wagons having to be borne by the preceding), hunts for water for bees and engine, etc. We had a splendid band of workers who made the most of every situation and opportunity. At the most critical time Messrs. E. Trinder, President of the Norfolk Bee-Keepers'

Association and James Armstrong, foul brood inspector for the district came along.

Seeing the straits we were in, Mr. Trinder gave us wood and water, refusing any pay. Mrs. Trinder prepared food for the party on the same terms, and then the above-named gentleman went ahead and arranged to put the bees at a nearer point, where they were placed by an exhausted party almost twenty-four hours after they were loaded. We all made a solemn resolution never again to move bees; but within a few days I had another night trip moving bees over the same road by wagon, followed by the shipment of a carload, and then four wagon loads the following week."

\* \* \*

The discussion on net vs. gross weight of honey pails has brought out a considerable amount of opinion and practice among our readers. The gross weight has certainly shown the greatest number of supporters, and from a financial point of view their arguments prevail. As the most of our bee-keepers are putting up the gross weight pail, it would be well if all would come to this standard. Uniformity and custom is generally a controlling factor in most things, and will be in this case if all will adopt it.

\* \* \*

We have received from Japan a new journal, "The Friend of Bee-Keepers," a monthly magazine "devoted to bees, honey and home interests," edited by Umekichi Nawa, First Assistant of Nawa Laboratory, Gifu, Japan. It is a nicely printed journal, and we regret exceedingly our inability to read it, as it is published in the Japanese language. If there be any Japanese bee-keeper in Canada, we would be pleased to send it to him on condition of receiving extracts from it. It is published by the Japanese Bee-keepers Association. It is the desire of the editor to exchange with all bee journals. Address all communications to Kikujiro Iwata, No. 61 Shirokicho, Gifu, Japan. The January number contains a very fine portrait of Father Langstroth. We wish the journal every success.

### SOME LEAKAGES IN BEE-KEEPING AND THEIR REMEDIES.

Indexed

Leon C. Wheeler.

Well it is time to look over things and get them ship-shape for next season, when we shall be too busy to do any work which we could just as well have done before. We will get our sections put up and stored where they will be handy when we are ready for them. And we will sort over our old combs which we just set away in a hurry last fall and have some way neglected to look after since. Our "bait sections" are there, too, and we must get them out to mix in with the foundation in a few supers as far as they go.

Now, let us see,—where did we set that foundation we had left last summer? A prolonged search finally locates it, in behind a lot of other boxes and things, and we get it out; and now we'll begin business. But what is this! The box is full of old shreds of cloth, and bits of wool. A mouse nest, eh? And to our dismay we find they have made sad havoc in the foundation. You see they wanted their nest in just the place where there is a small space down between a couple of tiers of foundation and in order to get room they were obliged to chew away some of it. It must have been cold and brittle too, for it is broken in all directions from the nest, and altogether there is quite a waste. Resolve No. 1—We will keep our foundation tightly boxed after this.

Well, let us get out those supers filled with baits to mix in. Hello! Mice have been here too, as we can see before we get them out at all, for there where we left that super sticking over the edge of the other, see how they have chewed the super edges to make room for a passage through into the super. On examination we find more of their work. Several of the sections ruined from being chewed, and some of the combs are destroyed. We

begin to look around in earnest, and more than one of our nice straight combs we have taken so much pride in are found to be destroyed, especially those containing pollen. Resolve No. 2—We will see that our combs are stored away as they should be next year. Resolve No. 3—We will make war on those mice, and we'll do it now. A half dozen little mouse traps will soon clean them out.

The combs are mended by cutting out the holes where they were chewed, until they have square edges, and cutting pieces of worker comb from some that are not worth mending, and inserting in those holes so as to make a perfect fit. After which they are stored neatly away in a pile, care being taken this time that no mice can find a way into them. The sections are put up as far as the foundation holds out, and—well, maybe that will make enough any way, and we won't send for any more till we see if we need it.

As the weather warms up and the bees begin to fly freely, we decide the first real fine day to see how the bees are fixed as to stores. Well, most of them are all O. K., but we find a few of our best colonies are all out of honey, and must have some immediately, if we are to save them. It is too early to feed them syrup, and we are at a loss what to do. We might make some of that "good candy," but we don't know how, and it is too late to write and find out. Oh, if we had only thought to save some of those combs of honey last fall. That late fall honey which isn't worth much to sell, or to winter bees on, would have been just as good as any to feed back in the combs in the spring. Yes, better in some ways, for lots of it isn't capped over, and the bees will go on to it much more readily, and make better use of it than they would if it were solid sealed combs.

Well, it's no use crying over spilled milk; but—Resolve No. 4—We'll save that honey next year.

We have a farm and time is pressing first thing we know are out of stores, and have fed these syrups neglected it until too bees are lost while build up as they stores.

It is nearly time many of our bees but we get them possible and double and make the Res will take time for it does make some day later.

It's a bountiful crop in and we are limited supply of more than once to make our hearts grow light heavy with the delirious which means dollars pockets, and what viewing the beautiful which have grown we realize that we sections and we sumore. We haven enough to go over we hustle off an operation. A great market just about this time set their stakes too year, and so when supply dealer, it fills orders and it is so full it. So long in it is received, we find is about over, and our best honey on moreover we had a the bees determine we made another see to it next year of sections ready for it comes.



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We have a farm along with our bees and time is pressing these days, and the first thing we know several other colonies are out of stores, and although we could have fed these syrup, now we have neglected it until too late and some more bees are lost while others have failed to build up as they would with plenty of stores.

It is nearly time to put on supers and many of our bees are not in condition, but we get them in as good shape as possible and double up the weak colonies and make the Resolve No. 5—That we will take time for our bees next year, if it does make something on the farm a day later.

It's a bountiful crop which comes pouring in and we are obliged to empty our limited supply of extracting frames more than once to make room for more, and our hearts grow light as the tank grows heavy with the delicious, sparkling liquid which means dollars and cents in our pockets, and what pleasure we get from viewing the beautiful piles of comb honey which have grown so rapidly. Suddenly we realize that we are nearly out of filled sections and we surely shall need a lot more. We haven't extracting combs enough to go over half of them, and so we hustle off an order for more foundation. A great many others are realizing just about this time that they too have set their stakes too low for this bountiful year, and so when the order reaches the supply dealer, it finds him swamped with orders and it is some time before he can fill it. So long in fact, that by the time it is received, we find that the honey flow is about over, and we have lost a lot of our best honey on account of it, and, moreover we had a lot of extra work, for the bees determined to swarm, and we made another resolve—No. 6—We'll see to it next year that we have plenty of sections ready for a bountiful crop, if it comes.

As we finish up extracting this time, we take care that all combs are stored away so the mice cannot get at them, but we forget one important item, which is, that moths will get in where mice cannot, and another bunch of combs are destroyed as a result. Resolve No. 7—We will keep our combs where we can sulphur them next year—and then we will sulphur them.

We put up the honey in tin cans or glass jars, as the case may be, and once when we are in a hurry and the honey is running slow we make up our minds it is a waste of time standing and watching it so long, as we will have plenty of time to do one or two chores that need attending to. All this time we are busy planning out some scheme for the future, or something else is occupying our thoughts, and when wife calls us to help her a few minutes, we forget that there is a stream of honey still running out there. So we help her—and then go about something else until our wandering thoughts suddenly focus on the dreadful remembrance, that honey is still flowing! We race to the honey house and our dismal forebodings are more than verified in the lake of honey which greets our eyes. The floor was dirty—and oh, the pity of it! A nectar fit for a king, and there it lies in the dirt, a veritable lake of it. I'll never so long as I live—Resolve No. 8—leave another can of honey to fill while I go galavanting off after something else.

These are a few of the leakages to be found in many bee yards. Not many beekeepers have found all of them true in his case, but less of them who have not found some of them in his experience. The margin of profit in the business is not large enough to permit these leaks to go on and still give us an income, so we must stop them up and the only way to do this is to carry out our resolves. Profiting not only by the mistakes we have made, but those of others as well.

Barryton, Michigan.

