



E. A. East

The New Zealand Beekeepers' Journal.

OCTOBER 1st, 1919

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FOR
THE NATIONAL BEE-KEEPERS'
ASSOCIATION OF N.Z.



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The New Zealand Beekeepers' Journal

The Official Organ of the
National Beekeepers' Association of N.Z.

No. 10

VOL. 3

5/- PER ANNUM.

National Beekeepers' Association of New Zealand.

The object of the Association is the improvement of the Beekeeping Industry and furthering the interests and prosperity of the Beekeepers throughout the Dominion. Membership is extended to any Beekeeper who is in accord with the aims and objects of the Association on payment of fees as follows:—1 to 15 Hives, 5/-; 16 to 50 Hives, 10/-; 51 to 100 Hives, 15/-; 100 to 200 Hives, 20/-; every additional 100, 5/- extra.

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FRED C. BAINES, Kati Kati.

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EDITORIAL.

The question of using second-hand petrol and benzine tins for the exporting of our honey is evidently not going to be dropped without a struggle. There is no doubt whatever that these containers have been of great benefit to us during the war, and we have had first-hand evidence of the condition of the honey on arrival in England, which was all that could be desired. Mr. Brickell in this issue opens up the

question again by arguing that if the H.P.A. agree to accept from their shareholders, and the B. and D. are willing to accept from the H.P.A., why go to the unnecessary expense of new tins? If both the exporter and importer of a particular commodity are willing to accept a particular package that has proved to be both serviceable and safe for the purpose, why should the Government regulations interfere?

We admit there is a great deal in favour of the argument, but we must not lose sight of the fact that the Government regu-

lations regarding the grading of honey for export has meant a very great deal to the industry here and to the prestige of our produce overseas. The B. and D. in all their window displays in England make a particular point of the part played by the N.Z. Government in guaranteeing the purity and general excellence of our honey. Now, we submit that if any visitors were shown over the packing depot of the B. and D. in England, and saw the honey in the second-hand containers, the cases of which bore the Government grader's stamp of "special" or "prime," they would be inclined to think there wasn't very much in it. And you must also bear in mind that the firm which handles our honey also imports from other countries, particularly the U.S.A.; and the beekeepers there do not use second-hand petrol tins; and, incidentally, neither is their honey graded; so that we have rather an absurd anomaly that a country that prides itself on the Government supervision over the export of its produce permits the use of a container that another country, which hasn't the Government supervision, would not use.

Everybody is agreed that the grading of honey is good for the industry, both as a safeguard for the exporter and the importer; and the schedule now used was not compiled without a deal of trouble and the best of experience obtainable. Is it worth while, for the sake of about $\frac{1}{4}$ d (but if labour and material be reckoned, considerably less than that) to ask the Government to relax the grading rules? We think not.

In December, 1917, we wrote on this question of using second-hand tins:—"We dislike the whole business. It is undoubtedly a retrograde step." We have held the same opinion all along, and do so still.

There are one or two patented appliances used by beekeepers that can be made by the ordinary handy-man, and we have been asked whether the current idea is correct that one can copy a patented article for his own use without being liable for infringement of the patent. In a booklet issued by the leading firm of patent agents in New Zealand the point is made clear in the following paragraph:—

"A patent for a machine or manufacture is infringed by one who, without ownership or license, makes, uses, or sells any specimen of the thing covered by any claim of the patent. Though only one claim of a patent is infringed the infringer is liable."

This should settle any doubt existing in the minds of those contemplating making a pattern of a patented appliance.

On reading the newspaper the other day we were very sorry to see that a prominent beekeeper, who is also an orchardist, was hauled up before the magistrate, he being accused of sending to the market fruit that was affected with some disease. In spite of our friend's eloquence, the Bench was adamant, and he left the Court

a sadder and poorer man. Our friend is now suffering from the disease well known to orchardists—"The Bitter Pip!"—in an acute form. Hard luck, old friend; better stick to the bees, and only get the golden pips.

Market Reports.

Since our last report business has been very slow, and scarcely any transactions have transpired. Values are nominally unchanged.

Beeswax.—There has been a little more activity in this article, and prices have somewhat advanced. Eighty bags of fine Chilean have been placed at £12 to £12 7/6, and other descriptions at £10 10/- up to £11 2/6 per cwt. Buyers are also looking forward, and 10 tons have been done at the price of £10, c.i.f., July-August.

Yours truly,

TAYLOR & CO.

Liverpool, 24th June, 1919.

Small parcels of choice liquid continue to arrive from time to time, and are in strong demand by retailers at advanced rates. Latest quotations are: Choice, clear liquid, 8d per lb; good quality liquid, 7d to 7½d per lb; dark candied, from 6d.—Australasian Beekeeper, 15th August.

The Director of the Horticultural Division has received from the Apiary Instructors the following report concerning the honey crop prospects:—

Auckland.—The Auckland district has experienced a real good winter, and bees are building up well. The last few weeks, however, have turned rather cold and wet, causing a severe strain on stores. As indicating the mild winter I may mention that I have come across two cases of queens being hatched and mated in June and July. These are now laying well. Prices remain unchanged.—G. V. Westbrooke.

Wellington.—I have to report conditions are favourable for laying the foundation essential for a good honey crop. In travelling through the country I note that pasture lands are showing splendid growth, and clover is coming particularly strong. Fine weather, with occasional showers, is all that is required to assure a good nectar flow. Honey has ceased to come forward to the grading stores, which will shortly be emptied by export. Bulk lines are now unprocureable. Beeswax, according to quality, is realising from 2/- to 2/6 per lb.—F. A. Jacobsen.

Christchurch and Dunedin.—There is nothing special to report. Generally the bees have wintered well. Indications at present point to a good season. Excellent rains have fallen in most districts. Prices are firm. Very little bulk honey forward for immediate wants. Pat honey scarce. Beeswax in strong demand, and is quoted at 2/- per lb.—E. A. Earp.

Answers to Questions

36. The life of a worker bee during the busy season is reckoned to be only about six weeks, when their wings get frayed and worn out, so that they go out for a load and are not able to carry it back to the hive, falling down on the grass and dying. Bees hatched out in the fall of the year are mostly alive in the hive the following spring, they not having used their wings very much during the winter. These have only a short life when pollen and honey-gathering in the spring.
37. Worker comb has, within a decimal fraction, five cells to the inch. Drone comb is larger, having only four cells to the inch.
38. Where comb foundation has not been supplied to the bees, bees left to build comb naturally always build a very large proportion of drone comb. It is poor policy on the part of the beekeeper not to use full sheets of foundation. The use of starters only in frames always means too much drone comb built.
39. Bees do not recognise their own hive on returning from a flight, but the location of the hive. If the position of two hives is changed—for instance, a weak hive placed in the position of a strong one,—the returning bees, although recognising by the scent of the hive that it really is not their home, will accept it after a little hesitancy in entering. They do not go around searching for their own.
40. The advantages of nucleus swarming over natural swarming are that the beekeeper has the matter under control. By taking frames of brood and bees from a strong hive he brings about practically the same condition as if the bees had swarmed.
41. In the spring, when the bees are building up rapidly and preparing to swarm, a nucleus hive can be made by taking two frames of brood and bees and one frame of honey from the colony. These must have either a queen cell already on the combs, or one must be supplied at the time. Place these in a nucleus hive, which is one made to accommodate three frames, and over the entrance hole (which should be not larger than about $\frac{1}{2}$ in) place a piece of wire gauze so as to confine the bees. Place the hive in a shady spot, and leave them for 48 hours, releasing them at sundown.

