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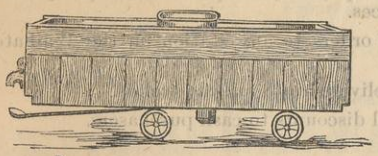
THE AUSTRALASIAN

BEE JOURNAL

No. 10. Vol. 1.] AUCKLAND, N.Z., APRIL 2, 1888. [PUBLISHED MONTHLY SIXPENCE.



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The Australasian Bee Journal.

PUBLISHED MONTHLY.

I. HOPKINS ... ... Editor.

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Contents.

Editorial.

SEASONABLE OPERATIONS FOR APRIL.

We stated last month it was "just possible (the season for taking surplus honey) may extend to the end of the first or second week in the present month (March) in some districts." From letters received since we learn that in two or three instances this turned out correct. The season on the whole has been rather a remarkable one, and, as we have already stated, very much below the average. In some instances a very good crop of honey has been secured, while in others next to nothing has been taken. What appears strange, unless it can be accounted for by better management, is that while two or three we have heard from report a very fair crop, others close around them state that they have had an extraordinary bad season. The beekeepers to the south of Auckland appear to have fared better than their brethren in the North. The latter had but a very short season, lasting only a few days, and already one beekeeper says that some of his stocks have consumed 30lbs of honey since he took the last surplus from them. At this rate he will have to feed them heavily unless the late rains bring on a good autumn flow.

All surplus boxes with their combs that can be dispensed with should be removed from the hives and be carefully cleaned before putting them away for the winter. A very excellent plan is to mix a fairly strong solution of Calvert's No. 5 carbolic acid in a large tub and scrub the hives and other material in it that has been in contact with the bees. The hives should be allowed to dry before being put away, and they will then be ready for use in the spring. The spare combs should receive a spraying with a solution of phenol—1 in 400—and be suspended in a well-ventilated place till they are perfectly dry. To clean the things in this way is not much trouble, the disinfectant will do a deal of good, and you have the satisfaction of knowing you have done your best to prevent an attack of disease among your bees. Where foul-brood exists now will be the time it will begin to show itself, and if food should have to be given, don't fail to give medicated syrup. Cheshire's medicated syrup is made in the following manner:—Take in the proportions 12oz. of absolute phenol to 3oz. of water. Shake well until the phenol is dissolved. Next mix 1oz. of this solution with one pint of water, and shake until the oily appearance has entirely disappeared. Now mix 1oz. of this last solution with every pint of syrup to be fed. It is also advisable to keep a disinfectant in the hives in the shape of a piece of camphor about the size of a walnut, tied in a piece of thin rag. Has anyone given Eucalyptus oil a trial? It is a powerful germicide and should prove a good disinfectant.

This is the best time of the year for re-painting such hives that are going to be occupied during the winter. Paint put on now will stand the weather better, and be less affected by the sun than when put on in spring.

Contract the entrances to hives if robber bees are trying to attack weak colonies. Keep a sharp look out for queenless colonies and provide them with a queen if there are any spare ones on hand. It is almost too late to rear queens; better to unite any colonies that are minus their

queens with others than to attempt to rear them now; late autumn-bred queens are rarely worth keeping. Nucleus colonies should be united and all should be provided with a good supply of food that breeding may not diminish too suddenly.

THE HONEY MARKET.

There has been an unusual supply of fruit in the market this season, and this has interfered with the demand for honey, and in fact all sweets. A confectioner remarked to us the other day that cheap fruit had stopped the sales of sweetmeats to the extent of between 80 and 90 per cent. It cannot be expected, under these circumstances, that there will be much demand for honey, or that there will be any advance in price during the fruit season. We should advise those who can do so to hold on to their honey for a while, and not be in a hurry to sell. We saw some sold at auction lately at 1½d per lb in 60lb tins. Very little has found its way into the auction rooms up to the present time. Grocers are not disposed to buy much just now unless they can get it very cheap. Eight shillings per dozen 2lb tins is the best price they will give at present. We must wait in patience till the fruit season is over, and then we shall get a turn.

THE NEW ZEALAND BEEKEEPERS' ASSOCIATION.

THE establishment of a National Beekeepers Association for New Zealand is at last an accomplished fact, and let us hope that the result will be to draw all New Zealand beekeepers into a closer bond of union than heretofore, that their united efforts may be directed toward the removal of difficulties that have hitherto militated against the progress of the beekeeping industry in this colony. A very fair start has been made, and it now rests with our beekeepers to make the Association a means of doing the amount of good that such an institution, well supported, is capable of accomplishing. Every thoughtful and progressive beekeeper must be well aware that he will be benefited by the working of a well-organised National Association, far beyond the value of the small sum he is asked to contribute towards its maintenance. Five shillings per annum is but a small sum and, looked at from a business point of view, it will be five shillings well invested.

Of course we have assumed that the N. Z. B. K. A. will be conducted in a manner best fitted to accomplish the objects for which it has been constituted, and of this we think there cannot be the least doubt. From what we know of the gentlemen on the executive and corresponding committees—and most of them are not unknown to our readers—we do not think any opportunity for bettering the beekeeping industry will be allowed to pass unheeded. As for ourselves, we can only say that having been honoured by being elected to an important office in the Association we shall do our best to deserve the confidence the members evidently have in our ability to serve them. We ask every beekeeper to render his aid by becoming a member. The objects and rules of the Association are published in another column.

N.Z. BEEKEEPERS' ASSOCIATION.

Subscription receipt forms will be forwarded to members of the above as soon as ready.

J. HOPKINS,
Secretary and Treasurer.

THE HONEY PAMPHLETS.

NEARLY all the pamphlets ordered are now in the hands of the different beekeepers, and opinions will have been formed as to their general get up, appearance, and whether the price is satisfactory or not. We have had already two or three private communications concerning them, in which the writers have expressed their satisfaction. Over 6,000 have been sent out, and small orders are still coming in; but the printer will hold back the printing of the second edition until something near 1,000 are ordered. After this notice appears the price per 100 will be 7s. 6d., or free by post in New Zealand, 10s.; orders for 500 and over will be supplied at same price as first edition, viz., 5s. 6d. per hundred, or free by post 7s. 6d. per hundred Twenty-four copies weigh one pound, which will cost per parcel post 7d., and for every pound or fraction of a pound after the first, 3d., so that the postage can be calculated when ordering them. To the Australian colonies the postage on every pound is 1s. 4d. A quarter pound should be allowed for wrapper.

For the leading part that Mr T. J. Mulvany has taken in getting out the pamphlets we are all indebted to him, and it will only be a graceful act to tender him our hearty thanks on behalf of our friends and ourselves.

NEW ZEALAND BEEKEEPERS ASSOCIATION.