## DEALING WITH FOUL BROOD.

## Indexed Shall We Disinfect?

D. M. Macdonald, Banff, Scotland.

Thanks for your concluding remarks on page 393. Taken in conjunction with the following sentence near the outset of your rejoinder, and your reference in the December issue, they encourage me to reason still further in favor of that cleanliness, which is said to be next to godliness. You say: "We approach the subject with the one desire of bringing out the truth." In all I write that is my one aim. If I know myself, I love truth far better than my own opinion. Opinion varies; truth is immutable.

We shake. You shake! That is a common meeting ground. In my novitate days I had a bad experience of foul brood of a virulent type, and our late editor advised no drugs, but recommended me to shake bees off combs, and go to the root of the matter, because drastic measures were best in the end, as it was better to kill than merely scotch the snake. I never regretted the temporary loss, as it paid me that very season. Yes, at times even a holocaust of all internal works is best and cheapest; but that is a dernier resort. I shook bees, then I quarantined them, joining up two, or three, or four lots together. In restarting them, however, everything inside was sweet, clean and new. All hives were cleaned out thoroughly, they went through a "thorough cleansing process." My repeated contact with infectious diseases had taught me the value of a liberal use of plenty of soap and soda in cleaning up, and my doctor taught me the importance of powerful disinfectants in getting rid of all disease germs. Therefore, I **disinfected** all hives. In doing this I merely followed commonsense. Germs or bacteria increase at a marvellous rate under favorable circumstances, when they meet the

suitable media. Countless millions may be evolved in a single day. These originate Foul Brood. Now, if we leave only a very few in any corner of the hive to which we consign our bees, we have here a **diseased** colony. Curing f. b. is only a poor way of dealing with the pest. Prevention is far preferable. How can we prevent it, but by most drastic precautions to keep it out, even in the shape of a single germ, and how can we better do this than by a resort to the means taken by the fair sex in their constant warfare with other disease germs, i. e., a thorough scrubbing, added to a free use of disinfectants. In a very bad case the scorching process practised all the world over, is an admirable one, and rightly carried out it does not injure a hive one whit.

But you may say this is only our blundering British way of carrying out what Mr. McEvoy calls his **thorough cleansing process**. You seem to think our treatment insular. You appeal unto Caesar; therefore unto Caesar let us go! Perhaps no man in America knows more about Foul Brood (that name is good enough for me) than Dr. White. Well, here are his very words: "Use no bee supplies from an infected apiary unless they are **thoroughly disinfected**. It is always safest to allow the bees to go into a **new** hive, or a hive which has been **thoroughly disinfected**." That is from his latest bulletin. Mr. Root is confident the disease has been carried in hives. Dr. Phillips' latest pronouncement is "disinfect tools, appliances, implements, clothing" of operators in contact. Mr. Beuhne (Australia) says: "The only reliable and satisfactory cure is the starvation method with the removal and destruction of the combs and **cleansing** of the whole hive and fittings."

In New Zealand their act contains very stringent regulations for cleaning and **disinfecting**, and Mr. Hopkins emphatically lays down in his bulletin that the disin-

fection of hives are neglected. "In hives should be scotch brood before using the apiary, whether certain it was in it." "The hive, bottom boards, and disinfected and disinfectants. He solution of carbolic acid inside."

In Switzerland the Chief Inspector Lenzi's official pamphlet on Foul Brood, it he takes a very liberal view of **disinfection**. He recommends scrubbing with a free use of a paint brush, and go to the root of the trouble, and leave nothing behind.

In Denmark, Germany, Russia, at least, if not in all countries of Europe, thorough cleansing about eighteen States of the Union, they have not been aware if all precautions. But the bee-keeper must also take care to the satisfaction of his hives, etc." The latest bulletin on Foul Brood in Gleanings, strongly, see page 10.

The Canadian Department of Agriculture in their latest bulletin advise cleansing of broody hives before

All these are not new history, but they have been published on both hemispheres. Note, often and quoted, re-entirely sink the question. Dr. Burton Gates, Department of Agriculture, reference, recommend for both.

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fection of hives and appliances must not be neglected. "In all cases when empty, hives should be scorched with a painter's lamp before using again" if disease is in the apiary, whether it is certain or uncertain it was in that hive. He adds: "The hive, bottom board, etc., should be cleansed and **disinfected** with a strong solution of carbolic acid, or izal, or singed inside."

In Switzerland they are very thorough. Chief Inspector Lenenberger has issued an official pamphlet on this subject, and in it he takes a very positive stand in favor of **disinfection**. He also advises patient scrubbing with a disinfectant, and the free use of a painter's lamp. The Swiss go to the root of the matter in bee-keeping, and leave nothing to chance.

In Denmark, Germany, Austria and Russia, at least, if not in all other countries of Europe, they believe in a thorough cleansing and **disinfecting**. In about eighteen States of the American Union, they have a Foul Brood Act. I am not aware if all these advise this wise precaution. But take one as a type. "The bee-keeper must also **thoroughly disinfect** to the satisfaction of the inspector all hives, etc." The inspector is bound to disinfect himself and his clothes." The very latest Foul Brood Act, as proposed in Gleanings, supports disinfection strongly, see page 784.

The Canadian Department of Agriculture in their latest agricultural circular, advise cleansing and **disinfecting** foul broody hives before again peopling them.

All these are not matters of ancient history, but the very latest which has been published on the subject in both hemispheres. Note, too, all I have written and quoted, refers to **Foul Brood**. I entirely sink the question of "types," but Dr. Burton Gates, of the U. S. Department of Agriculture, while allowing a difference, recommends the same treatment for both.

Now, the whole point of my argument is, and has been all along, that the form of cure is all but identical. In fact we, all the world over, practically agree in all particulars **but one**. The vast majority, I maintain, say shake, cleanse, **disinfect**! A small minority, it seems to me, say shake, cleanse, but leave just a sporting chance for a few germs, or even a solitary spore in the shaken colony! !

A closing word as to nomenclature, and then I am done. Not for the first time I take a firm stand against the use of the word "European" as a synonym for "Black" brood. Till twelve months ago I had never seen a specimen in this corner of Europe, and Mr. Cowan, little more than two years ago described it as new to him. At least two continental apiarists of the first rank repeat the same story. Where then is the appropriateness of saddling us with this misnomer?

But I have yet another lastly. "European Foul or Black Brood" is giving you "great uneasiness," and Mr. Byer characterizes it as the blackest of **black** diseases. I will let yourself and your brother editor of the Review settle what you both mean, as to the virulence of the two varieties of Foul Brood. "Black brood may appear and disappear. American Foul Brood never cuts such capers. Once in a colony it stays unless removed by the hand of man. The bees cannot remove the scale, but in black brood the scale can be easily removed. The bees can very easily clean out the cell if they choose, a thing they cannot do with American f. b. The bees seem able to overcome and resist the one, in the other the disease stays there." And yet this mild type of Mr. Hutchinson's is the same disease which your journal says "is insidious in its attack, which is liable to break out again, and against which we are almost helpless." The two opinions want some reconciling, don't they? Evidently the last word has not yet been written on Foul Brood.

Indexed

## SPRAYING FRUIT TREES IN BLOOM

W. T. Davis.

On Page 37, Jan. 15th, issue of Gleanings, Mr. J. E. Crahe says the law in Vermont provides that a person who sprays fruit trees when in bloom with a solution containing less than three pounds of unslacked lime to fifty gallons of the solution shall be fined etc. Does it mean solution after being prepared in the regular formula to protect the bloom and bees or three pounds to the fifty gallons. We had in our orchard some 220 fruit trees, apples, pears, plums and cherries; some 400 raspberries, currants and gooseberries planted on the rows and used to spray them with Bordeau mixture—4 lbs. lime, 4 'bs. sulphate of copper, 4 ozs. Paris green, 40 gallons water (Imperial), and did it regularly until after we started to keep bees, but spraying trees and keeping bees did not go well together. At the first spraying, early in May, small fruits and dandelions were in bloom; second spraying after bloom had set in, clover was coming in bloom; we could easily do the fruit trees at the right time, but our gooseberries, etc., caught the spray, with the result that our bees were nearly depleted, and plums sold that year, if at all, for 15c. a ten quart basket, and there were perhaps twenty bushels on the ground that could not be given away. I had help two half days. Lost two half days myself, cost of spraying material \$2.40, had a filthy suit of overalls to wash out and a filthy job to do it. Since then I have sold a \$9 spray pump for \$4, and let the bees do the spraying, and have had good crops every year since. Our bees are right in the orchard and last year early apples were almost a failure around here with one exception. Our apple trees were overloaded, plums a good crop, pears and cherries medium, but better than most places. Some years ago we took the bees on to a lot where a pear and plum, although aged trees,

had never borne, but they started and gave a fine crop and have done so more or less ever since.