Beekeeping for Beginners.

[As these instructions conform to the seasons in the Auckland Districts, an allowance must be made for difference in latitude North and South. Average bee-seasons in the extreme North are four weeks earlier, and in Southland three weeks later.—Ed.]

One of the chief matters to engage the beekeeper at this time is the matter of stores, and in no case must the bees be allowed to get short of food. Breeding must be kept up to enable the bees to be in the right condition for the honey flow; and if they begin to find their stock of food getting low brood rearing is retarded and the season's crop jeopardised. If combs of honey are not available then syrup must be given. Any honey that, through some fault, was not marketable, and is on hand, can be used, provided it is boiled for at least 20 minutes—be careful that it isn't burnt—and diluted with twice its volume of water. Failing honey, use sugar, mixed two of water to one of sugar. Feed within the hive at sundown with the syrup warm. But if the bees have plenty of food the beginner is not advised to practise what is called stimulative feeding. Experienced men who are working for a particular purpose can do this quite successfully, but in their case stimulating the heavy breeding of bees early in the season is only one part of an extensive programme, which it is neither necessary nor desirable the beginner should do. All authorities agree that if the bees have the requisite stores they are far better left alone to build up naturally.

At the time of writing this the indications are that we shall have an early spring, so it is quite possible that preparations for swarming will be found in the strongest hives, particularly if these contain a great number of drones. Here it may be mentioned that until the drones are flying (which will be in the middle of the day), there is not much danger of a hive swarming, and you will find that queen cells are not being raised until this condition prevails.

The beginner might think it worth while to get swarms as early as possible in the season, so that they might build up and secure a good surplus. This would be advisable if one could guarantee good weather and sufficient honey coming in to keep the swarm going; but with the erratic weather experienced at this time of the year, if three or four stormy days come along your swarm would get a big check, and unless carefully watched for the store supply might starve right out.

Therefore, it is best to retard swarming as much as possible, by giving the bees plenty of room, even before they actually require it. If on opening the hive you find the bees well covering the frames, with

When ever life's troubles may befall,
A friend in need is loved by all;
Despite of sorrow, strife and sin,
A kindly net makes all men kin.
When winter colds and coughs assail
Each one has, but himself to blame
If he rejects a friend so sure
As peerless Woods' Great Peppermint Cure.

brood in most of them, get a super of empty combs, remove two, take from the hive the outer frame from each side, place these in the centre of the super to be placed on top. Place the empty combs the third from either side in the brood chamber, and you will have given the bees ample room to hold swarming in check.

P.C.B.



Mr. James Allan.

PRESIDENT OF THE NATIONAL BEEKEEPERS' ASSOCIATION OF N.Z.

We have pleasure in reproducing a photograph of our President for the current year, as, no doubt, there are many who have not had the pleasure of meeting Mr. Allan.

Mr. Allan is one of the pioneers of the industry, and has always been in the foremost rank when work was to be done for the betterment of the industry. He was the first elected President under the present Constitution of the National in 1913, re-elected to the same position in 1914, elected Vice-President in 1918, and President in 1919. Those who have attended the Conferences of the National will not need any description of Mr. Allan's personality, his kindly smile, his sound businesslike proposals, and his honest, straightforward manner in dealing with any contentious matter. The writer testifies to the very great assistance given him by Mr. Allan since he has occupied the positions he does in the National, and can strongly advise all those who have not yet met our good friend to make up their minds to get the "personal touch" at the next Conference.

F. C. B.

Beekkeepers' Exchange.

ADVERTISEMENTS on this Page will be inserted at the rate of 3/- per 36 words per insertion.

WANTED, LADY BEEKEEPER; take sole control Apiary of 147 Colonies; assistance given extracting season.—Further particulars

W. E. BARKER,
Waikonini, Rangitata.

YOUNG MAN Wishes to Learn BEEKEEPING INDUSTRY. Small wage to start with.—Address,

J. F. CORK, Cromwell.

NOTICE TO BEEKEEPERS.

We have ESTABLISHED a Commercial Apiary at Mata Mata, on Mr. Downie's Property, and will be establishing OUT-APIARIES this Spring.

CORBETT & KIRK.

WANTED, a Four-framed EXTRACTOR and BEE APPLIANCES for Cash.

WALTER H. SHORE,
Putaruru, Waikato.

NOTICE TO BEEKEEPERS.

I am ESTABLISHING Two Commercial Apiaries at Waitakaruru—one on the property of Mr. Jesen; the other on Mr. Hardin's.

H. FRASER.

FOR SALE, One New Eight-frame POWER EXTRACTOR.

R. WHITING,
Springdale, Waitoa.

FOR SALE, A Quantity of SECTIONS and SECTION FRAMES (new); 1 Smooth Roller FOUNDATION MILL (2-in. rollers). Address

Box 47, Featherston.

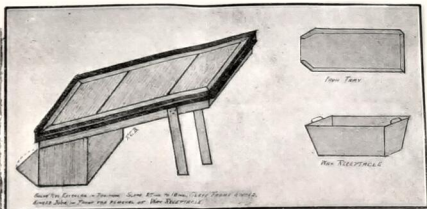
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FOR SALE, 100 Strong COLONIES; Lenz's 12-frame Hives; Young Queens free from Foul-brood. Price on application.

PENNY BROS.,
Okaiawa.

BEE FARM (500 Colonies and all Appliances) TO BE SOLD as a Going Concern; finest locality in Canterbury.

C. J. CLAYTON,
Peel Forest.



The Solar Wax Extractor.

AND HOW TO MAKE ONE.

By FRED C. BAINES.

One of the problems confronting the beekeeping industry to-day is the gradual decrease in the amount of beeswax available for commercial purposes. Therefore it is necessary that the beekeeper do all he can to prevent waste of this valuable commodity.

One of the handiest appliances for this purpose is the solar wax extractor, which costs nothing to keep going and renders the wax in such a condition that it only requires re-moulding for marketing.

These appliances have come in for a great deal of condemnation from time to time, but that has been prompted not because the appliance failed to do what was said of it, but simply because they were, for the most part, badly made; splits and cracks in them where bees could get in and out, causing robbing, general disturbance, and sometimes the dissemination of disease. But if those who have never used them will make one carefully and bee-proof by using only seasoned timber, securely nailed at the joints, he will find he has an appliance that will pay "big dividends."

The appliance consists of three things—a hinged glass frame attached to a wooden frame, to stand at an angle; a galvanised iron tray; and a wax receptacle,—the whole thing being self-contained.

These can be made any size, according to the needs of the apiarist; but no one is in too small a way that the appliance is not useful.