THE following are the objects and part of the rules adopted by the New Zealand Beekeepers' Association :—

OBJECTS OF THE ASSOCIATION.

The NEW ZEALAND BEEKEEPERS' ASSOCIATION is established for the advancement of Bee Culture and the Honey Trade generally, but more especially within the circle of its members and supporters in New Zealand. With this end in view, its objects are :

1. To bring about cordial co-operation between beekeepers throughout New Zealand, and direct their united exertions toward the satisfactory settlement of all questions affecting the welfare of the beekeeping industry in this colony.

2. To endeavour by every means in its power to prevent the spread of infectious diseases among bees, and to eradicate those already existing.

3. To encourage the formation of local Beekeepers' Associations within New Zealand, whenever and wherever desirable, by giving every assistance that circumstances may permit.

4. To give its members every facility for obtaining the latest and best information on beekeeping from different parts of the world, by establishing a reference library as soon as the funds of the Association will permit.

5. To prevent the sale of adulterated honey and to encourage, by means of lectures or in any other way, the more general use of New Zealand honey as an article of food, and the establishment of Home markets by means of suitable arrangements for disposal of members' honey.

RULES.

I. The Association shall consist of a President, Vice-Presidents, an Executive Committee, a Corresponding Committee, Secretary and Treasurer, and ordinary members.

II. The Executive Committee shall consist of the Presidents, Vice-Presidents, Secretary, and Treasurer, and ten members, all to be elected annually at the annual general meeting, which is to be held as hereinafter provided, the first election having taken place at the constitution of the Association. In addition to the Com-

mittee elected as above, the Presidents and Secretaries of local Associations affiliated to the New Zealand Beekeepers' Association shall be *ex officio* members of the Executive Committee, and the Presidents of such local Associations shall be Vice-Presidents of the New Zealand Beekeepers' Association. At all meetings of the Executive Committee three to form a quorum, and the Chairman to have a casting vote.

III. The Corresponding Committee shall consist of any number of members residing in various parts of New Zealand, the appointment of whom shall be left in the hands of the Executive Committee. The duties of the Corresponding Committee are, to forward to the Executive Committee periodical reports of the progress of beekeeping in their respective districts, and any other information that will assist the latter in carrying out the objects of the Association. To explain to the beekeepers in their neighbourhood the advantages of co-operation, and the objects of this Association, to the end that they may be induced to become members. The members of the Corresponding Committee shall be entitled to take part in the meetings of the Executive Committee whenever present.

IV. The Secretary shall have an office in the city of Auckland which shall be considered the domicile of the Association, and to which all communications intended for the Executive Committee are to be addressed.

V. The annual subscription of each member is fixed at five shillings, payable in advance. Any person may become a member by forwarding to the Treasurer his or her subscription, with name and address in full.

VI. On the payment of the sum of five guineas to the Treasurer the person shall become a Life Member of the Association, with all the privileges and powers of an ordinary Member.

(To be continued.)

NOTICE TO OUR NEW ZEALAND SUBSCRIBERS

Our New Zealand subscribers will find a Supplement to their copies of this issue of the *Journal*, in the form of a sheet headed by a petition to the House of Representatives on the foul-brood question. We trust that every one of our New Zealand readers will exert themselves, and obtain as many signatures to the petition as possible, and return the sheets at an early date. Let us all show that we are in earnest by supporting the action of the New Zealand Beekeepers' Association in introducing a Foul-brood Act at the forthcoming session of Parliament.

Note.—Fold the sheets across their width, put them in a long envelope with the flap inside, put a penny stamp on them, and address to I. Hopkins, P.O. Box 186, Auckland.

IS THE VENTILATION OF HIVES YET PERFECTED?

By J. R. M.

I.

The ventilating arrangements, which our architects and builders provide for our houses in general and rooms in particular, are, from a scientific point of view, far below those of the lowest type of savages as yet interviewed. The escape of vitiated air is left to chance, but every chance, the removal of which does not involve additional expense, is carefully blocked. This is no reason, however, that we should retaliate on bees. Moreover their paying powers largely depend on proper ventilation, it being one of the essential factors in their well-being. In summer, if the ventilation is too little, time is wasted in fanning, and the bees cluster outside. In winter, if the ventilation is too little, condensed moisture is not carried away, and diseases supervene; if too great, bees die off; and in case of winter brood, it gets chilled: in either case spring dwindling ensues. There is, then, no apology necessary for urging that the ventilation should be considered on scientific principles; and if common-sense puts in a claim as sufficient, be it remembered that common-sense, if worth anything, is only science arrived at in an unscientific way, and that it very soon gets out of its depth.

Let us examine the factors at hand for the regulation of the ventilation of hives, and in so doing let all disturbing influences of the wind be left out of consideration, as having to be dealt with otherwise. (See remarks on Breakwinds, No. 2, page 26 of this *Journal.)* We will assume a perfectly still atmosphere outside.

I. The *motive power* must, from the circumstances of the case, be the common one furnished by the expansion of air under the influence of heat, and the consequent difference in weight between a given quantity of warm and cold air. (Air expands $\frac{1}{490}$ for every degree.) A hot column of air in a tube, such as a chimney or a bee-hive, if surrounded by a mass of colder air, ascends with a rapidity which varies with the difference between the two temperatures, and the height of the column of hot air. The greater the difference between the two temperatures, the greater the rapidity of the upward movement, while a greater height of the heated column slightly retards, although it steadies and gives power to, the total mass within.

Now the heat of the column of air in a hive is, theoretically, a fixed quantity, viz., about 85° F., this being reckoned to be about the temperature at which the blood-heat of the bees keeps a hive, if there is no disturbing influence, such as wind or the excitement previous to swarming. It necessarily follows that on a hot summer's day, when most ventilation is needed, then it is that the motive power is the least and the ventilation least, and frequently *nil*, because the outside temperature approximates to, or exceeds, the inside temperature; and secondly, that in winter and on cold summer nights, when least ventilation is needed, then it is that the motive power is strongest, as the normal temperature inside will be about 85°, and outside 50°, 40°, 32°, or lower. This at once involves the conclusion, that if a steady temperature within is necessary for the well-being of bees, *it must be controlled artificially.*