I think no person who knows or cares what he is doing, would spray trees when in bloom, as nearly all fruits are at first in a sort of shell or cover, especially so with English cherries, which have a decidedly thick shell, until about a week after blossom falls, and so on down to apples, plums, etc., and how can a spray cover the real embryo fruit? It is about as useless to spray trees when in bloom as to make the mixture and pour it into a hole, and not as much use as to pour it into a drain; there the copper sulphate would do some cleaning.

I certainly do admire Mr. J. L. Byer's remarks in "Notes and Comments" as to the time when the reports should be sent out altogether. It does not effect me much as I set my price and stick to it, and so far have sold my crop locally. I am not ready to report quite so soon as report is asked for. I hoped to get 75 pounds per colony last season, spring count, but did not feel sure enough to estimate; finally I got within a fraction of 80 pounds to the colony and not enough buckwheat to discolor even the last extracting.

Mr. McEvoy does not do a great deal of writing to the Journal. More is the pity. You might head his writings, "Grains of Gold." Perhaps, and let's hope he will, do more since he retired from the position of inspector. I attribute my success last season very largely to his report of spring management, for although not a spring chicken myself, I am quite an amateur at bee-keeping; have not yet learned to use the full depth super for extracting, or even to use loose bottom hives, or attempt to do the ventilating with a deep entrance, but the thermometer has to be up around the ninetys before we have any great deal of clustering outside. Have not even learned to use flat covers for the hives, or to keep the

bees in the same session, but in open change them into

Your argument disinfecting hives from what I have er's torch would d if it was put in th there.

Stratford, Jan. 1

[Come again, Davis. Glad to m Yours is, the kind The photo of your month.—Ed.]

## PATENTS AND

R. F.

On page 14, C. E asks certain questions you are like many expression that an made by a party however, is not the can be made by no in many cases would if such were the already written to signed has a portion cannot be patented in connection the which a screen o used. This is covered by Canada Patent No. 24, 1904. A person, thinking that himself, yet that liability to court perhaps, well that this as I believe the in with patent law in force of the law closing let me contribute to improvement in Journal.

[We are very above from Mr. E

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bees in the same hives two years in succession, but in opening out time in spring change them into new or clean hives.

Your argument with Gleanings about disinfecting hives may be alright, but from what I have sometimes seen a painter's torch would do some hives good even if it was put in the hive and left burning there.

Stratford, Jan. 28th.

[Come again, and yet again, friend Davis. Gläd to make your acquaintance. Yours is the kind of letter we appreciate. The photo of your yard will appear next month.—Ed.]

#### PATENTS AND PATENT LAWS.

R. F. Holtermann.

On page 14, C. B. J., Mr. H. S. Showell asks certain questions and from it I judge you are like many others, under the impression that an article patented can be made by a party for his own use. Such, however, is not the law; a thing patented can be made by no one; in fact, a patent in many cases would be of very little use if such were the law. Mr. Showell had already written to me. The hive I designed has a portico. The portico simply cannot be patented, but there is a device in connection therewith, by means of which a screen or double door can be used. This is covered by Dominion of Canada Patent No. 87,381, issued May 24, 1904. A person may make this device, thinking that he can make such for himself, yet that does not free him from liability to court proceedings. It is, perhaps, well that this point should come up, as I believe the impression in connection with patent law is otherwise and ignorance of the law protects no one. In closing let me congratulate you on the improvement in the Canadian Bee Journal.

[We are very pleased to receive the above from Mr. Holtermann. There is a

very general opinion among business men, who have not actually gone to the trouble and expense of getting legal advice on the matter, that any patent can be copied and experimented with by the individual, so long as the same is not offered for sale. We imagine that this general opinion must have arisen sometime, somewhere, as the result of legal advice or action. We have not asked for legal advice. But, on the receipt of the above letter from Mr. Holtermann, we consulted the manager of one of the large industrial establishments of our city, as to what was the general understanding and practice in regard to this matter. He assured us that his firm acted upon the generally approved practice of copying any patent and experimenting therewith, and putting the same into practical use in their own shops, and that no action could be taken that would hold in court unless the article was offered for sale. Personally, we are inclined to accept this view of it. If we were in Mr. Showell's place we would unhesitatingly make the article. Having said this much, let us analyze the point and see whether or not this generally accepted view has its basis in common law or common sense. All inventions are the result of study and experiment. One thing leads to another thing. The first steamboat was a crude affair, but IT gave us the modern steam vessel. The first steam locomotive was a crude affair. We had the pleasure of seeing it at the Chicago World's Fair. But IT likewise lead to and gave us the modern locomotive. Why? Because men took hold of the new thing and improved it. They first built it and then by experimenting produced something better. If men were not permitted to copy patented articles in the privacy of their own workshops, there would be but small progress in mechanics. For eighteen hundred years the world knew nothing about the telephone; simply because the idea had not been evolved. When the idea was born in the

mind of Graham Bell, in this our good city of Brantford, and brought to a successful issue, it was still but a toy, using stove pipe wire. But the idea was all that was required to give us that great wonder of modern science as we have it to-day. Others started where Bell left off. It would seem, therefore, that Mr. Holtermann's opinion on this matter does not conform with the generally accepted opinion of business men, and we do not think it is in accord with the common law. However, we want to make it clear that we do not know.—Ed.]

#### DEAD BROOD IN WEAK COLONIES.

Indexed

David Scott.

I see you invite subscribers to use your valuable paper both for the writer's benefit and also for information to others. I have been keeping a few hives of bees for the last few years. Last fall I thought I would move my bees. I had been keeping them on the lawn close to the house. Sometimes strangers coming to the house would get stung, and sometimes those who were not strangers. So I moved them to an old orchard, just when I packed them away for the winter. I had eight good strong hives to which I had fed a little syrup for about a month all through September, to stimulate the bees to keep up breeding. Shortly after I had packed them away I noticed two or three of them had diarrhoea; the entrance was becoming all soiled. In the spring two were dead, four others very weak. In the weak hives I found lots of dead brood. I noticed some of the dead brood turned right around in the cell. In spite of all I could do the weak hives dwindled away and died. The two that I had left were good and strong. I thought their new home was all that could be desired. I found the bees very cross. I could scarcely go near them without being attacked, and some times had to make a hasty retreat, and to examine them was

far from pleasant, as smoke would scarcely quiet them. One day when I was examining one of the hives I found a very fine young queen in an upper storey, so I made up another hive out of the other two, as they were now very strong. That was all the increase I made last year, as I feared I had got some dreaded disease. Now, Mr. Editor, could you give me any advice on the matter. The dead brood had no bad odor about it as foul brood would have.

Salem.

[I do not think that the new location had anything to do with your trouble. You seem to have stimulated brood rearing in weak colonies that were unable to take care of it on the approach of the cool fall evenings. The bees were unable to keep up the necessary heat, and the result was it died or starved. I cannot understand the attack of diarrhoea so early in the fall. The food was at fault somehow. It is pretty hard to advise you as your information is not clear enough. We would advise you, however, to call in the inspector and examine your bees. He will be able to locate your trouble and give you good advice. His visit will cost you nothing. Write to the Department of Agriculture, Parliament Buildings, Toronto, and an inspector will be sent to you.—Ed.]

#### DID WELL AND IS THANKFUL.

R. Galbraith.

The past year has been a very profitable one in the honey business, having secured one hundred and ten pounds per colony. I have sold entirely out at a good price. I am wintering 125 colonies in the cellar. Am well pleased with the C.B.J. and advise all in the bee business to subscribe for it. Let us all be thankful to the Giver of Every Good Gift. Wishing you every success.

Kerwood, Ont.