The illustration will give a clear idea of the build of the appliance. The long part to accommodate the tray should be about 6in deep; the hinged glass frame has an

inch rabbet on the under side, which meets a similar one nailed on the outside. I found the heat of the sun caused the wood-work of the glass frame to warp, and thereby create a bee-space; but with the rabbet, even with a slight warp, no bees could get in. My glass frame is also strengthened by having two $\frac{3}{8}$ in iron bars screwed across, which helps to keep it rigid.

I believe plate-glass is the best for the frame, but I have had excellent results with using ordinary window glass, lapped about two inches.

The tray has a 2in lip all round, except at the outlet, where the wax runs into the receptacle.

The wax receptacle can be made by using a petrol tin with one side cut out.

There is no object to be gained in giving the dimensions of the appliance, as the size must be determined by the size of the apiary and the estimated amount of odds and ends that accumulate; but the size of my own is 4ft 6in long by 2ft 4in wide, outside measurements. The part containing the wax receptacle is 12in wide.

Paint the whole appliance black to absorb the heat of the sun, place it in a sheltered spot where it will get the maximum amount of sunshine, and you will be surprised at the work it will do.

You will, perhaps, notice that I have said nothing about a screen to rest on the tray, which, as a rule, is used. Well, I do not use the screen nowadays. I found when I did that it very soon got blocked with slumgum, pollen, &c., and what wax ran through was inclined to cake on the tray beneath, as the sun's rays were prevented from reaching it. The screen was an awful job to keep clean, necessitating boiling water every time, so I gave it up. I found the appliance was doing better work by simply laying the wax on the tray; the melted wax gets away quickly, the slumgum settling on tray, which can be easily scraped off with a hive tool and disposed of.

Branch of the National formed at Hastings.

A meeting of the beekeepers of the district was held on August 21 to consider the formation of a branch of the National. Mr. A. Lowe was voted to the chair.

Mr. F. A. Jacobsen, Government apiarist, was present, and gave an interesting address, briefly touching on the history of beekeeping in New Zealand, from their introduction in 1839. He also touched on the working of the Apiaries Act, foul-brood disease, the co-operative system of marketing, and the National Association. Mr. Jacobsen stated that the spread of foul brood was due more to ignorance than negligence. This and diseased hives were dealt with in Government leaflets, which he would forward to the branch. In reply to a question, Mr. Jacobsen said he would give a field demonstration, probably in October. A hearty vote of thanks was accorded him.

The following officers and executive were elected:—President, Mr. A. Lowe; vice-president, Mr. H. Shepherd; secretary and treasurer, Mr. J. P. Boyle; executive—Mrs. Shepherd, Messrs. McCulloch, Hislop, Harker, Christensen. The rules were submitted and adopted.

District Reports.

GREYMOUTH.

A special general meeting of the above association was held in Shroder's Rooms on August 9th to consider correspondence from the manager of the H.P.A. re beekeepers' supplies, Mr. A. Baty being in the chair. After the correspondence had been read and discussed it was moved by Mr. Dixon, and seconded by Mr. Turk, that we do all in our power to help along the H.P.A.; and when it came to the practical part of our help there was about £100 worth of share capital subscribed in the room, which will be forwarded to the proper quarter in due time. Almost every member present subscribed. After the H.P.A. business had been dealt with Mr. A. Baty stated that he thought the time had arrived when we must put forth united effort in this district to stamp out box hives and to keep down as much as possible foul brood. In speaking of the state of apathy into which the authorities had drifted, he stated that about 10 years ago a man in his locality had been warned about his dirty and neglected colonies, and since that time nothing had been done by either party. In fact, the owner had so

neglected these colonies that the blackberry had completely covered some of them, and in the summer the bees could be seen getting in and out among the bushes as best they could, while other colonies had reached the stage where the woodwork had collapsed, leaving the combs to the mercy of the robbers, to contaminate the district, should diseased honey be there. Mr. Duffy stated that he quite agreed with the previous speaker in that something would have to be done to alter the state of affairs now existing. He would cite a case in his locality. A man kept some bees in box hives which were rank with foul brood. One day he took some honey from some of these hives. He took honey, brood (foul and otherwise), squashed the lot in a piece of cheesecloth, and hung it out in the open to strain; with the result that Mr. Duffy's bees got quite a harvest not only of honey, but of foul brood. When Mr. Duffy approached the man about the matter he got laughed at for his pains. After other members had spoken on the subject the following resolution was carried unanimously:—
"That seeing this district is infested with foul brood and box hives, we write to the 'powers that be' asking them to take immediate action."

GEORGE R. DIXON.

WAIRARAPA.

The Wairarapa Repatriation Committee having voted £100 towards the establishment of an apiary for the tubercular patients at the Tauherenikan Military Hospital, 12 colonies have been procured and located there for that purpose. It is particularly unfortunate that the hospital site is so unsuitable for beekeeping. We doubt very much whether the colonies will gather enough honey to see them through the winter months.

Heavy rains and nice warm days at intervals make the prospect for the coming season good. The bees have taken advantage of the warm days to gather nectar from weeping willows and gums.

We are sorry to say that foul brood is rampant in the district this spring, and we are looking forward to a visit from the 'powers that be' at an early date; and hope that an example will be made of the slovenly keepers of bees that abide in this district, to the detriment of others.

H. BENTON.

WAIKATO.

Much rain has fallen since last report, with rather cold winds at times. Large numbers of bees are reported to be arriving on the Hauraki Plains for the coming season. Mr. N. Bowman called on me some time ago on his way up, with his wife, bees, furniture, etc., and was picking up timber at Thames to build honey houses with, and barging the lot across to the Plains to be landed on a bare section. How is that for pioneering?

My neighbour told me that a swarm crossed his place two days ago, and I don't think he was "pulling my leg." Whose was it? Not mine. I guess it was a hive that had been treated, absconding, unless it escaped, from the State Apiary. No telling what bees from there will do, with 40 caulets, as reported, handling them.

September 15, 1919. A. H. DAVIES.

MALVERN.

There has been a fairly mild winter here—that is, compared with the average in this locality. August gave promise of a very early spring, but September 1st had a different tale to tell. A howling blizzard came out of the south-west, and in an hour or two four or five inches of snow lay on the ground. This was followed by a week's solid frost, and then a downpour of rain for several days. However, the sun is shining again, and there is a prospect of fine weather, for a time at least. The bees have apparently wintered well, and are busy getting pollen when the weather permits, so breeding must be on the way. I have not opened up yet, as I like to wait till there is a bit of forage about. Fruit trees are just beginning to open, and willows are coming along; so it will not be long before things are getting busy. Do you know anything about laurels as a bee fodder shrub? I have not seen it mentioned in the Journal, but it beats anything else I know of hollow. It flowers the earliest of almost anything about here, and the bees simply rush it when in bloom. Our old friend the nor'-wester has not made his appearance so far, but I am keeping a few dozen bricks handy. A few of these set upon the hive lids save a lot of trouble when something more than a hurricane is buzzing around. Mr Ward says there has not been enough rain to ensure a good season. Well, I think we've had enough this time, so let us hope he is a good prophet.