II. The principal, and perhaps, practically, the only controlling power at hand is the size and number of the apertures left for the passage of the heated air inside. Although exact statistics are of no very grave moment in this matter, yet it may be mentioned that if the formula given in Brands and Cox's Dictionary of Science has been worked out correctly, the column of hot air inside an ordinary Langstroth one-story hive would move upwards at the rate of 6 inches per second, if the temperature

outside was 80° F.; and at the rate of 30 inches each second, if the temperature outside was 30° F. But this implies a perfectly unimpeded means of entrance and exit, such as is supplied by the open fireplace and top of a chimney. Every inch of a glazed mat, or of the superficial extent of the aggregate of the threads of a porous mat, lessens the velocity of the passage of the heated air, and consequently tends to keep the air in the hive more and more at rest. Moreover, as the colder air enters, the difference between the two temperatures is lessened, and consequently the rate of the ascent of air at once diminished. It is not until the bees have again been able to raise the temperature to its normal state that the power of the motive agent at the start would be again exerted. Again, the friction against the frames, bees, combs, and threads of the mats all diminish the rate. It would, therefore, obviously be impossible, owing to the variety of changing conditions, to draw up in a tabular form the exact number of times in which the whole interior atmosphere in a hive will be changed in each hour, at various rates of temperature outside. However, it is of such grave importance that the hard facts of the case should in some visible way be realised, that the following table, in which 200 per cent. is allowed for retarding purposes, is presented:—

Temperature inside the Hive.	Temperature outside the Hive.	The approximate number of times the air inside will be changed every hour, with apertures in the mat of the aggregate of			
		(*a*) 6 sq. in.	(*b*) 4 sq. in.	(*c*) 2 sq. in.	(*d*) 1 sq. in.
85° Fahr.	80° Fahr.	75 times	50 times	25 times	6 times
85° ,,	60° ,,	154 ,,	103 ,,	53 ,,	13 ,,
85° ,,	40° ,,	225 ,,	150 ,,	75 ,,	18 ,,
85° ,,	30° ,,	250 ,,	166 ,,	83 ,,	20 ,,

The above table is based on the formula above referred to, and on the assumption that there are about 1,000 cubic inches of air inside a hive, and that friction, etc., may diminish the theoretical rate by some 200 per cent. With reference to the aggregate size of the interstices in mats, (*a*) 6 square inches would imply that in each square inch of the mat there were about 20 interstices each $\frac{1}{16}$ inch large, perhaps represented by very coarse scrim; (*b*) 4 square inches would imply that in each square inch of the mat there were 32 interstices each $\frac{1}{24}$ inch large, represented by finer scrim; (*c*) 2 square inches would imply that there were in each square inch of the mat about 48 interstices each about $\frac{1}{40}$ inch large, represented perhaps by coarse washed calico; (*d*) 1 square inch would similarly imply about 60 interstices each $\frac{1}{50}$ inch large, represented by finer calico.

Assuming then the above calculations to be sufficiently correct, we can get a tolerably clear idea of what takes place in a hive on a typical summer's day, or a typical winter's day. In summer, with a common scrim mat, as represented by (*b*), in the daytime, the mass of air inside would either be stationary, owing to the sun's heat being 85° or over (the usual state of things under the direct action of the sun's rays, that is, not in the shade), or changed about once a minute, but without much change of temperature. In the evening and night of the same day it would be changed two to three times every minute, and this to a temperature of from 40° to 50° F., quite as much as can be good for the brood. On a typical winter's day, with a mat of the same porosity, the air will be changed about once and a half every minute, to a temperature below 85°, of, say, 65°, and in the night time about three times every minute, and this to a temperature freezing or nearly 30.

It must, therefore, be taken for granted that there ought to be some check to the ventilation both in evenings of summer days, and still more in the evenings of winter days, even though in winter additional mats are put on, and so the evil somewhat diminished. It cannot be good for the brood, in summer, to be for eight or ten hours in our usual night temperature, even though it be mitigated by the presence of a large number of bees on the brood-combs. Still less can it be good for the bees in winter to be in our chilly New Zealand night air. Either by direct manipulation, or by some self-acting simple mechanism, there ought to be some stoppage of the passage of the warm air in the latter cases.

Some suggestions as to ways of obtaining this end will be made in the next number of this magazine; for the present let it suffice, if the grounds for necessity of some such contrivance shall have commended themselves to the minds of bee-keepers.

Note.—One fact in connection with the motive power evolved by the expansion of air, when warmed, has only been casually noted above, owing to its very limited applicability to the Langstroth hive; and that is the slightly retarding, but, at the same time, steadying effect of a *long column* of warm air, which gives a powerful "pull" to the whole. A homely instance of this is the better draught obtained by a tall chimney over that obtained by a short one. The contrary effect is shown by the extraordinary power of a long column of water, even in a tiny pipe, as those who try with their finger to stop the kitchen tap, supplied from a cistern or reservoir, can testify. The Stewarton hive, which although not known over here, and not much used in England, produces a most astonishing amount of honey, probably owes its success to this principle, and not to its shape. It is hexagonal, but runs up to six, eight, or more stories. This length of hot air enables the mat to be very fine, as the power evolved forces the air through its pores. Extreme steadiness is thus obtained, and in cold nights and wintry days the ventilation is very slow, but regular—just what is wanted.

(To be continued.)

[The above is a most interesting article on ventilation, well and ably put forward. When the remaining part has been published, we shall quote from Cheshire's second volume of Bees and Beekeeping on the same subject, so that we may compare the result of Mr. Cheshire's experiments with the theory of our esteemed correspondent. A seven-storied Stewarton hive would be about the same height as a three-storied Langstroth, but of course the latter's internal dimensions are much greater.—Ed.]

JOTTINGS.

By Lahm Dearg Erin.

I HOPE by the time this reaches you the New Zealand Beekeepers' Association will be in full swing, and that a goodly number of members will be enrolled. I note Friend Brown mentions two important items in his article for March, viz., medicated foundation, and a perforated floor board with a disinfectant to keep the atmosphere of the hive pure, and his hints should be acted upon by all progressive apiarists. This year I boiled all my covering mats in a solution of carbolic acid, half an ounce to the gallon of water, and used them on the hives as I needed them, and found that *all* the hives that I have used them on *so far* are clear of disease; futhermore, whether it has been through the free use of the atomiser in thoroughly spraying every comb after extraction, or by spraying all foundation before giving it to the swarms, I have found my bees more prolific this season than ever they were before, and my trouble has been to keep down swarming.

I am in receipt of the pamphlets; they are well got up, well printed, good paper, and still better matter. The only objection in my opinion is the advertisements on the inside of the covers. What do we want with Worm Powders, Fuller's Earth, and Violet Powder? If we eat pure honey we need never be troubled with the first, and for chapped hands, cracked lips, etc., honey used externally is the best remedy. Again, Baking Powder. Eat honey, friend, it makes the heaviest bread light! For no matter how heavy the loaf is, you will soon reduce its weight if you eat honey with it.

I have also tried Grimshaw's apifuge, and can speak highly of its soothing qualities. At first I gave it a severe test as I went at dusk to one of my worst tempered hybrid colonies, roughly pulled off the mat, and pushed my "apifuged" hands down amongst the combs, and got five stings for my rashness; but on the following morning I tried the same hive, took out a frame and shook the bees down on to my bare arm and hands and never got a single sting, and the bees seemed only to think of getting away as fast as they could from the overpowering scent. I would strongly recommend every beginner to procure a bottle as it will inspire him with confidence; and not only that, should he perchance to get stung a drop of the apifuge quickly removes the pain and irritation.