#### OPINIONS

Indexed

Leon

The discussion to be used for honey is very interesting. Haberer, that if it should be made see no reason why if so marked. I pail having a net would be their no reason why by side, if price

Over here the ounce tumbler preference for the a few pails, but good sellers, even me three cents per for the smaller

Locally I found sizes of extract in comb honey commission. For five cents and a 10% discount on and on a 10 cent Counting freight jars cost me 4½ which leaves me Tumblers cost a ing freight, label leaving a balance of seven ounces cts. per lb., net

Most of those than enough for to come out to the in which form at ten cents. The takes care of the little too dark for anything in honey in too small

I have one from 150 to 200 his own consumption

## OPINIONS ON HONEY PAILS.

index

Leon C. Wheeler.

The discussion about the size of pails to be used for honey, in the January issue is very interesting. I agree with Mr. Haberer, that if the smaller pail is used it should be marked gross weight, but I see no reason why it should not be used if so marked. If others wished to sell a pail having a net weight capacity that would be their privilege, and I can see no reason why they would not sell side by side, if priced according to size.

Over here the trade calls for seven ounce tumblers and pound jars, with a preference for the tumblers. I have used a few pails, but did not find them very good sellers, even at a figure that netted me three cents per lb. less than I received for the smaller packages.

Locally I furnish grocery men in both sizes of extracted honey packages and in comb honey and they sell for a 10% commission. Pound jars sell for twenty-five cents and tumblers at ten cents. A 10% discount on a 20 cent jar leaves 18c. and on a 10 cent tumbler leaves 9 cents. Counting freight, labels, etc., the pound jars cost me  $4\frac{1}{2}$  cents each, when put up, which leaves me  $13\frac{1}{2}$  cents per lb. net. Tumblers cost about three cents, including freight, labels, corrugated cases, etc., leaving a balance of six cents per tumbler of seven ounces or at the rate of 13 7-10 cts. per lb., net.

Most of those who care to buy more than enough for a meal at a time prefer to come out to the farm and buy in bulk, in which form I sell the standard grade at ten cents. This class of customer also takes care of the off grades of honey, a little too dark to go in the fancy honey, or anything in the odds and ends of honey in too small quantities for shipping.

I have one such customer who buys from 150 to 200 lbs. of honey a year for his own consumption, and a number who

take from 50 to 100 lbs., nearly all of which is of these off grades of honey.

Understand me, these so called off grades do not mean a poor grade of honey necessarily, nor fall or buckwheat honey, which I consider a standard grade by themselves, and for which I have a demand which greatly exceeds the production.

Off grades of honey in my vocabulary means honey a little different from the standard, and such as I would not care to put in with my bottling honey. Sometimes because it has a little darker color or perhaps it is "willow herb" honey and different from the other in that way, or anything which would make it in any way different from the kind of honey my customers have come to expect. When they come to the house they have the chance to examine and taste till they find what just suits them, when they go away satisfied.

I believe bee-keepers would find it to their advantage to attend the big fairs more than they do, as it is one of the best places to sell honey I ever struck. I sold at the Grand Rapids fair this year nearly two hundred dollars worth of honey, much of which netted me 20c. a pound, extracted. Others who attend the fair at Detroit told me they sold lots more honey there than they were able to sell at Grand Rapids. Counting the premium money and the extra price I got for my honey, I was nearly one hundred dollars ahead for attending the fair, besides the advertising I got out of it. The whole expense of getting ready for the fair and expenses while there would not exceed thirty dollars above what it would have cost me for landing it in the ordinary way, and I expect a good share of that would have been spent in going from town to town, selling it in the ordinary way, or in advertising if sold through that medium.

My buckwheat honey is nearly all sold in Grand Rapids, in tin cans holding

eleven pounds each, which sell for one dollar, or a net price of about eight cents per pound. A friend sells this honey for me on a 5% commission, and his sales for me this year total well on the way to half a ton of honey.

Barryton, Michigan.

William Brunne.

I have read the December, 1909, and January numbers of the C. B. J. with much interest. I have been a reader of it for over twelve years, and I am glad to say that it is always a welcome guest to me. I have noticed the improvement from year to year, and its efforts to keep up with twentieth century times. We should try and introduce it to every bee keeper's home. It certainly was a great help to me when I started bee-keeping.

Now, I wish to give my poor opinion on the honey pail and weight question.

I produce largely extracted honey and consequently have to use many pails each season. Last year I used one hundred dollars worth. I sell to wholesale houses as well as retailers and home customers. I have a fairly good home market built up, and I also peddle some of my honey. Every honey producer should build up a home market; it pays well, and helps the general market.

Now, first, as to the size of pails. It really does not matter a great deal, as each bee-keeper should govern himself as to the requirements of his customers. I use 60-lb., 22-lb., 10-lb., 5-lb. and 2-lb pails. I find that with retailers or in peddling honey that 2 and 5-lb pails go best, with a few 10-lb.

It seems to me the more important question is: What weight should we give with our pails, net or gross weight?

When I first started bee-keeping some twelve years ago with two colonies (now I have 173 in cellar), I used to peddle all my honey and put pails up net weight, and either charged extra for the pail or lost the price of it. But what a mix up!

I could not find money to help me pay for the pails. No one would pay any more, than what the market price was—so much for so much money and nothing more.

Retail dealers told me to fill my pails; they strongly advise gross weight. I have weighed my pails the last few years without the covers on, to make sure my customers get plump weight; the weight of the cover is allowed extra, and this has not made me poorer. I make a 2-lb. pail weigh two pounds, a 5-lb. pail to weigh five pounds gross weight. I fail to see dishonesty in giving gross weight. Many of my customers have told me that bee-keepers have a right to be compensated for their pails.

I hope I am charitable enough not to try to force my opinion on to those who differ from me.

Our O.B.K.A. should make it their motto not to rest before a standard is established in regard to the question of the weight of honey in pails.

For myself, nothing whatever can bring me back again to use net weight pails, as my present way works so satisfactorily. Gross weight pails always pay for pails; no extra charges and satisfaction with retail dealers. If every bee-keeper would adopt this as a standard, all would be nice smooth sailing. Don't you see! You sell say 500 pounds of honey, pail included (gross weight), at so much a pound; you get your money, pails paid for and no questions asked.

Our O.B.K.A. in co-operation with other Associations in the Dominion are strong enough to establish a standard weight in our honey business. We certainly will meet with difficulties if we do not accept some standard, to which the minority should submit. I predict that in the near future our bee-keeping fraternity will adopt one standard size of honey pails, as well as a standard weight for same. If wishing is not wrong, then I wish with all my heart it will be gross

weight, as it will be to the advantage of our customers will be the way.

Arnstein, Ontario

Johr

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I will state the following, just for plan to be correct

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Hollen, Ont.



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Arnstein, Ontario.

John McEwen.

I have read the articles in the last Journal by Mr. Byer, and Mr. Haberer re the weight of honey to the pail. I am not going to say Mr. Haberer is wrong; but years of experience has brought me to Mr. Byer's side of the question. For years I put ten pounds of honey in each pail, making pail and honey ten and three-quarters pounds, but never yet succeeded in getting a better price per pail than the man who put up a ten-pound package. In looking back over my experience I can see that I have given away hundreds of dollars. You will, therefore, see that I am in favor of the ten-pound package.

Claudeboye.

George Rogers.

In reading the C.B.J. I notice that the different opinions in regard to the size and filling of honey pails is asked for. I am glad that the discussion has been started, and hope that some of our fathers in the business may suggest something that will be most likely to meet with general satisfaction.

I will state the method I have been following, just for the sake of giving my plan to be corrected if wrong.

I use the 5, 10 and 15-lb. sizes, and hold the price of each out of honey, and it seems to meet general satisfaction. Nobody finds fault. The way that I came at this way of filling was talking with a grocery firm that bought largely from me. They said it made evener change when selling and no objections were raised when the purchasers were informed. Hoping to hear from others.

Hollen, Ont.

### MR. WHEELER REPLIES TO MR. WILLIAMS.

Leon C. Wheeler.

R. P. Williams, page 15, wants to know if I consider once shaking to be enough to cure a foul brood colony.

I never shake but once, but please remember I treat them when there is only a very light flow on. If one were to shake during the height of a honey flow, possibly there might be some colonies that would need a second shaking, unless confined for a day or two, or rather two or three days, as advocated by some. However I have shaken several colonies when the clover flow was on in full force, (it was not, however, a heavy rush of honey like we have some years), and none of them showed the disease again. These were given only the one shaking and were not confined.