J. E. YEOMAN.

TAIERI NOTES.

Well, the official winter is passed. The clerk of the weather has seen fit to put a term to his threats of dark, tempestuous nights and dreary, rain-lashed days. Now he scans the skies for signs of the sunny calm to come—through rosy-tinted spectacles. We could wish that our primitive ancestors had not laid down the arbitrary law that there should be four seasons of equal duration following one upon the other in due succession. The system adds another and another to the thousand ills our flesh is heir to. When the calendar boldly proclaims the passing of winter we go forth with the expectation of better days, and return disillusioned; we go forth to look upon the countryside pregnant with a million births, laughing at the caress of the rollicking spring-day sun, to find day after day the chilling gloom of a burnt-lead sky.

Dame Nature strives to proceed step by step with the official season. Here and there a peeping bud, here and there a springing blade, and now and again, loth to lose a moment's sunshine, the busy bees, fitting forth, bear witness to her efforts.

For a week or two we have been conscious that spring was in the air, though the weather belied the fact. Why, some days back we were sweeping the accumulated snow from our hive entrances. Judge then how we of the Antarctic revel in a sunshine day. The next one will find us, like unto Ye Editor, charging the smoker and reaching for the hive tool—or, rather, for the discarded screwdriver that serves in its stead. We are simple men with simple tastes.

We note with appreciation that among those subjects suggested by the Editor as suitable for short articles the "Sources of Nectar" is mentioned. The subject has been so little discussed that there is room for pioneer work by some of our learned men. There is a great heap of unsuspected talent in "God's Own," Mr Editor; but the owners of it are accustomed to hide it under a 60lb honey can. They require rounding up. Why, look at the American bee publications. Never an issue appears but has a note, a paragraph, or an article on this or the other plant as a honey producer. Not the meanest plant is beneath their notice—milkweed, tarweed, red bud, blue curl, cotton, corn, tobacco. In recent issues of the American Bee Journal have appeared two fine articles on "Bee Flowers of America" and "Southern Honey-plants." Further, on this subject are we not blind to many opportunities? Can we not follow the American lead in planting crops of a double utility, to serve first as honey producers and later as fodder. We are, most of us, living in crass ignorance of such things. We can mention as honey producers clover, the unmentionable thistle, manuka, konini, and at least in these parts the unspeakable gum; but beyond that—silence.

In a recent article on Modern Beekeeping the Rev. T. F. Roysd quotes astounding statistics re the importation of honey in England. In 1914 the value of the import was £37,662; in 1917, £825,737; and in 1918 they reached an extraordinary figure—£2,702,734!

It is pleasing to reflect that the H.P.A. had a finger in that huge pie.

BASIL H. HOWARD.

TARANAKI.

There is not much to report at present. The spring is proving a late one, and willows are not yet in bloom. There has been a lot of cold weather and wind lately, but not so much rain as usual, and no flow of any sort to date. The article on Nosema in last month's Journal is an article worth reading, and a subject well worth digging

deeper into. I have had a few such cases each season, and, rightly or no, have always put it down as paralysis. I have noticed it is much more prevalent among golden Italians than the leather coloured, and is chiefly confined to weak colonies. It also appears more in the apiaries situated around the mountain, where the rainfall is about double of that at my home and near home yards. I am with you, Mr Ward, in sticking together. Let us stick even should all our directors live in the one province; but also let us strive to improve matters and get a system of equal representation.

H. R. PENNY.

Okaiawa, September 15, 1919.

Comb Foundation Making.

(By H. BRYANS.)

Mr. F. C. Baines, in the Journal 1st February, 1918, page 25, describes his method of comb foundation making by the dipping process. In the course of this article he mentions that there is another method used by men of experience, who obtain sheets of the requisite thinness by putting fairly thick slabs of wax through smooth rollers.

A description of this method has not appeared in the Journal, and I am not aware

of its appearance in any other publication. Therefore, I have pleasure in describing a method which I used last season, and for want of a better name may be called the

SLAB METHOD.

In previous experiments my chief difficulty was to get the slabs of wax of uniform thickness throughout. This difficulty has been overcome by floating the melted wax upon the surface of water, contained in a shallow tray or mould, the melted wax and water to be at about the same temperature at the time of moulding; the result when cool being a slab of wax of perfectly uniform thickness.

PLANT REQUIRED.

The usual plant for dipping as described by Mr. Baines will be required, except the dipping tank and boards, and in addition a set of smooth rollers, a few wooden moulds, as well as other articles, to be described later on.

MOULDS.

The moulds may be made by nailing $\frac{7}{8}$ in. square strips around, but on top of a piece of board 20 in. long, the finished inside width to be 9 in., one of the end strips to be bevelled, for convenience in removing the slab of wax from the mould. The whole to be worked up square and true, and all joints made watertight.

1919=20 PRICE LIST OF ITALIAN QUEENS

PRICES:

	1	2	3	4	5
Untested	7/-	12/6	18/-	23/-	27/6
Select Untested—1/- extra per Queen.					
Tested	12/-	21/-	28/6	37/6	45/-
Select Tested	15/-	28/-			
Breeders	25/-				

Queens guaranteed free from all disease, and bred from Pure Stock, which have been selected for hardiness, disease-resisting, good-working & non-swarming qualities.

Ninety-five per cent. of Untested Queens guaranteed purely mated.

TERMS.—Nett cash with order. Cheques to have exchange added.

P.O. Order Office, Tapanni.

Tested Queens for delivery from October 20th; Untested from about November 20th to end of March, 1920.

NOTE.—Owing to high cost of all material, no reductions can be allowed on list prices for larger quantities.

POSTAL ADDRESS:

R. STEWART,
CROOKSTON, OTAGO.

Two dippers will also be required for pouring the wax and water into the moulds. These may be made from honey or syrup tins.

MOULDING THE SLABS.

Commence operations as described for dipping, except that on the stove or fire you will have beside the wax boiler a benzine or other tin for water.

During the time the wax and water are being heated, arrange the moulds upon a suitable stand, as convenient to the wax boiler as possible. When the water boils pour a dipperful into each mould, and allow it to remain until the moulds are heated to the temperature of the melted wax.

Pour the water out of No. 1 mould into a bucket, and replace with a dipperful from the water boiler, then quickly but carefully pour a dipperful of wax also into the mould; attend to the remaining moulds as described for No. 1. Return the water from the moulds to the water boiler.

Allow the wax in the mould to cool sufficiently before attempting to remove the slab, and in the meantime prepare for the next round.

When the slab has cooled sufficiently for removal, **note the colour.** You will find this a good guide in judging the time for removal.

When the slab is removed, place it upon a convenient stand, and allow it to cool slowly.

Before the slabs can be successfully put through the smooth rolls a few extra parts will be required.

First, the wooden guide roller is not suitable in this process. To remedy the difficulty, secure the rolls to the stand in the position usually occupied by the embosser, turn down the guide roller, take a piece of board about the same length as the slab, adjust and secure it to the stand so as to support and guide the slab at the proper angle between the rolls, keep the back end a little higher. It is an advantage to have a narrow strip on the top of the board along one edge to assist in feeding square and true into the rolls.