Now, Friend Brown, shake hands. I am going for you, and am ready to "bullock ahead," but not to bust up with waiting. That is just what we were doing when the tide was falling, ay, and intelligent beekeeping languishing, for want of *snap*, *vim*, and *energy*. You say you see "no analogy between sheep and bees, save that both are liable to disease." For argument sake, granted, and that you do not approve of a Foul-Brood Act. Very well. If you were a sheep farmer, and your sheep were scabby, you are bound to clean them or destroy them; your neighbours could compel you to do that according to the Act on the other side. You, as a sheep farmer, rely upon your sheep for a living, and it would be a standing menace to your livelihood had you neighbours who were careless in respect to this disease, and you, on your part, would very soon take steps to make them keep their flocks clean. Now, friend, *I* keep bees. *I* make my living by them. *I see* and feel that my means of gaining an honest livelihood about to be snatched from me by careless and unthrifty neighbours, who are stinking with disease and corruption, and letting foul-brood go rampant without so much as lifting a hand to stop it. WHAT REDRESS HAVE I? Am I to sit calmly by and *wait* till the tide rolls in, and then "bust up"? *No*, friend, as long as pen, ink, and paper last I shall advocate for the passing of a stringent Act for the repression of foul-brood, and do my best to show up all the diseased beekeepers in my district, who wont take measures for allaying the evil. "What is sauce for the goose is sauce for the gander," and the sooner an Act, similar to the South Australian Foul-Brood Act, is passed, so much the better for the BEE-MASTERS of New Zealand. "Where are your experts to come from?" I answer by another query, Where will South Australia get her's? Why, for my part, I should say, *From amongst ourselves*. That is where they *ought* to come from. Friend Brown, you must have a poor opinion of the mental capacity of the New Zealand beekeepers. If *one* only in every central district cannot be found who by study and perseverance is able to pronounce what disease it is that is ravaging our apiaries. The first thing for a tyro to do in investigating this disease is to use his *eyes*, see for himself the sunken and perforated cells, open the cappings with a needle, draw out the brown ropy mass of putridity with the point of it, use his *nose*; the peculiar, rotten, gluey stench arising therefrom surely will convince him it is foul-brood. For further confirmation let him take a piece of the suspected comb to his friend the doctor (if he has not one, take it to a friend who knows one, the majority of doctors I have always found take a keen interest in any disease appertaining to insect or animal life), get him to examine the contents of the cells with the $\frac{1}{8}$ inch objective on the microscope, and if that does not disclose bacillus alvei, in its last stage, I am very much mistaken. It is no use doubting whether it is this or that; what we want to do is to take steps to check it, and that too speedily. I don't set up as an expert, but I can say this much, I would guarantee to show you some of the convincing proofs that we have a disease very much like bacillus alvei, if it is not his twin brother.

Again, Friend Brown, "You like go, etc." So do I, and I only wish some more of our beekeepers would try and get the bit between their teeth. Unfortunately, they take a jolly sight too much spur to my fancy to direct their energy, and *where* the power, effort, and strength is lost is in trying to AWAKE them to a sense of their own danger. I think, Friend Brown, you will bear me out when I say that my great aim, ever since I had the pleasure of corresponding to this *Journal*, has been the advocacy of resuscitation of the New Zealand Beekeepers' Association. "If a National Association

is formed let its first efforts be to make our bees proof against bacillian invasion." Again, "The same efforts put forth to pass an Act will humbug the industry." Friend Brown, I can't say I agree with you in the latter. Surely you cannot have FELT what it is; after months of trouble, labour, and expense, taken to rid your apiary of this fell disease, to find your neighbour (whose bees most assuredly mix with yours) wallowing in the apathetic bliss of corruption and disease! And you, in the course of a week or two, find your bees, which have been put in new hives and new frames, showing unmistakeable signs of a re-currence of this disease. Don't *you* think it is high time some steps were taken to *compel* persons of that stamp to keep their bees in a sensible manner? I DO! It is *in the Association* that my hope is based for the furthering of enlightened beekeeping, and it will be the committee's duty to do their utmost to attain that end, and to receive suggestions from every beekeeper as to the best means for its consummation.

[With regard to the advertisement on the insides of cover of pamphlet, it was an arrangement with the printer, who reaps all the benefit from it, that the space should belong to him, otherwise we would not have had them printed at so low a rate; it really does not interfere with the text.—ED.]

NUTT'S "INVERTED HIVE."

BY T. J. MULVANY.

MR. POOLE, in the March issue of the *Journal*, observes, "There is nothing new under the sun," and reversible hives are no new thing after all; they were advocated by Nutt in his work published in 1833 or 1834. The writer adds that he had not got the book by him, and quoted from memory, which no doubt accounts for his falling into the mistake of saying that Nutt advocated reversible hives; if he had looked over the book again he would have seen that there is really nothing in common between Nutt's *inverted* hive and the *reversible* hive of Mr. Heddon. No portion of Nutt's hive was reversible at pleasure, and he had not the remotest idea of the principles involved in the plan of reversing the brood chamber in order to induce the extension of the brood cells over the whole depth of the combs, and the destruction of queen cells, and reversing the supers with a view to the complete building out of the frames or sections. Nutt's inverted hive was a common straw skep turned bottom upwards (he was led to try it in consequence of finding one of his hives upset by accident in that position), and the advantage he obtained by it consisted in the large size of the square shallow box with which he covered it, and the top surface of which gave him standing room for nine bell glasses, the centre one large enough to contain fourteen pounds, and the eight others each four pounds of surplus honey, whereas on the truncated top of an ordinary dome hive he would only have room for one bell glass. If there could be said to be any matter of principle connected with Nutt's hive it was one of ventilation, which was indeed his great hobby. His inverted brood chamber remained permanently fixed, and was all below the level of the entrance opening, so that the circulation of fresh air through it could only be a downward one, and he proposed to keep it at a temperature favourable to the operations of breeding, while he admitted into the upper chamber, or "ventilating box" as he called it, as much fresh air as he thought proper, by means of "cylindrical tin tubes, thickly perforated," so as to keep the temperature of that chamber and the bell glasses above it, very little higher than the external temperature in summer. By these means he hoped to confine the queen to the laying of eggs in the warm brood chamber, and to obtain a *superior quality* of comb honey stored by the workers in the virgin cells of the cooler receptacles above. How far he was successful appears to be a little doubtful, as he prescribes great precautions to be taken when removing the bell glasses to see that the queen does not happen to be in one when taken away; and if she was likely to visit those receptacles she would no doubt lay eggs in them also, and there must have been a liability to find brood mixed with what was intended to be all virgin honey. For the rest, the brood chamber not only remained inaccessible to the beekeeper, but from its position must have been under the disadvantage of offering no facilities to either the bees or the beekeeper for the removal of dead bees, pieces of wax, or any other foreign substances falling to the bottom, which must therefore accumulate in the dome of the hive, and in course of time become a serious nuisance.