If I found it necessary to treat colonies again in the height of the honey flow, I should shake them only once and then watch them closely for a re-appearance of the disease. I should expect that not more than one in ten would ever show the disease again, and were one to lose that colony entirely, (which would be unnecessary), still he would be ahead when he counts the gain from the other nine, saved by shaking only once.

I have very little trouble with bees absconding, when I shake them and give them their liberty at once, but when I have kept them penned up for a couple or three days I have lost about 40% of them in this manner.

I always aim to treat as many of my colonies in the evening, as possible, and I believe this helps in a measure to keep them from absconding, as they have a chance to get used to the new order of things, and when day light comes they will have gotten over their notion.

The utmost care should always be taken that the disease be not carried from hive to hive through the medium of the

hands or tools. I use a strong carbolic acid solution for this part. Also be careful that no bees can get to the diseased combs and honey. Keep in a tight room until you have time to render them up, and if a bee should get in, kill it.  
Barryton, Michigan.

**FARM HANDS FOR ONTARIO.**

**Salvation Army is Perfecting Its Organization to Bring a Desirable Class of People to the Dominion.**

Notwithstanding the great flow of immigration to Canada during the past few years the need of farm help seems to be as great as ever, and in order to meet the demand, the Salvation Army has had ten experienced Canadian representatives in Great Britain during the past three months, selecting a good class of able-bodied men and women, whose emigration will be arranged this spring. As the Emigration Department of the Army has done extensive advertising in the rural districts of Great Britain it is expected that they will be successful in bringing a class of people to this country who will readily adapt themselves to Canadian farming.

**Married Men As Permanent Settlers.**

There is a great desire on the part of married men with families to emigrate to Canada for farm work, and it is gratifying to observe that farmers are seeing the advantage of making proper provision to be in a proper position to hire this class of help. Married men are to be heartily recommended as making the most permanent settlers, being anxious to make homes for their families in this country.

Full information and Application Form will be furnished by Lieut.-Colonel Howell, Immigration Offices, James and Albert Streets, Toronto, or Staff-Captain Williams, Clarence Street, London.

It is expected that parties of men for farm work will arrive during the months of March, April, May, June, and July, under the supervision of the Army's duly appointed conductors, and will be sent from port of landing direct to situations throughout the provinces of Ontario and Quebec.

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Chrysler, W. A., at \$5.50 per diem .....	126 50	47 65
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McNaughton, J. L., at \$5.50 per diem .....	123 75	55 45
Newton, Jno., at \$5.50 per diem .....	123 75	42 30
Pettit, Morley at \$1,000 per annum .....	333 34	156 67
Schrank John S., at \$5.50 per diem .....	132 00	53 45
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Sibbald, H. G., at \$5.50 per diem .....	41 25	7 95
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**Indexed WA Ontario Bee-1**

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Mr. McEvoy— phuric acid to th  
 Mr. Chrysler— a pint to 200 c over 50 per cent from the bee-kee out the province has to refine to n is as particular honey. It can be the same as in honey. Of course has been probabl ceptacles, and it a uniform qual foundation. Wax slowly. When h or honey or any is a constant agi out to cool after should be covered top especially, s should cool first.

**INDEXED WAX CRAFT.**

**Ontario Bee-Keepers' Convention.**

(Discussion continued from Page 14).

W. A. Chrysler—The principal thing that I wish to speak about is the refining and rendering of wax. With wax properly rendered it would be unnecessary to be refined with sulphuric acid. I find that any trace of sulphuric acid injures wax. I contend that wax that has been spoiled probably from improper rendering, can be refined so that it will be nearly as good as any wax, and will, no doubt, be accepted by all the trades as no different from the wax that has not been refined with sulphuric acid. No sulphuric acid should be put into beeswax in its pure state as we buy it; it will carbonate it. When I have to refine beeswax I take a certain amount of sulphuric acid and dilute it with water until there is probably 99 per cent. of water, and then it can be poured into the barrel of wax after it is melted. Don't put it in till after it is all boiled.

Mr. McEvoy—What proportion of sulphuric acid to the amount of wax?

Mr. Chrysler—I have used about half a pint to 200 of dark wax. There is over 50 per cent. of the wax gathered from the bee-keepers generally throughout the province that the supply dealer has to refine to make foundation of. Wax is as particular a thing to melt up as honey. It can be spoiled by over-heating the same as in liquifying granulated honey. Of course, there is some wax that has been probably put in from dirty receptacles, and it is necessary to get it of a uniform quality in order to make foundation. Wax should be cooled very slowly. When heat is applied to wax or honey or any liquid from below there is a constant agitation. Wax, when left out to cool after it has been melted up, should be covered over thoroughly at the top especially, and the bottom really should cool first. Keep the top warm as

long as possible. By keeping a certain heat above the wax while it is in liquid form you could have the impurities precipitated to a certain extent, and you will get very transparent and very nice wax. With reference to the wax press, Mr. Byer spoke about different presses in use. I might say that the first press I had was from Mr. Gemmell. Mr. Hatch probably "hatched" it and Mr. Gemmell made one and bought it from him, and I thought I improved it. I suppose the press I have been using probably might be called the Hatch-Gemmell-Chrysler press, and I have succeeded very well with that. I did sell a great many of them, but I may tell you now I am not in the market for selling wax presses. Mr. Sibbald I believe probably made an improvement on it. In fact, I made mine to work similar to his, but I find that my own will do just as good work with the amount of labor expended. I tried melting over slumgum last year, and we worked all day, and we got about one pound an hour from the slumgum, and that is the best we could do.

Mr. Byer—A number of bee-keepers wrote me last year in particular asking why they were troubled with such a depth of spongy matter at the bottom of the cakes of wax. I believe the main cause of that is in using hard water. Rain water is always preferable. The lime in hard water acts on the fatty matter wax contains; it is really a form of soap. If you use soft water or rain water you will find it makes a great difference in getting rid of that trouble. I have seen a cake of wax which would probably weigh about 35 pounds, and one-third of that was a spongy mass. I think a great deal of that was caused by using hard water. By allowing old combs to get wet they will deteriorate, and you will get a poor quality of wax.

O. L. Hershisher—When it comes to melted cappings I don't think you will find very much spongy matter in them,

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but if you are melting old combs that are partly decomposed you will find a good deal of that in the bottom regardless of the kind of water you use.

Mr. Holterman—I have been fairly well satisfied that the sponginess is the result of having hot water under the wax. Where the cooling is slow and the steam keep rising under the wax, this I believe is largely instrumental in getting that spongy condition. I don't think you ever find it when you see a solar wax extractor where no water is used.

you loosen up a little there will be quite a little flow of wax, so that kind of work should not be done in too great a hurry. The less pressure you apply at the time the less danger of bursting the cheese. In regard to the melting of old comb, I think it is important not to attempt to melt too much at a time.

We are pretty well agreed that the nicest wax that can be secured is by rendering it by means of the solar wax extractor, and, as in butter making, we know an article which was produced



Apiary of Thomas Grant, Greenville, Ont.

There were one or two points spoken of there, and one was the bursting of the cheese in pressing out that wax. There are a good many who think that to apply very strong pressure is a great essential in the rendering of wax. I know probably, there are quite a number who know it is not the case. I believe in the rendering of wax to get the most out of it. One great feature is to tighten up the screw a little at a time and quite often to relax a little. You will find you have the pressure on and there is practically no wax coming from the cheese. When

twenty years ago and found a market is to-day practically unmarketable. So I believe in wax craft that we will find from year to year, as we know more about the production of wax, we will have to be more careful of the method by which it is rendered. I would not be surprised if the day would come when we would heat our wax very largely and melt the old comb even by means of solar heat, and then some method will be devised by means of which we can apply that screw to whatever matter there is and squeeze it out in that way.

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James Armstrong—As to the sponginess, could it be brought back to the solid state, the same as the rest of the cake?

Mr. Byer—Sometimes I have got the major part of it back and it was fairly marketable wax.

Mr. Armstrong—If you put it in the solar wax extractor, won't that settle the whole of that question?

Mr. Byer.—I have been told so. I have no personal experience.

Mr. Timbers—Did I understand Mr. Byer to say if the cappings were wet it injured the wax?

Mr. Byer—If they are allowed to stand in the water any considerable time. I don't know how long the water would have to stand on them till it spoiled them.