Second, the grippers are all right for short sheets, but for the lengths to be handled in this process, a small wooden roller set up as close to the rolls as possible will be found much more satisfactory. The roller should be fitted so as to lift out of its bearings for convenience in removing the sheet when wound up.

Third, Lubrication.—In this process the rolls must be kept continuously lubricated. In its simplest form this may be effected by suspending immediately above the top roller a small wedge-shaped bag (point downwards) containing the usual lubricant. The bag may be made of strong flannel; it should be the full width of the rolls, and may be suspended from the ceiling, from a light frame attached to the stand, or otherwise to suit conditions. The bottom roller

must also be attended to by keeping the bottom lubricator well filled and adjusted to allow the roller to revolve in the liquid. Continuous lubrication is an exceedingly important detail, and should be properly attended to.

ROLLING THE SLABS INTO SHEETS.

Having attended to all these details, rolling the slabs into sheets may be commenced.

Follow your usual system as explained by Mr. Baines for embossing, except that the cooling vat may now be used in heating the slabs to the proper temperature—116 to 118 deg. Fabr. This temperature may be maintained by placing the vat upon the stove, and regulating the flame as required. See that the lubricator is properly adjusted to allow the liquid to flow down the side of the roller just above the entering wax.

Now place a slab upon the guide rest, feed into the rolls, your assistant using the wooden roller, coil up the sheet, then lift the roller out of its supports or bearings, remove the sheet, replace, and continue.

Just here you may, perhaps, have a little difficulty. Should your rolls be slightly out of adjustment (not noticeable in short lengths), the sheet will not be quite straight, but may curve towards one edge. Test this by rolling it out upon a fairly straight board; if not quite right, adjust the rolls as directed by the maker. This also applies to the embossing rollers. It is also important that the plain sheets should be but slightly heavier than the weight of foundation you intend to use.

EMBOSSING THE PLAIN SHEETS.

Remove the smooth rolls and guide rest, set up the embosser, re-adjust the lubricator, elevate the heating vat to as near the level of the rolls as possible. The temperature on this occasion should be 105 to 107 deg. Fabr., more or less, according to circumstances, such as the distance from the mill, temperature of the room, &c. This time the guide roller will be used. Proceed generally as previously described.

CONCLUSION.

In conclusion, I need only add that the extra fittings, such as moulds, dippers, can easily be improved, especially by fitting a tap to the wax melting boiler, thus avoiding both scum and sediment.

The foundation is much superior to any I have previously made. It appears almost as easily handled as leather.

Messrs. R. Holditch (of Masterton) and J. M. Russell (of Featherston) made up a quantity of foundation according to the system described. Perhaps these gentlemen as well as others will give us the benefit of their experience.

Canterbury Tales.

By E. G. WARD.

Up till September 1st there was promise of an early spring in Canterbury, but on that date we had a fall of 2 in. of snow, and on the morning of September 2nd we arose to find it had frozen. It is sixteen years since we had a similar experience. The sight was a beautiful one. Many trees were broken down with the weight of the snow, and large numbers of lambs perished. From the beekeeper's view-point, no doubt thoughts of chilled brood will arise in the mind; but as I have not yet visited my apiary since last April, I have no definite information.

The fall of snow and subsequent frosts have checked spring growth, and we are quite three weeks late.

On 18th August Mr. Rentoul wrote saying bees were working on willows in the Cheviot district, two weeks earlier than usual. However, in addition to the snow we have had a considerable rainfall during the last fortnight, and I think our prospects of a good crop are more hopeful than a month ago. "It's an ill wind (or snow) that does no good."

The Canterbury Branch of the National met on 12th September. Mr. Pope (President) gave an account of the Conference doings. Those present were unanimous in hoping the next Conference would be held in Christchurch. Will the Executive please, in the words of the celebrated Captain Cuttle, "make a note of" it? It was resolved that the Branch should join the Canterbury Progress League, and the President was appointed as representative. I was pleased to note that in a circular issued by the League that beekeepers' interests are not lost sight of, and that it is up to date in matters pertaining to the industry.

On 15th August the following paragraph appeared in the "Lyttelton Times":—"The Canterbury Industrial Association has decided to hold a New Zealand Industries Exhibition in Christchurch about the end of next year. Messrs. Keir, J. A. Frostick, Black, W. Bradley, W. W. Charters, Wilson, Goodsir, and J. B. Laursen were appointed a committee to make preliminary recommendations regarding finance, site, and other details. Mr. J. B. Laursen was appointed secretary of the Committee." Here, again, I hope the

Executive of the National and also the Directors of the I.P.A. "will make a note of."

I am afraid Mr. Bartlett-Miller has not developed that "pachydermatous hide" yet, or he would not have written the letter above his name in last month's issue. He says he has only had one year (not two) to experiment, and has obtained "actually unbelievable" results; and yet because one or two jokers have "pulled his leg" a bit, he's sorry he promised to let us into the "know." Say, Mr. Miller, have you never heard or read of the ridiculous cast at nearly all the eminent scientists? Where would we be to-day if they had kept their discoveries locked up in their own breasts? Just think how you will be able to turn the laugh on them when you prove your case. "He laughs best who laughs last." Come, don't be naughty!

Correspondence.

Wellington, 28th August, 1919.

The Secretary,

National Beekeepers' Association,
Kati Kati, Bay of Plenty.

Sir,—Further to my letter, No. 21/63/3, of the 22nd ultimo., with respect to the resolution passed by your Association referring to the maximum penalty for a breach of the Apiaries Act, it is considered that amendment in the direction indicated by the resolution is desirable, but it is not likely that an amending Bill will be introduced during the coming session. The matter will, however, be noted for consideration when opportunity offers.

Yours faithfully,

C. J. REAKES,
Director-General.

Wellington, August 30th, 1919.

The Secretary,

National Beekeepers' Association,
Kati Kati, Bay of Plenty.

Sir,—Further to my letter, No. 21/63/3, of the 22nd ultimo., in reply to yours of the 5th idem. With reference to the resolutions numbered 1, 2, 3, and 4 in your above-quoted letter, an endeavour is being made to arrange for vacuum experiments to be conducted, and also for experiments with regard to fermentation and granulation, the results of which will be communicated to you when available.

Yours faithfully,

F. S. POPE,
For the Director-General.

(TO THE EDITOR.)

Sir,—The August issue of the Journal is of particular interest in that it gives us definite information on a vexed question—namely, the use of petrol tins for the export of honey. Mr Allan Bates, a beekeeper well known to many of us says:—"I was fortunate in seeing our honey unpacked. . . . The benzine tins did not

'Tis the season for fires and furs.

There are dreary damp days to endure,

If a cough, cold, or sore throat occurs,

'Take Woods' Great Peppermint Cure.

'Tis the treatment most favoured by far,

'Tis the treatment most prompt, potent and pure.