My copy of Nutt's book is one of his sixth edition, which contains all his improvements up to the year 1845. The first edition was issued in 1832, and his career as a beekeeper commenced in 1822. The date of his first "inverted hive" is fixed at 1827. This was more than twenty years before the great impetus was given to progress in apiculture by the publication of Dzierzon's work in Germany or Langstroth's and Quinby's in America, and long before any of those apiarists hit upon the "happy thought" of moveable frames, the simple but indispensable foundation of all modern improvements. Considering this fact, there is much that is interesting in old Nutt's book, and he deserves great credit for his system of managing bees, and obtaining good comb honey in surplus boxes and glasses, in a rational manner, so far as that was possible *without* moveable frames. It would scarcely be fair, however, to Mr. Heddon or other recent advocates of the "reversible" plan, to say that their system was anticipated by the "inverted hive" of 1827.

[The system of inverting straw skeps before supering them, was in vogue in France nearly 100 years ago.—ED.]

WE GOT THERE.

By R. J. Kendall.

We got there, and the Beekeepers' Association of New Zealand is formed. In addition to those present, the Secretary of the meeting—the right man in the right place—Mr. I. Hopkins stated he had received letters giving in the names of a number of others who would join, so the Association starts with some 35 or 40 members. The preliminary meeting was business from the word "go!" As a President we selected an eminently practical man, Mr. Frank Lawry, M.H.R., who goes into the Association to work, and says he will take charge of the "Foul Brood Petition" and present it to the coming Parliament; then as Vice-President we have Mr. Peacocke, the Editor of the *New Zealand Farmer*, and Mr. O. Poole, the man who was the originator and head and front of the West of England Beekeepers' Association; next, a host in himself, as Secretary, we elected Mr. I. Hopkins, Editor of this *Journal*, and author of the *Australasian Bee Manual*, a man who is a perfect glutton at bee-work, and in addition we have two rattling good committees, the Executive Committee, ten good men and true, who have no nonsense about them, and a Corresponding Committee posted all over the colony. The whole lot look like workers, and there is not a gilt-edged useless ornament in the crowd. Doesn't that look like making things move? I think so. We met on Wednesday night and formed the society; on Friday night the sub-committee met, drafted the rules and a Foul Brood Act; in a week's time the Executive Committee ratified it, and the proceedings are published in this issue for beekeepers to see, think over, and write us suggestions about. And remember, that while the committee in Auckland is here to meet and work, we are only here to carry out the wishes of those who cannot get here. We do not propose to boss this thing, or run it, we are but the agents and the servants of the Association. The machinery of the Association has got to find the steam, and tell us how to steer the ship.

The first thing proposed to be done, and at once, is to get the Foul Brood Act on the way, and passed at the coming session of Parliament. We have got the Act and it will go through, but we have met with an initial difficulty, viz., how shall it be worked? The Association has no legal status, and at present we do not propose to spend any money in getting it registered, which would probably cost some £10, and till we have a legal status it is doubtful whether Parliament will recognise us, to give us the right or power to appoint foul-brood inspectors. This difficulty will have to be got over by co-operation and influence being brought to bear in the proper place. Parliament will give somebody the right to appoint inspectors, and that somebody we will have to make friends with and advise. Then the inspectors will have to be practical men, or men whom practical men can accompany on their inspection trips, and these practical men will have to be willing to do the work for the love of "the cause;" providing they do not lose money out of pocket, in which case we will each have to chip in and do our little by assessment, or in some other way that may be agreed on.

The Corresponding Committee, it is suggested shall forward brief quarterly statements of the industry in their district, and monthly notes for the *Journal* of the same thing. These quarterly and monthly reports should give the number of beekeepers and colonies in the district, its area, and the kind of country it is, the pasture, the amount of honey raised, the honey flow, the abundance or scarcity of the crop and prospects, the kind of bees, the price of honey, and the many other useful and interesting practical facts which will enable us to make the *Journal* a beekeeping barometer for New Zealand, and in a measure, as far as may be, the world. It will be interesting if the Editor of the *Journal* will regularly compile quotations of the home, colonial, and foreign markets, and then, after a while, we will know just how and where to put our surplus. There are lots of things we can do, and should do; and after a little while, and we get the thing systematised, we will be working not only our bees, but the market, with intelligence, and not with our fingers in our mouths in the haphazard style we have been compelled by want of organisation to do. We want to make this matter practical, as matter of £ s. d., till our honey shall mean money, not merely in theoretical fashion, but real solid bed rock fact. What do you say, brother beekeepers?

A FEW WORDS TO FRIEND BROWN.

And now, before I close, just a word or two with our Otago friend, Mr. W. C. Brown, who, I have no doubt, is a capital fellow when you know him, but just now is either baulking or "poking borax" at us. He does not like our "go," and we do not like his "baulk," so it's a stand off. His last letter is altogether "misdirected energy," "so much lost power, effort, or strength, as you please." George Stephenson said of his engine, so much the worse for the "coo" that got in its way, and friend Brown will just be the sickest man in this colony in a short while, when he sees how the Association goes sailing along. I have read his remarks over and over again, but beyond the fact that I gather he is trying to put a spoke in our wheel, to save my soul I can't see what he is driving at. He alludes to me, and tries to sit on "Lamh Dearg Erin," but he evidently has not made an overwhelming success of it. Perhaps it is because "Lamh Dearg Erin" is too big to sit on, and carries too many guns for Mr. Brown. Friend Brown misuses my words. You can't "vim" at anything, although he has tried to "snap" at it. To have "vim" and "snap" means to have backbone, pluck and energy, and sitting still, doing nothing but finding fault and guying those who do work, does not exhibit much if any. If we were to follow Friend Brown's advice, can anybody tell me where we should be? "All over the road," it seems to me. Now as to foul-brood and experts. There are no "billets" going yet. It will have to be a labour of love, and if friend Brown cannot tell foul-brood, the sooner he studies it up the