Morley Pettit—There has been a reference made this afternoon by Mr. Byer which shows the importance of careful experimental work, and it touches pretty closely on my work, and that is the reference to the Sibbald press. I have had good success with the Sibbald press, and yet I don't wish to cast any reflections on Mr. Byer's work at all; but it shows how one may go at a thing in a certain way and get good success, and another may go at it slightly differently and miss the point. He may miss the point intended by the inventor. I would be pleased to hear a word from Mr. Sibbald about the management of the press.

Mr. Sibbald: I can take everything Mr. Byer says good naturedly, because I am not making money out of my press at all, except for the benefit I get in working it myself. The same gentleman that made his Gemmell press made mine, so there wouldn't be any difference in the start off. However, I have got the Gemmell press in its entirety in my honey house now. I feel sorry for Mr. Byer, because the addition of water around the cheese is all the difference there is in the two presses. That hot

water retains the heat and leaves the wax on the top and cleans off all the machinery of the press; it leaves all the slats clean and clear of wax, and it is a pleasure to take them out or do anything with them.

The principle of the two presses is the hot water principle as against the principle of putting slumgum in and letting the air cool it all around and fasten it on to everything it touches. The other is far cleaner and more easily done. I have used the same cheese cloths through a whole season and have done 600 pounds. Just by pressing and relaxing a little and pressing again, and using your judgment you can work the cheese cloths all you want. You don't need anything stronger. With this press I got up I claim I can get through pretty nearly twice as much work as with the old one, because I use three cheeses instead of one. In the other press you had to put all in one; if you made it very thick you wouldn't get very good results. With the three small cheese you should be able to hold three times as much as you ought to put in the other press. Then you can always use the water once, or twice or three times in this press and in the other you would not be able to do that. I believe Mr. Byer gets better results from that press than anybody else I ever heard speak of it.

As to sulphuric acid I can say that my experience is the same as Mr. Byers'. In fact, I sell wax too, and I told the people to whom I sold it, I could clear that up, perhaps, a little brighter if I used something; they said, no, we would rather have it that way—we would rather not have sulphuric acid used.

Then the explanation Mr. Byer made of soft and hard water clearing the wax, I don't think it quite right. I use hard water because it is handier; and I have used soft water to see if it was any better, and I couldn't, really, see any differ-

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ence. I think that sponginess must come from some other cause.

Mr. Timbers—Did you have very much lime in that water?

Mr. Sibbald—I am not sure about that. It is ordinary hard water; it is a good well and very good drinking water, and that is all I know about it.

Mr. Timbers—It is the lime that is in the hard water, I believe, that causes it.

Mr. Sibbald—A press should not hold more than an ordinary boiler full of water and slumgum, that is my opinion. You move it all in from the boiler to the press. In using the combs I just put them in an ordinary boiler and let the water boil in the boiler and shove in the combs. When we take it off we skim the wax and slumgum off the top. We don't try to get much water in cheese at all. After we have got that all d'pped off we pour the water right off the other side and pour it through a strainer, and if there happens to be any pollen or anything in it we will have it caught. This year in clarifying the wax I used a tall can about 2½ feet high, and it would hold about thirty pounds of wax, and the outer can held the water close to it and kept it from cooling, and I could put the wax in there from the first melting in the morning and keep on putting it in there until I got thirty or forty pounds melted, and as it would overflow out of the spout it would always be clarified—all cleaned; the heavy sediment would settle down. I found that can a great help to me; it saved me re-melting.

Mr. Byer—In regard to these presses, I want to say I don't know that many here have used the two presses. There are very few people that use both kinds of presses. I admit the principles are the same, and the theory is alright in Mr. Sibbald's press, but hour for hour I can melt more than double in good marketable shape with the Hatch-Gemmell press than with the Sibbald press.

With the Hatch-Gemmell press, when we are through melting the wax, we have got it ready for the market except scraping the bottoms of the cakes off. Mr. Homer Burke rendered a lot of wax this summer, and he wrote me. "I have got both presses," and, he says, "one is for sale cheap." You can guess which one he meant.

Mr. Sibbald—I can't for the life of me see how Mr. Byer can get the wax any cleaner from the Gemmell press than from mine.

Mr. Byer—Because it runs from the Hatch-Gemmell press right into the flaring tins, and they are set aside to cool; and with the hot water press you float it over; it doesn't form a perfect cake.

Mr. Sibbald—The wax floats to the top and the heavy sediment goes to the bottom. You have it separated right straight; you never get that sediment in the cake. With the Hatch-Gemmell, the sediment and all comes out together.

Wm. McEvoy—You can all condemn acid as much as you like, but I am going to use a teaspoonful of sulphuric acid. Stir that in. I want about two inches of hot water in the bottom of the pail first, and in an instant it will settle all the sediment and dirt to the bottom. There is no one can produce finer samples of wax than I do with a little acid; but don't use too much. You can make a nice job from wax with old combs. You don't need it with cappings.

Mr. Timbers—When you send that to some man and he comes to test it, and he finds two per cent. of sulphuric acid in it, and he sends it back, what do you do?

Mr. McEvoy—In some cases they won't use it, such as for piano polishing, but I will use a little acid, and I will get more for my wax, as a rule.

Mr. Lowry—In any wax I have used I have always strained it. As soon as the wax is melted take it off and cover it up. If there is any sediment it is on

the bottom, but don't think that. I never used water. I have put that 24 hours put your hand

R. F. Holte succeeded the Gemmell wax I is fit for the m can do it, I was done.

John Newton that has been suppose. Mr. didn't believe I foundation mal centage of acids can say I have least twelve or not yet seen a I don't think it I believe in the I considerable amount acids.

I believe the to make No. 1 in a little blend ters out for bee also.

Mr. McEvoy—Newton in the send nice, white

Mr. Newton—blended wax ba what he sent. that comes in, if it, I would pr would get nicer be taken more r

Mr. Timbers—best foundation low wax or a hi

Mr. Newton—the hardest to n there is practica except in the wc tainly harder to accordingly nee

the bottom, but there is no sponginess. I don't think the water makes any difference. I never found sponginess from the water. I have had the water so warm that 24 hours afterwards you couldn't put your hand in it.

R. F. Holtermann—I have never yet succeeded the first time with a Hatch-Gemmell wax press in getting a cake that is fit for the market. If there is any one can do it, I would like to hear how it is done.

John Newton—I don't believe in all that has been said; that is natural, I suppose. Mr. McEvoy rose to say he didn't believe but what supply men and foundation makers used a certain percentage of acids in cleansing dirty wax. I can say I have made foundation for at least twelve or fifteen years and I have not yet seen a bit of acid on my place. I don't think it is necessary to use it. I believe in the first place we lose a considerable amount of wax in the use of acids.

I believe the capping wax is too hard to make No. 1 foundation, but I believe in a little blending which will help matters out for bee-keepers and for the bees also.

Mr. McEvoy—I can't agree with Mr. Newton in the blending of wax. When I send nice, white wax, I want that back.

Mr. Newton—Mr. McEvoy never got blended wax back from me; he got just what he sent. But, with lots of wax that comes in, if I had my way of doing it, I would prefer blending, and you would get nicer foundation and it would be taken more readily by the bees.

Mr. Timbers—Which can you make the best foundation from, a bright, soft, yellow wax or a hard wax from cappings?

Mr. Newton—I can tell you which is the hardest to make. I don't know that there is practically very much difference except in the work. Capping wax is certainly harder to make. More pressure is accordingly needed to do it. I don't

know that one can make nicer foundation from one than the other. It has been harder work to make foundation the last few years than ever before.

Mr. Timbers—Will hard wax make a more brittle foundation?

Mr. Newton—Sure.

**BEE BULLETIN (NO. 18)**

*Indexed*  
From New Zealand, by the Late Apiculturalist of That Country, Isaac Hopkins.

Reviewed by Dr. Burton N. Gates, Worcester, Massachusetts.

Mr. Isaac Hopkins, who has attracted attention all over the world in the apicultural advance which he proclaims for New Zealand, has recently presented a new bulletin entitled, "Bee Culture." The paper, which has 79 octavo pages, and 16 plates, exclusive of 41 text figures, is divided into four captions:

- I. Advice to Beginners.
- II. Practical Advice.
- III. Bees in Relation to Flowers and Fruit Culture.
- IV. Bees in Relation to Agriculture.