If you've asthma or gastric catarrh,

'Take Woods' Great Peppermint Cure.

seem to me the least bit detrimental. The honey was perfect." Honey has been shipped to Great Britain for two seasons without bringing forth one complaint from the B. and D. This suggests to me, with all due deference to Mr Benton and others, that if the H.P.A. is prepared to receive honey from its shareholders in benzine or petrol tins and the B. and D. is prepared to continue to accept such a package, then it is sheer waste of good money to compel producers to purchase and use new tins at double the cost at present-day prices. Personally, I advocate the use of any package which will carry our honey to our own packing depots, either in New Zealand or in Bristol, in good condition. Of course, it is quite a different proposition were the honey to be sold on the open market; then a new, attractive package is necessary.

R. W. BRICKELEL.

• • • APIARY BOUNDARIES.

(TO THE EDITOR.)

Sir,—This question is still agitating quite a number of beekeepers, and at the risk of being considered illogical, I am going to make a suggestion. That is, that in so far as it concerns this question a very decided distinction should be made between home apiaries and out apiaries. In so far as our homes are concerned, we are very much the creatures of circumstances, and where two beekeepers get rather close together in their homes, well, they must just put up with closeness. So far as their apiaries are concerned priority can give no claim in this respect, and no legislature would entertain such an idea for one moment. But it is different altogether where two beekeepers living out of range of one another, and each having his home apiary, one of them plants an out apiary within his neighbour's range, and to his injury. Whatever the legal aspect of such a position might be, the moral aspect is fairly clear, and I for one would endeavour to make the legal follow the moral as nearly as I could; and I think if there is such a thing as etiquette amongst beekeepers that it should use all its influence to bar this kind of procedure. The real point in it is this—that if a man is planting out apiaries the whole Dominion is open to him, his site is only to a very small extent affected by the position of his home, and there is plenty of available bee pasture still untouched, without "dumping" down beside the home apiary of another beekeeper. That is what I call "dumping," and I would lend Messrs Ireland, Horn, and Cotterell all the help I could to prevent it. The whole question is

difficult, but we beekeepers are out to live and to let live, and I certainly would sit tight on what can only be described as apiary thieving. Pity it is that our little friends should be made the instruments of such a purpose.

The Survival of the Fittest.

Mr Gibb, I think, was the first to use this term in the Conference debate on apiary boundaries. The writer repeated it; but I don't think either of us meant it in the Major Ropata sense. It was simply the hopelessness of doing anything by legislation to fix apiary boundaries. I am entirely with Mr Adams when he says "we are seeking protection so that all may survive." But there are two sides to the question, and it is quite evident that so far many of our beekeepers have only been able to see one. Let me state a case: In the south I know of a plain of very large extent which, owing to the influence of lime, is growing white clover to perfection. In the clover season it is almost like snow. There are times when to walk through it your boots get moist with nectar. Can any one say what is the bee-carrying capacity of such a district? In Holland or Belgium, we are told, that in some districts there are 1000 colonies to the square mile. Suppose that you have in this district a beekeeper with, say, 50 colonies, and you give him a boundary of two miles. It would mean a monopoly of about 12 square miles for those 50 colonies. Twelve square miles represent about 5000 acres, and as the holdings average probably not more than 150 acres, this man with his 50 colonies would monopolise the bee pasturage on about 30 to 35 farms, each supporting a family, and amongst whom it would be quite safe to say were many returned soldiers. Now, I would like to ask Mr Adams, are "we seeking to give protection so that all may survive" when we create this monopoly? I have no hesitation whatever in saying that each of those farms would carry 50 colonies in a good season, and in the south the seasons are fairly reliable. Does not the clover that grows on those farms belong to the farmer; and is not the nectar part of the clover; and has anyone more right to it than the owner? And would any legislature dare attempt to alienate it? Reducing the area will not mend the matter. If you give a right to a half-mile boundary it may include four or five farms, and the injustice remains as before. It seems to me that it is absolutely foolish to follow this up further along the lines of defining boundaries. There is, however, another way in which it might be well to at least inquire into the subject and see if any more satisfactory position might not be evolved. Suppose a clause of this nature were added to our Apiaries Act: "It shall not be lawful for any person, persons, or company to establish an apiary within a mile of any apiary already established, unless the site on which such apiary is established is the permanent home of the persons establishing the apiary." I hold this up as a work for

To Young and old, to great and small,
Some day there comes a time to all,
A time of sickness and distress,
When timely aid we grasp and bless,
It may be when we're young and old;
Or maybe when we've cough and cold;
But whoso'er it be, we're sure
To welcome Woods' Great Peppermint Cure.

our beekeepers to shoot at. I could get in a few very effective shots myself to start with, but there are possibilities in it, and I would like to see them dealt with.

Railway Carriage for Bee Supplies.

Mr McVilly, General Manager of Railways, must be having a poor time of it since the coal famine began. He has been bombarded by the H.P.A., by the National, and by the Alliance Box Co.—in fact, he has aroused a regular hornet's nest. It all boils down to this: that on quantities up to 2ewt, parcels rate, there never has been any bar, and on larger quantities they can mostly be got through by consulting the railway people and exercising a little patience. Mr McVilly has been prompt in his replies, and has given us every consideration. Let us hope that before long the miners will give up the go-slow business and emulate the spirit that actuates the beekeeper, and get our railways out of their coal difficulties.

JAMES ALLEN.

(TO THE EDITOR.)

Sir,—To those who rear their own queens the following may be interesting. Last spring I made up a number of small nuclei boxes to take a frame, half the length of the standard L, self-spacing, and wide enough to hold four easily, so that one could be taken out and a small feeder put in its place. I started those nuclei with old black queens from a farmer's bees which I was requeening. I made the mistake of putting in foundation in all these small frames instead of filling them with drawn combs, consequently, as the weather was very bad (so bad that some of them would not take the warm syrup), I had enough trouble with them to make me disgusted. However, when honey began to come in I divided several full-depth supers by nailing a partition across the centre, then put 20 of these frames in each, and got them drawn out and filled with honey and brood over strong colonies; after which nuclei could be made up from them without any trouble, with half the number of bees required for ordinary three-frame full-size. No doubt most beekeepers know what a habit the baby nuclei have of swarming out, but with these there was none of that trouble, though I purposely left a laying queen in a number until the front of the box was a mass of bees hanging out on a warm day. These I have wintered over where they stood, and a few days ago I looked to see how they were doing. Some had nice patches of brood in two frames, and some were short of stores, which was soon fixed up, as I have a lot of those small frames filled with honey. I have now what every beekeeper wants in the early spring—a few spare queens. There are other beekeepers who use this size of nuclei, but I do not know if they have tried wintering queens in them. Of course, this is only one season's experience with them, but they seem to be far ahead

of the twin baby nuclei for the beekeeper who has a crop of honey to take care of.—I am, etc.,

E. SIMPSON.

P.S.—According to Gleanings, Californian sage did not yield well last season. Hope the New Zealand variety is not also losing its sweetness.—E. S.

(TO THE EDITOR.)