better for himself and his bees. Let me tell him that A. J. Root does not profess to be, nor is he, the premier beekeeper in the States. Friend Brown should read Root's preface to his "A B C," and also Doolittle's review again, but Root takes the very opposite position to friend Brown on organisation, and as to the foul-brood business, I think Root has a little to say about it, and so does Cowan in his "Guide Book." Friend Brown suggests that the National Association should put forth some efforts to extinguish the "Bacilian invasion," and "secure the passing of an Act that will do a little more than humbug the industry." Why, great Scott, is not that precisely what we mean to do? And as to the Act, we shall be only too glad to receive friend Brown's aid in the matter. He wants us to try and prevent the scourge. We will do our best, and as a loyal beekeper, I call on friend Brown to come out of his shell and help. As for "bullocking ahead and busting up," it's better to wear out than rust out, anyway. If you "wait" you may "get left;" if you go ahead you will probably get there. Anyhow, I prefer to do something. If I make a mistake, I'll try again and again, and if it does no good it may provide friend Brown with some little amusement—I am too modest to say instruction—and so will not be altogether wasted effort, for he will be able to profit by my efforts and failures, and a certain wise man once said that "success is built on failures." Doing something is better than doing nothing, and friend Brown is welcome to the circus, if circus it be. But really, a ter all, it strikes me friend Brown is just tickling us up a little. He wants to see the thing go and be a success, just as much as any of us. He has just selected "Lamh Dearg Erin" and myself as a couple of willing horses, and he is flickering us up a little. But we see his game and give him one better, and as "fault-finders should be fault-menders," friend Brown can just step right in, take off his coat, and go to work with the team without any more nonsense. His idea of trying to put us on our mettle is too thin, can be seen through, and is played out. What the bee industry needs is workers, and if the workers are united, there is far less likelihood of there being "misdirected energy," "lost power, effort, or strength," than there is, if everybody goes on his own hook without organisation, method, or object. Co-operation is a far better motto than "everyone for himself and devil take the hindmost," especially if friend Brown "waits" and gets that position. I think he'd better begin to "bullock ahead."

[Since the foregoing was in type, the sub-committee appointed to draft the Foul Brood Act have, they believe, got over the difficulty of arranging for foul brood inspectors without putting the government to any expense.—ED.]

The autumn honey flow (which never yields a surplus), from which the bees gather most of their winter supplies, commences here about the tenth of April, and continues until June the first.

During the winter, also, a large amount of honey is gathered in the fine spells.

N.Z. BEEKEEPERS' ASSOCIATION MEETINGS.

A MEETING of beekeepers and others interested in the establishment of a National Beekeepers' Association for New Zealand, convened by Mr I. Hopkins, was held in the office of Messrs Hopkins, Hayr and Co., on Wednesday, the 7th March, at 7.30 p.m., Mr O. Poole in the chair. There was a fair attendance and apologies were received from several gentlemen for th ir unavoidable absence.

The Chairman, on opening the meeting, explained the drawbacks to beekeeping in New Zealand which, he said, was a grand country for carrying on the industry He attributed the drawbacks chiefly to the want of organisation among beekeepers themselves, and advised them strongly to form a National Association—the same as had been done in other countries—to look after their interests and give it their hearty support. He referred to the benefits to beekeepers in Great Britain which had followed the establishment of the British Beekeepers' Association, and to the fact that there were now nearly 200 local Associations in England, Ireland, and Scotland, most of them affiliated to the parent Association. He also referred to the increasing number of Beekeepers' Associations in America which he considered was proof of the good they were doing. New Zealand had special advantages for honey raising, for there is no country better adapted either as regards climate or flora for beekeeping, and if beekeepers would but work unitedly in all matters affecting the general welfare of their industry he had no doubt it could be made most profitable. One of the principal objects of an Association should be to teach people the value and uses of honey, and he was glad to see that steps had already been taken by a number of beekeepers to do so by distributing pamphlets on the subject, which must result in a deal of good to themselves. Another object should be to adopt the best means available to check the spread of, and if possible eradicate the infectious diseases now playing such sad havoc among the bees in this country. He thought an Act dealing with the matter, something similar to the one lately passed in South Australia, should be laid before the next Parliament, and one of our Auckland members, who was in favour of the establishment of a National Beekeepers' Association, had kindly promised Mr Hopkins to take charge of such an Act. He would not occupy their time any longer, but would call upon Mr Hopkins to propose the first resolution.

Mr Hopkins then moved, "That an Association be formed, to be called the New Zealand Beekeepers' Association, the annual membership fee to be 5s." In speaking to the motion Mr Hopkins pointed out the difficulties that New Zealand beekeepers at present had to contend against, and agreed with the chairman that much might be done to obviate these by a well organised association. Mr R. J Kendall seconded the motion, which was carried unanimously.

The following officers were then elected; F. Lawry, Esq., M.H.R., president; Mr G. L. Peacocke, editor of THE FARMER, BEE AND POULTRY JOURNAL, and Mr O. Poole, vice-presidents; secretary and treasurer, Mr I. Hopkins; executive committee, Messrs Besant, W. Dignan, G. A. Green, H. Hays, T. Herbert, L. Hooker, R. J. Kendall, J. Oldham, F. Stephens.

Letters containing suggestions from Rev Father Madan, L. J. Bagnall, and W. A. Neale were then read, and it was decided that the Committee should deal with them.

On the motion of Mr Hopkins, seconded by Mr Herbert, it was agreed that the following members be elected a corresponding committee. the executive committee to have power to add to their number:—Messrs L. J. Bagnall, of Turua; H. Hyatt, Waikato; C. Jans, Inglewood; Rev. Father Madan, Bay of Plenty; T. J. Mulvany, Katikati; C. Morris, Dunedin; W. A Neale, Hawke's Bay, and N. Schumaker, Taranaki. Such committee to send in periodical reports of the progress of beekeeping in their respective districts and any suggestions they may deem necessary for the better carrying out the objects of the Association; such correspondence to be read at the first meeting of the executive com-

mittee after receipt of same. The members of the corresponding committee to take part in the meetings of the executive committee whenever present.

A sub-committee, consisting of the President, Vice-Presidents, Secretary, and Messrs Green, Herbert, Hooker, Kendall, and Stephens, was then appointed to draw up rules for the guidance of the Association, to be submitted to a general meeting, and also to report on the best method of dealing with foul brood and to draft an Act if desirable

The time for calling the general meeting was left in the hands of the sub-committee.

The sub-committee met at Hopkins, Hayr and Co.'s office on Friday evening, March 9th, and carefully drew up a code of rules to submit to a general meeting. After a lengthy consideration of the foul-brood question the sub-committee concluded to recommend the drafting of an Act dealing with the matter to be laid before the next session of Parliament.

A General Meeting of the Association was held at Hopkins, Hayr and Co.'s office on Friday evening, March 16th, the President, Mr F. Lawry, M.H.R., presiding. The minutes of the previous general meeting having been confirmed, the rules as drawn up by the sub-committee appointed for the purpose were adopted, and the Secretary was instructed to have them printed in pamphlet form, tenders to be called for same.

Messrs G. Stevenson, of Gisborne, and Charles Shearer, of Ross, Westland, were elected members of the corresponding committee.