A mark of recognition of the value of this bulletin is found in the fact that there have already been issued 65,000 copies in three editions.

While this paper appears in a very distant land, its contents is essentially of American value.

One contribution, the first met upon opening the volume, is a magnificent portrait of the able New Zealand apiarist. Then follow plates on various phases of bee-keeping.

New Zealand has advanced apiculture by a method which is a model for other countries. The passage of "The Apiaries Act," in force 14th of September, 1907, has not only assisted in controlling diseases of bees, but even more, it has practically done away with the box hive. This, perhaps makes that country fore-

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most in the world, in country-wide modern methods. This puts bee-keeping on a commercial basis. Mr. Hopkins figures that the profits from a hive should be annually from \$4.25 to \$5.00 net per colony.

Mr. Hopkins is an advocate of the solar wax extractor. By proper manipulation he claims to have extracted 100% of wax by this method. If this is practical, no bee-keeper should be without a solar extractor. Wax is usually a neglected product, and of no slight importance in all apiaries.

It is a pleasure to read as follows: "Outlay for good literature should never be stunted, for the obtaining of one good 'wrinkle' from the experience of a writer may be the means of adding largely to the profits of the apiary."

The reviewer hopes Canadian bee-keepers may see Mr. Hopkins' bulletin.

#### An Act Respecting the Right of Property in Swarms of Bees.

The following is a new Act now before the Ontario Legislature in charge of the Hon. Minister of Agriculture:

His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This Act may be cited as "The Swarms of Bees Act."

2. Bees living in a state of freedom shall be the property of the person discovering them, whether he is or not the proprietor of the land on which they have established themselves. R. S. O. 1897, c. 117, s. 1.

3. Bees reared and kept in hives shall be private property. R. S. O. 1897, c. 117, s. 2.

4.—(1) Where a swarm of bees leaves a hive, the owner may reclaim them, so long as he can prove his right of property therein, and shall be entitled to take possession of them at any place on which the swarm settles, even if such place be

on the land of another person, but the owner shall notify the proprietor of such land beforehand and compensate him for all damages.

(2) If a swarm settles in a hive which is already occupied, the owner of such swarm shall lose all right of property therein. R. S. O. 1897, c. 117, s. 3.

5. An unpursued swarm which lodges on any property, without settling thereon, may be secured by the first comer, unless the proprietor of the land objects. R.S.O. 1897, c. 117, s. 4.

6. If the owner of a swarm declines to follow the swarm, and another person undertakes the pursuit, such other person shall be substituted in the rights of the owner, and every swarm which is not followed shall become the property of the proprietor of the land on which it settles, without regard to the place from which it has come. R.S.O. 1897, c. 117, s. 5.

7. Chapter 117 of the Revised Statutes is repealed.

#### GLENGARRY BEE-KEEPERS.

The Glengarry Bee-Keepers' Association held its annual meeting on Friday, Jan. 7, at the home of Alexander McNaughton, Fourth Concession of Charlottenburg. In the absence of the President, D. W. Munroe, the chair was occupied by the Vice-President, Alex. McNaughton, who looked with pleasure upon the good audience, including two ladies. He also remarked that the society had added to its roll list new members.

The officers elected for 1910 are as follows:

President—Alex. McNaughton.

Vice-President—Wm. St. Johns.

Secretary-Treasurer—Alex. Dickson.

Directors for the County—James Tombs, for Lochiel; F. St. John, for Kenyon; Paul Seguin, for Lancaster, and J. McKillop for Charlottenburg.

In order to have all better acquainted with apiary work, it was decided to pre-

sent to each tion to "Glea

Two address Dickson, Pro "How to Kee other on "Ho Queens Witho ony." Both st discussion amc latter address terested in qu

A vote of the speaker by the tion given. At the members v hall and parto furnished by t hearty vote of for their kind away feeling a Culture.

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Under the done in six m ness has issued clientele, that marize the act newspaper. W part for our re

The 'Witness revitalized in orial and repor mented by the be procured. I has been place Manager with Canadian adve "Daily" and " almost doubled. disastrous fire 'ness" Building largely overcon have been spen The most mo equipment have lation of the " sues have beer The advertising cent."

The Montrea ideal family n all times a hi



sent to each member a year's subscription to "Gleanings in Bee Culture."

Two addresses were given by A. Dickson, Provincial Director, one on "How to Keep Down Swarming," the other on "How to Raise and Introduce Queens Without Hindrance to the Colony." Both subjects caused considerable discussion among the members, and the latter address especially pleased those interested in queen raising.

A vote of thanks was then tendered the speaker by the Society for the information given. After the meeting had closed the members were invited to the dining hall and partook of a sumptuous repast furnished by the host and hostess. A hearty vote of thanks was tendered them for their kind hospitality, and all went away feeling a renewed interest in Bee Culture.

### A GREAT FEAT

Under the caption "What has been done in six months," the Montreal Witness has issued a brief statement to its clientele, that admirably serves to summarize the activities of this truly great newspaper. We produce this summary in part for our readers:

The "Witness" has been reorganized and revitalized in all its departments. Editorial and reportorial staffs have been augmented by the most experienced men to be procured. The advertising department has been placed under an Advertising Manager with 25 years' experience in Canadian advertising. The size of the "Daily" and "Weekly Witness" has been almost doubled. The effects of the recent disastrous fire which destroyed the "Witness" Building and plant have been largely overcome. Upwards of \$15,000.00 have been spent in exploiting circulation. The most modern presses, type, and equipment have been installed. The circulation of the "Daily" and "Weekly" issues have been increased by thousands. The advertising has increased over 30 per cent."

The Montreal "Witness" is indeed an ideal family newspaper, maintaining at all times a high, moral standard, its

news reliable, well-arranged, and its editorial acknowledged on all sides to be "at once fair and forceful."

The very high place the Montreal "Witness" holds in public esteem was well shown by the chorus of sympathy and appreciation evoked by their disastrous fire a few months ago, and admiration was very generally expressed for the vigor and energy displayed in grappling with the problem of reorganization.

Most of our readers want a metropolitan paper as well as the indispensable local newspaper, and they cannot do better than take the "Witness." The price of the "Daily Witness" is \$3.00 a year and of the "Weekly Witness and Canadian Homestead," \$1.00 a year. Samples will be freely and promptly sent upon request by the publishers. JOHN DOUGALL & SON, "Witness" Building, Montreal, or may be seen at the office of this paper which will forward subscriptions, if desired.

## National Bee-Keepers' Association.

(Organized in 1870.)

### Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

### Membership Dues.

One dollar a year.

### Officers and Executive Committee.

President—GEORGE W. YORK, Chicago, Ill.  
Vice-President—W. D. WRIGHT, Altamont, N. Y.

Secretary—LOUIS H. SCHOLL, New Braunfels, Tex.

Treas. & Gen. Mgr.—N. E. FRANCE, Platteville, Wis.

### Twelve Directors.

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Are you a member? If not, why not send the annual dues of \$1.00 at once to Treas. France, or to the office of the American Bee Journal, 146 W. Superior St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. It is the desire of the officers to increase the membership to 5000 by the end of 1910. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

### IMPORTANCE OF RE-QUEENING

Indexed

H. G. Sibbald and J. J. Hurley, at the O. B. K. A. Convention.

A number of years ago I had an experience with feeding back to finish up comb honey. I produced a lot of comb honey and always had a number of unfinished sections, and I would put up two or three cases of sections to a colony and feed back to have them completed. I noticed then as soon as a colony got a swarming fever the bees would not take any more feed down or build any more comb. I have noticed more and more ever since just as soon as a queen begins to slacken up in her laying that the colony will slacken up in its working energy, and a queenless colony will not work equal to a colony having a good laying queen. This led me to observe from time to time the difference between a colony with a good queen and a colony with a poor queen, or a queenless colony. I think there is half as much difference in the work accomplished by a poor queen in the hive. Later on when I had occasion to go round amongst the bee-keepers and farmers I again noticed the degenerate stock that there was throughout the country. All these things have led me to place a good deal of importance on the subject of queen rearing and re-queening.

There are very few bee-keepers outside of some that attend our conventions, that pay any special attention to their queens. A great many bee-keepers never had a queen cage.