Sir,—The general trend of commercial beekeepers in America and Australia seems to point to larger brood nests. I have decided to try out 20 thirteen-frame hives, or to be more concise, 20 x 20. I will keep careful records of these hives for swarm control, etc., and intend to work them solely with half supers. I will give particulars in the Journal at the end of the season if all goes well.

I think at the present juncture in New Zealand beekeeping there is room for a few good, conscientious commercial queen breeders, and I believe it would be a paying proposition.

I think the use of petrol tins as a special concession by the Department during the war was a distinct benefit to a large number of beekeepers, especially when new tins were costing 4s 2d, as they were here. I, for one, will not be sorry to use new tins, which I can procure in Christchurch for 1s 6d. In visiting Mr Ward's apiary last field day (February) I was struck very much with his apiary barrow. Would Mr Ward be good enough to give us an idea how to make it?—I am, etc.,

W. WATSON.

Gerardine, September 18th, 1919.

[Are you sure you can get tins at 1/6 each? We can't in this locality.—Ed.]

(TO THE EDITOR.)

Sir,—In reply to your remarks upon my letter appearing in the August issue you refer to a cry, "North versus South." Now, considering I only pointed out a remote possibility, of course I do not accept the responsibility of creating such a circumstance, if it exists, and since the suggestion first came from your pen I take it you are prepared to shoulder the burden. You also accuse me of "parochialism in its worst form," but how you arrive at such a deduction I fail to see. The very fact that I advocate equal representation for the two islands is in direct contravention to your insinuation. You also say that my letter "gives the impression that those directors who live in the North Island are there only to watch over the interests of those similarly placed, not for the benefit of the whole," etc. When you read my letter you must have been suffering from that innocent complaint "want of sleep," because the concluding part of my letter is in direct opposition to your impression. Your comment, however, calls for a little further explanation on my part, and if I may be pardoned for broaching the subject, I do so without any malicious intent or derogation of the

South, but in the endeavour to preserve the true principles of co-operation, and also to disclose the fact that the North produces something more than "black manuka honey," which term prominent beekeepers of the South have referred to our medium amber honey. During private conversation with well-known southern members (and the subject was also referred to at a certain directors' meeting by a southern representative) the theory has been advanced that the southern product is worth one penny per lb more than our North Island product. While I readily admit our southern friends produce a splendid grade of honey, I also maintain that we northern members of the craft produce a grade at least three parts of which equals the best southern product; consequently we can justly claim the same remuneration. There are evidences of certain other misunderstandings, but not wishing to ventilate everything at once, I would just like to ask you, Mr Editor, Don't you think that that bad form of "parochialism" of which you say I am guilty is justified under the circumstances? I believe it is quite impossible for the directors from the south to know exactly the merits of the northern honey, and that being so, equal representation is the only solution; but if you can only see trouble ahead of such a course, then how about procuring a telescope? By way of concluding I would just like to digress a little and make reference to a method by which the Department studies economy. As is fairly well known, our graders twelve months or so ago were very much underpaid, and as the result of representations were granted a bonus of £30 per annum. Unfortunately for them, however, the war has ceased, so has their bonus; but by way of recompense were given a rise in salary of £25, which in reality leaves them worse off than during the last year of the war. Considering that the cost of living is ever on the rise, the position presented is not at all a fair one; and if I may be permitted to make a suggestion, I think that the National executive should take the matter up without delay; or, failing immediate action, we may be left in the unenviable position of endeavouring to fill vacancies.—(I am, etc.,

E. W. SAGE.

Ohaupo, September 15th, 1919.

Answers to Correspondents.

D.C., Waiuku.—We think the probability is that the clipping was overlooked before being sent away from the breeders. There is very little chance of your finding the remains of queen cells at this distant date. By the time you read this you will be able to tell pretty definitely whether her progeny is pure or not. If the bees show black blood that will be pretty conclusive she is not the tested queen you purchased.

A.R.J., Eltham.—Many thanks for sample feeder. This idea has been shown before.

FOUL BROOD.

By H. BENTON.

"BACILLUS LARVÆ."

Many questions are often asked as to the nature of this disease, so perhaps a few lines on the subject, "gleaned from works by eminent authorities on bacteriology," will not be out of place.

The word bacillus is descriptive of the germ, and means "microscopic rod like." In the dormant stage I will liken it unto a seed "only discernible under high microscopical power," covered with a tough, leathery substance, which so effectively protects it that germ-infected appliances, etc., require to be placed in boiling water for not less than twenty minutes to sterilise them.

Honey from an infected colony of bees contains perhaps millions of these germs, and is the chief medium by which the disease is spread from one colony to another. The germ only attacks the bee in the larval stages; and when fed to the larval bee "per medium of honey" immediately develops into a bacillus. This bacillus, "which in appearance is not unlike a minute piece of bamboo," grows or expands lengthwise; and small pieces are continually breaking off, which grow in a like manner. This process of multiplication is scientifically known as fissuration, and the bacilli continue to increase in number in this manner until the fat globules in the larval juices of the bee are exhausted, whereupon they assume the spore condition again, and lie dormant until they come into contact again with suitable media upon which to develop.

One may think that he is free of the dreaded malady when none of his colonies have contracted the disease for several years, yet it is more than possible that spores of the disease may be lying dormant for years upon old supers, roofs, mats, bottom boards, etc., before they are inadvertently transferred by some means or other to the precincts of the hive; which explains in a measure the reappearance of disease in apiaries which we considered clean. The average beekeeper does not take half the precautions against contagion that he should, either because he does not know the nature of the disease he has to contend with, or, knowing, will not take the trouble, trusting to chance rather than good management to effect a cure. It is unnecessary for me to explain here how to detect the disease, or to detail the methods of treatment, because all beekeepers worthy of the name are already in possession of such knowledge.

Wish Journal every success. I would not like to be without it, and look forward to it every month.—G. S., Waikanae.

ANOTHER PATENT.

THE BARTLETT-MILLER COMB, CAPPING & CANDIED HONEY REDUCER has been perfected for use in the rendering of even Canded Honey, which is work that many are using it for. As previously constructed, it was too much bother to stop up the spaces at the bottoms of the tubes so as to prevent partly liquified canded honey or very thin sheets of cappings from dropping through from the tubes on to the slope to the gutter. Also it was more or less labour to keep the tubes scraped down clear of that enormous amount of solid matter which accumulates when reducing old combs full of cocoons, or others containing much pollen. In fact, this necessity to rake down the slum-gum was the one great drawback to the BARTLETT-MILLER REDUCER'S TITLE TO BE CALLED PERFECT, for although many purchasers claimed that it did its best work first, such statements were a clear confession of their own laziness. No Extractor ever yet took out its own combs or honey, yet some persons appear to imagine that any new invention in our line of honey production ought to go on for ever, without attention. It won't!