On the motion of Mr Hays, seconded by Mr Hooker, it was resolved :—"That the Secretary be empowered to procure forms of petition in favour of passing of Infectious Bee-diseases Act next session, and forward same to each of the corresponding committee and others, to obtain the signatures of as many beekeepers as possible in their respective districts favourable to same, such petitions with signatures to be returned to the Secretary without delay in order to be ready for presenting to Parliament as early as possible after the opening of the next session."

The Secretary then read the report of the sub-committee on the foul-brood question, which was unanimously adopted, on the motion of Mr Hooker seconded by Mr Kendall. The following is the report :—

"Recognising the vital importance of at once taking steps to prevent the further spread of foul-brood, or other infectious diseases among the bees in New Zealand, your Committee recommend introducing an Act which shall deal with the matter at the next session of our Parliament, and that our President, Mr Lawry, M.H.R for Franklin North, be requested to take charge of the bill, your Committee in the meantime securing the signatures of all beekeepers throughout New Zealand in favour of the same in order to strengthen his hands."

The Secretary laid on the table copies of the Michigan, Utah (United States), and the South Australian Foul-brood Acts, and after some discussion on the various clauses in each, a sub-committee consisting of the President, Secretary, and the Rev. Father Madan, were appointed to draft an Act suitable to New Zealand, to be submitted to the executive committee at their next meeting.

On the motion of Mr Kendall, seconded by Mr Hays, it was resolved that the committee meet at 7.30 p.m. on the first Friday in each month, at Hopkins, Hayr and Co.'s office.

A vote of thanks to the chair concluded the meeting.

BEEOLOGICAL NOTES.

By G. A. G.

I herewith give a short description of the queenless system of comb-honey raising mentioned by me last month (known in some parts of America as the "Demaree Plan").

* * * * *

The *modus operandi* of this system, as described by Mr. G. W. Demaree, is as follows: Prepare a hive by placing four empty combs in its centre and fill up the sides with division boards placed one half-inch apart, as if they were frames of comb.

* * * * *

When the time comes for making use of the hive, place a piece of comb two inches square full of hatching larvæ into a similar hole in one of the empty combs. Any colony that has the swarming fever is a proper subject to operate upon.

* * * * *

Commence by moving the old hive off its stand, reverse the entrance, and place the hive just at the back of where it stood. The prepared hive is then set on the old stand, and the surplus cases, with sections, honey, and bees, are removed from the old hive to the prepared one.

* * * * *

The queen is now secured and placed with the comb on which she is found in a comb box to make sure of her whereabouts. Most of the bees are then shaken from the combs in front of the prepared hive. Then replace the queen and combs back in the old hive.

* * * * *

The prepared hive is now well stocked with a large but queenless swarm, and as they have no brood to feed and raise, all their efforts are directed to gathering and storing honey in the section boxes. On the tenth day after its formation, all the queen-cells should be removed from the prepared hive, and another piece of comb, full of just-hatched larvæ, substituted. Another supply of bees is now shaken down from the combs of the old hive, in front of the queenless hive, which recruits their strength, and honey-gathering goes on as before. Another ten days pass, then the operation of removing queen-cells is again performed, the old colony is reunited with the queenless one, and the honey harvest is finished up by the reunited colony, all danger of swarming being now over for the season.

* * * * *

Such is the Demaree queenless system, which to say the least, appears to answer the object of controlling swarming, which, as all practical apiarists know, is one of the greatest obstacles to raising comb-honey successfully. The only objection that I at present see to this system, is the amount of labour required to work it. Mr. Demaree himself says: "All such manipulations require labour and attention, and without this we cannot accomplish our purpose. Nothing is more vexatious to the wideawake apiarist than to see his best colonies flitter away the best part of the honey harvest under the swarming craze."

* * * * *

It is now seventy-five days since the honey flow ceased in this and surrounding districts, and many of the hives are running very short of stores. Most of the hives have consumed 30lbs and upwards of honey.

Correspondence.

A BEGINNER'S EXPERIENCE.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

DEAR SIR,—You will perceive at a glance that I am a mere novice in beekeeping, the little knowledge that I have got having been gathered from books. I have at present but one hive; but I am very ambitious of establishing a small apiary to supply the house with honey, and to afford myself a rational and useful source of amusement. I live at Manly, near Sydney, New South Wales, quite on the sea-coast, on a piece of land about three acres in extent, partly cultivated and partly left in its natural state for the preservation of the wild flowers which are both numerous and pretty.

In the beginning of October last, I purchased a swarm of bees in a gin case, carrying them home at night about a quarter of a mile, and setting them on a covered stand previously prepared, on the west side of the house, facing the north, but sheltered from the north-east wind (which blows at this time on the coast) by a bush house about twelve yards distant. On all other sides they are well protected from the weather by thick scrub and trees.

The bees commenced working on the following day, but I have reason to believe that a considerable number of them returned to their old quarters, as a great many were found by the man from whom I had made the purchase collected under a box that he had placed on the old stand, and all these died, of course, as he gave them no queen. My bees worked well, and I did not disturb them until the 26th January, when I lifted the case to see what they were doing. On this occasion a large piece of comb full of brood, both workers and drones, fell down, and as I could not fix it in again I removed it. A few days after this we had very hot weather, simply stifling, and I found the bees very much excited one evening, clustering round the entrance and fanning briskly. There was also a strong smell of wax, and I concluded that a piece of comb had fallen down. I soon learned that it was folly attempting to keep bees in a box hive, so I bought a two story Langstroth, and one day with the thermometer about 84° in the shade, I proceeded to drum them into their new hive. The hive did not fit well over the gin-case, and I used a sheet to wrap round it and cover the openings. On turning the box over backwards, I found that a large piece of comb had fallen down as I had previously surmised, and had been fastened to the floor by the bees. Two more pieces also fell when the case was moved, and were quickly put into the box again, and the drumming commenced. After about three quarters of an hour the bees left the combs and settled on the frames which I had left in the hive, and having previously placed the bottom board in position, the hive with the bees was quickly lifted into its place. I then took the combs and fixed as much of the brood comb as I could into the frames of the second story with transferring wire, setting the top story in its place to allow the bees to mount to the combs. There was not a drop of honey in the hive, which I attribute to the fact of the swarm having been young and much weakened by the desertion mentioned above, for there have been plenty of flowers out. After ten days I found that the bees had been working on the combs, fastening them into the frames, and accordingly I removed the wires and set the story with the combs on the ground floor. The hive was very strong in drones, and there was a good deal of drone comb, most of which I kept out to melt down. In a fortnight after their installation in the frame hive, I took an opportunity of again examining their working, and found them busy upon the brood comb, which they had extended considerably, and in addition, they have started new combs in the outside frames, which they are filling with honey. Thus, although they lost a quantity of brood during the transferring operation, they are nevertheless at once proceeding with the storage of honey before making up the hive to its former strength. I account for this by supposing that the large quantity of nectar at present offering for collection in the eucalyptus blossom has tempted them to begin storing.