Winter losses are from several causes. I think, perhaps half as much loss comes from poor queens or queenless colonies and those that have drone layers, and they come out in the spring with the usual result; they are very little use. Winter them as well as you like, and you are one colony less. In wintering, a colony that is queenless won't winter well, or one that has a poor queen. They know there is something wrong, and they will try to

supersede right in the cellar, and in outside wintering I haven't any doubt they will do the same.

As we run bees in a large way and keep them going for all they are worth, a queen doesn't last long. Mr. Pettit pointed that out. If we have an early flow of white honey only, the queen lasts longer, than if we have a fall flow.

I think re-queening is one of the most important things bee-keepers have to consider. The queen end of the bee business is more neglected by the general bee-keeper than any other part of the business.

Every bee-keeper should learn to produce queens for himself. It is all right to buy queens to improve your stock. At any time you notice a failing queen she should be immediately changed for a good laying queen.

The next important thing is the strain. There is very little use in changing the queen unless you make an improvement. It is a very good trade to trade off an old queen for a young one. It wouldn't be a very bad thing to do it every year. You could afford to pay quite a bit of difference on the bargain. A young queen is worth a good deal more than an old queen and is not so liable to fail. Some people advocate raising queens from swarming colonies and natural queen cells and so on. The great objection I would have to that is that in raising our queens from swarming colonies we are encouraging the swarming propensity, and in a large apiary, or for a man that has more apiaries than one, the swarming tendency is a very big fault; and even a small bee-keeper can get far better results if he can keep his bees from swarming altogether and keep them working right along. I would never advise anyone raising queens from cells that were raised under the swarming impulse. As far as I know this year we did not keep a cell that was raised under the swarming impulse. We raised all our queens from colonies that

did not swarm out, and I think to a great extent in the swarming tendency, help to us. In an apiary it is impossible to let them increase if we have any swarming, we must destroy them.

The opinion of those who have experience is that Italian bees are other bees to be avoided. It has been my experience that the quality is the strain. If a colony gathers lots of what strain that it is honey we select for our bees that are best get this always is not advisable from one man. In buying new bees bought the first and notice do. I have had themselves that \$100 if they put into their yards strains until you than, or as good

On red clover bees that would colonies that would seem to gain a really filled a strain of ability to get buskwheat honey were just as good Italians. It is to handle a colony punishment. It is a good thing to do. If we can get a colony and have the quiet, I would

did not swarm. We are trying to breed out, and I think we will succeed to a great extent in breeding out the swarming tendency, and that will be a great help to us. When you have a large apiary it is impossible to have the outfit to let them increase to such an extent. If we have any natural queen cells we destroy them.

The opinion of most bee-keepers that have experience with the different diseases is that Italian bees are better than any other bees to fight off disease, and that has been my experience. The working quality is the important quality in any strain. If a colony won't work well and gather lots of nectar, it doesn't matter what strain they are, they are no use. It is honey we are after. We should select for our breeding stock a strain of bees that are good workers. We can't get this always when we are buying. It is not advisable to get all your queens from one man. I would advise any one in buying new stock to breed from queens bought the first season; test them well first and notice what they are going to do. I have heard lots of people express themselves that they would have given \$100 if they hadn't got a certain strain into their yards. Don't encourage new strains until you find out they are better than, or as good as you have.

On red clover this year we found some bees that would store a surplus and other colonies that were equally as strong didn't seem to gain a bit. Some colonies actually filled a super of red clover honey. The strain of bees are different in their ability to get at the clover. As far as buskwheat honey is concerned, the blacks were just as good, if not better than the Italians. It is a comfort to be able to handle a colony of bees without too much punishment. If we have neighbors it is a good thing to have bees that are quiet. If we can get a strain that will work well and have the virtues of being reasonably quiet, I would encourage that quality in

my yard. I think you can get those that will mind their own business and work.

Then as to the prolific queen. Some people prize that greatly. That to me is a fourth or fifth point.

You have a colony that is prolific, that is a joy to you, but as soon as the clover comes out they will sulk and won't work, and another colony that was not nearly so prolific gets away ahead of them when it comes to getting honey into the super. I look for the other qualities first, and then a good laying queen is always in order. I have inspected yards where there might be 20 colonies of bees, and out of the 20 you could only find ten that had queens that were doing anything like they should do, and there was a failure on account of having poor old queens.

Every year when we clip our queens we mark the date on the hive with a pencil so that it won't come off until that queen gets out of there. If we clip a queen this year we mark "C" for clip and "9" after it. If we come to a queen that has been clipped, we just mark "C" on that hive. In that way we can always tell if the queen had been raised previous to last season, and all those queens with "C" on must be changed this season. Those queens with "C 9" on, we might not change them all. If we find a colony doing good work and putting up lots of honey, and we think they are a valuable strain, we like to keep them because we think we gain a little point in drones that might be produced from that colony, and they will have a good influence over the breeding in the yard the next season.

I think every bee-keeper should have in an apiary of 100 colonies, 15 nuclei.

By re-queening as you notice the queen failing you do not have all your work to do after the season. There is no robbing going on; you can find your old queen very easily, because all the bees are out in the field, and they accept a queen readily, and everything goes like clock work.

Mr. Ross—What would be the objection to slipping in a cell protector and putting them in immediately?

Mr. Sibbald—That is practiced by queen breeders, and I think that would be a good plan, although I have never used the cell protectors.

Mr. Sibbald—You are generally in the yard one day a week. This season we repeatedly took cells from one yard to another with us in the rig and used them in the nuclei there. Mr. Adams, I think, advocated grafting the cells into full colonies, but with my work in the three large yards, I have found that I would prefer to have them mated in nuclei, and when I could see they were laying and in good condition, then I would introduce them. Putting them in full colonies they sometimes get lost, sometimes mismated and sometimes the queens are not what you

would like afterwards, and you have the trouble of hunting the queen up in the full colonies and re-queening. I wouldn't care to have colonies queenless the ten days it takes the queen to mate and start laying. I think it is important to have a laying queen in the hive every day. In running out-apiaries, when you are not there all the time, if you put cells in in that way they will start cells all through the hive, and you have to hunt them out. By putting in a good laying queen you will not have that trouble. I have been quite successful in transferring them from nuclei to full colonies without much loss.

Queen rearing does not give me any particular trouble. It is a pleasure; it is a rest; I like to get an hour or so to attend to them.

The best way I know of for making those nuclei is to take two combs of brood into the top storey and fill in the space below with full sheets.

Then in a week's time you can take that brood out, and the bees adhering to it, and start two nuclei, using a division board or a small hive like Mr. Adams had here to-day, and put in your cell shortly afterwards and everything will go alright.

In introducing queens we usually put them on top or down between the frames. A plan that works very nicely through the season when gathering honey is to catch the old queen and put her in a cage, and then put the queen you wish to introduce into the colony after a little while, when they begin to realize their queen is gone, then afterwards change the two queens, take the old queen out and put the young queen into the cage that the old queen occupied, because it has the scent of the old queen. If the old queen is to be killed, rub her body over the cage.

In finding queens, I don't know of any particular way, only to go at it and go over the hives. You must not smoke them very much, you must not get the bees running, you must not excite them;

be gentle about them. The better time is day time when in the field.

Another plan is to take an empty comb as you have in the other hive, and queen on the comb. You are sure to

Mr. Dickenson to do it anyway.

Mr. Sibbald—doing that until the hive.

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be gentle about all you manipulations. The better time to find them is in the day time when the bees are out in the field.

Another plan, if you ever get stuck, is take an empty hive and transfer the combs as you look them over into the other hive, and perhaps you will find the queen on the bottom corner or some place. You are sure to find the queen that way.

Mr. Dickenson—That is the proper way to do it anyway.

Mr. Sibbald—No, I wouldn't think of doing that until I had looked through the hive.

(To be Continued).

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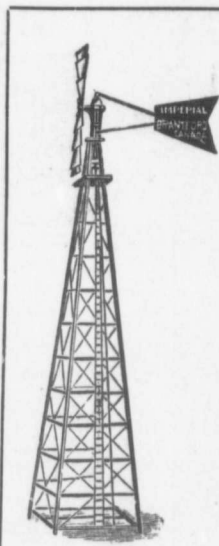
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