All must recognise that the necessity to melt up full combs of honey is more or less of a calamity, and to imagine that any invention will convert such a calamity into a go-as-you-please job is the merest ignorance. Again, many persons use Comb Melters as mere Capping Reducers for a time, and find they take but little heat to do useful work. Then, when on another occasion they use their Reducer for the work it was invented to undertake, their previous experience as to the heat required is so rudely shattered (when whole combs are in question) that they but advertise their ignorance again by proving that their bump of comparison needs fling up bright and sharp: for they at once attempt to melt up the solid combs with the very same heat which they considered quite necessary to render mere cappings! Now, could anything be more foolish than to expect to put into any machine around five hundred-weight per day of solid, unmelted cocoons and pollen—and this is much below the actual quantity in one ton of honey in old combs—and expect not to have to take that slum-gum out again! If a woman thought so, one would merely sniff; but from a man—well!

FOOL PROOF.

Now, then, with a view to preventing this necessity for raking down the slum-gum in the Bartlett-Miller Reducer, a new patent is in process of being granted which secures the right to use collapsible bottoms between the tubes, which bottoms are con-

trolled, each one separately, by levers at the front of the Reducer. They completely stop the spaces, if necessary, as far as anything other than melted wax and honey is concerned. Thus, when canded honey is put in the Reducer, its exit can be controlled until it is melted as much or as little as the operator desires. The same applies to cappings, as these are retained when the bottoms are closed, although as they melt the liquified wax and honey run away, for the bottoms do not fit sufficiently close to prevent all exit of liquid, although nothing much over one thirty-second of an inch can pass them when closed. The opening between the tubes at the bottom edges is a full inch, and by the collapsible bottoms this can be left at any width—from close up until completely open, at the wish of the operator.

The opening is entirely devoid of springs or other contrivements, and is also uninfluenced by weight of the matter in the Reducer. It absolutely solves the problem of clearance of the slum-gum, for should the operator judge that any tube space is unduly clogged with solid matter, all he has to do is either to permit that particular tube space to run all its honey and wax out, and then throw down the bottom bar, and presto! away falls all the slum-gum on to the screen below; or, if he chooses, he may lift into another tube space any comb unmelted which he may not be disposed to wait the reduction of, and thus by going from tube to tube he may clean out the whole Reducer without at any time stopping more than about a quarter of it from continual working. After allowing the slum-gum to drain awhile ABOVE the Reducer—seeing that the screen will not be needed awhile below the tubes, as the bottoms will all be again closed after the cleaning of the tubes—the drained rubbish may be dumped in the wax-press depository. Or the bottoms may be so regulated as to clean the tubes automatically by the correct spacing of the openings.

HOW MUCH SLUMGUM?

Just let us tackle this question of the amount of solid matter that the Bartlett-Miller Reducer will contentedly handle. I say "contentedly handle," because I have seen some (so-called) thick-comb-honey Reducers suck like a mule, and actually stop operating when old black combs were put through (?) them—at least at any such rate as prevented the necessity for the operator for mucking the previously broken-up combs around with the honey knife. That rate was about 60 lbs. an hour, by the way—no good to the commercial honey producer with a whole crop

of non-extractable honey! eh? Now, the **Bartlett-Miller Reducer** would handle old boots if they had any honey in them, so let us see how much muck in the shape of pollen and cocoons would be the result of reducing that one ton of honey per day, which the **EFFECTIVE** size is built and sold to handle.

So as to put our Reducer to the heaviest task we can give it, we will suppose that the combs are spaced ten, and not, as is usual, eight to the super. Each comb spaced ten to a super averages, by my method of weighing both before and after extracting, a little less than five pounds of honey per comb—i.e., each ten frame body holds less than 50 lbs. of honey. But the whole set of combs as they go into the honey house averages 68 lbs. gross, without the hive body. Here we are calculating filled combs, while much more slum-gum must be the product of partly filled combs. Thus we have a difference between 50 lbs. and 68 lbs., from which difference of 18 lbs. we must deduct ten times seven ounces, the weight of my frames: Result, say, 14 lbs. of solid matter to every 50 lbs. of honey. Then, as there are forty-five times fifty (nearly) in a ton of honey, we also have to arrange for the disposal of forty-five times 14 lbs. of slum-gum, or a total of five hundredweight and sixty pounds per day of eight hours. This means nearly one and a-third pounds per minute.

If you use the **Effective Size Reducer** with four tube spaces, then each tube must deal with nearly one and a-half hundredweight of slum-gum per day; and if you clean each tube down every time that 5 lbs. of slum-gum has accumulated there, you will need to drop that collapsible bottom every quarter of an hour—not an insuperable task, nor one out of the way, seeing the enormous amount of material you are handling in every eight hours. This means that each tube allows four minutes (if all were emptied in each successive quarter of an hour!) for the cleaning of each tube. Now, does any simpleton imagine that to slip a lever and allow the slippery content of hot wax and slum-gum to drop through a one-inch opening would take longer than about two seconds? Therefore, the operator has ample time to attend to the clearance of the tubes and the taking away of the reduced honey and wax as well; whereas with the old invention it was a steady job for one man to rake down the slum-gum from the tubes; but what amused me about the old (or last season's) machine was that ONE man expected to be able to keep a **Bartlett-Miller Reducer** going steadily all day, and reduce a ton of honey, while if extracting a similar amount he would have two men at the job at least, or else that extractor would be mostly loading at about six hundred pounds a day. Funny how some persons count steps in a ladder!

ANOTHER MATTER OF IMPROVEMENT.

The New Season's **BARTLETT MILLER REDUCER** is now made (if so desired) without the means to apply steam to anything but the actual tubes. Some have objected that the additional heat applied to the honey while flowing down the honey-shed, below the tubes, MIGHT—(no proof of any kind, mark you!)—overheat the honey so as to damage its flavour. Well, all such half-way trouble-meeters can have the Reducer built their way by merely saying so—BUT I'll take all fine care that no such half-way Reducer is ever added to B.M.'s honey producing plant; and I think I have at least one of the most complete and modern plants in New Zealand.

Also the Reducer can be obtained built with the tubes and honey-shed as separate steam or water compartments, thus permitting somewhat careless manipulators to fill the lower portion—or partially fill it—with cold water, for the purpose of rapidly cooling the melted wax and honey as it passes down the gutter.

Some have mentioned this idea of mine as a splendid one, but I do not agree. I have been using for six years now a Reducer being wholly steam heated, and have put through it one season over a ton of candied white clover honey from an out-ward, and whatever quality of honey has gone through my own machine has never called forth one single indication of loss of quality, wherever it has been sent—all over our Empire too, at that!

QUERY.

Now, straight dinkum! Do you know of any other Honey Reducer that will contentedly handle over 5½ cwt. per day of indigestible slum-gum and let it go again without any handling?

PRICES REMAIN AS USUAL.

Lowered cost of material permits old price level despite extra labour in manufacture—nearly 50 per cent. extra.

This month you must read back numbers for prices. Oh! **BABY** is advanced 5/- That is the only advance though.

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KIHIKIHI.

N.B.—Do not order too late, as most did last year. Order two months before you want delivery.

[ADVT.]

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The time to overhaul your apiary has arrived. Before you decide upon your policy for the coming season consider

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Third, that 'Alliance' hives and Supplies are the very best.

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New Illustrated Catalogue ready August 20th.

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Can now be had in two sizes—one size for cappings, and one for both cappings and comb-honey.

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