Another thing I notice, an explanation of which I shall be glad to receive. They are dragging young bees out of the cells in the nymph stage of development, both workers and drones, and are dropping them on the grass outside. Am I right in supposing them to be young bees that have caught cold, or got otherwise injured during transferring? There are no signs of disease, so far as I can discern, and it is now fully a month since they were moved into their new quarters. The workers are very brisk, and since storage commenced are getting rather ill-tempered. (I see I have omitted to mention that they are merely black bees.)

I enclose herewith a bee with damaged wings, of which I notice a good many about the entrance. Some of them can scarcely fly. What is the cause of this damage?

I must apologise for thus taking up your valuable time; as I said before I am but a beginner, and am seeking information by observation and inquiry.—Yours faithfully

MOEWE.

Manly, February 27, 1888.

[We presume that you did not fill the empty frames with comb foundation, as no mention is made of it, which was a pity, as it would have assisted the bees so much. The reason the bees are throwing the brood out is because they are getting short of food. Feed them and that will stop it. No doubt those you mention that can scarcely fly are weak and dying from the want of food. The bee you sent was terribly flattened, but from its jagged wings we take it to be an old one. Don't apologise. Any information you require ask for it without fear; we shall be glad to give it you.—ED.]

FOUL-BROOD IN OTAGO.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—Seeing that foul-brood is being so thoroughly discussed in the columns of the *Journal*, and following the example of other beekeepers, I write to give my little experience of the disease this season.

In the middle of the month of October, I bought several colonies in gin cases from a beekeeper whose apiary is situated some twenty miles from here, and as it was late in the evening when I reached his place, I put off examining the hives until I got home and had them settled on my own ground. It was a mistake; I was sorry enough afterwards, as a spell of bad weather prevented anything being done for ten days. I then found one of the gin cases in a frightful state of disease. The centre combs were full of dead and dying brood, and half the cells had nothing but a brown mattery-looking substance in them that reminded me of a very rotten apple. It was, however, thicker and stringy. The cappings were sunken and almost black, but I could not find any that had been pierced. There was a strong smell about the whole hive, but nothing like what I had been led to expect from the accounts I had read of foul-brood. The bees were all in one corner of the box on clean comb containing honey, but they looked a miserable lot, and I was not long in making up my mind to burn the hive, bees, and all. This occurred on the 29th October.

I watched the other hives closely for some weeks, but as nothing but healthy brood developed itself, I thought I had escaped further trouble, when lo, on the 13th December, and after another wet spell—these wet spells have done much to spoil our honey season this year - I found foul-brood in the hive which stood next in the row to the one I had burnt. This hive had been transferred a month, and had been doing well. I now determined to try the phenol remedy. I uncapped a portion of the brood and filled the empty cells in the diseased frames with phenolated syrup—1 to 500. I then made a mixture of one-part phenol to seven hundred and fifty of water, and literally soaked the bees, frames, body, cover and bottom board of the hive. It was pretty severe treatment, but the weather was fine, and it had the desired effect. For some days afterwards I found numbers of

shrivelled larvæ on the alighting board, and in a fortnight the hive was clean. There are now double the number of bees in the colony, but they have not given me any surplus.

Professor Parker of the Otago University, kindly undertook to give some of this brood a rough examination, but without any definite result, and he advised me to send specimens in absolute alcohol to Mr Cheshire, remarking that in cases of this sort, one could only get satisfaction from the opinion of a specialist. I am going to do this, and should be glad to obtain a sample of North Island foul-brood, if any beekeeper would oblige by sending me some.

Now, from the instances given above, I think I may safely draw two conclusions: firstly, that this disease—whatever it may be—is highly infectious, and secondly, that it will succumb to Mr Cheshire's method of treatment. Whether this disease is due to Bacillus alvei in the larvæ is a question which it would be interesting to solve, but as far as legislation is concerned, I think it quite immaterial. We don't want an Act passed against B. alvei in particular, as its presence would be always difficult to prove, but rather against any contagious or infectious disease which may be detrimental to bees.

Legislation is, I feel convinced, the only means that will bring lazy and obstinate beekeepers to their bearings, but I fear there is no chance of stamping out foul-brood in the country, as it must be rampant in the bush, and apiaries in its vicinity will be always subject to an attack.

In compliance with your request in the second paragraph of the article headed "New Zealand Beekeepers' Association," in the February number of the *Journal*, I enclose my membership fee, and trust that the 7th March will be the commencement of a new era in the annals of beekeeping in New Zealand.—Yours truly,

C. B. MORRIS.

Fernbrook Apiary, Otago Peninsula,
February 11, 1888.

[Many thanks for your communication and subscription to the N.Z.B.K.A. We quite agree with your remarks *re* legislation against foul brood in particular. The Act drafted by the Committee of the N.Z.B.K.A. provides for all infectious diseases. Will some of our readers in the North Island kindly send Mr. Morris a specimen of diseased comb?—Ed.]

FOUL-BROOD AT WANGANUI.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

Sir,—This has been a very bad season here, every beekeeper losing heavily through foul-brood. It is no wonder that the disease is so prevalent in this district, for many of the beekeepers, instead of destroying or boiling down old diseased combs, throw them down for other bees to clear out and carry away the germs, and thus the disease is propagated. I wish it affected the beekeepers themselves, they would be a little more careful then. The great difficulty I find is to get the beekeepers to take a common-sense view of the matter, and make them understand that foul-brood is a poison or disease which kills their bees, and that, while they act as they do, they are not only injuring themselves but their neighbours as well. T. A.

Wanganui, March 3, 1888.

[We trust that the New Zealand Beekeepers' Association may devise some means of protecting careful beekeepers from those who now have them at their mercy.—Ed.]

FOUL-BROOD IN WESTLAND.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

Sir,—I am going to try McLean's remedy for foul-brood. I have tried salicylic acid and also phenol. The phenol has prevented the disease from spreading to my neighbours' hives, but, I am sorry to say, has not made mine clean. My experience has been similar to Mr. George Stevenson's, reported in the *Journal*, page 72 (November). For Mr Stevenson's information, and other sufferers, I may say that changing the queen is not of the slightest use in getting rid of this plague, as I have tried it. I noticed an article from your pen in the *Farmer*, in which you say you do not think there are one hundred colonies in New Zealand quite free from foul-brood. Well, I believe there are that number in this district that are perfectly free from the disease. My hives are the only ones, that I know of, that are affected. I have made every effort to wipe out the plague. I have burned hundreds of combs; last week I melted fifty, and put ten in pickle, as suggested by J. A. M., pages 123, 124 *Bee Journal*, though I think the pickling business is more than the combs are worth. It seems to me better to use foundation and melt the old combs.

I could give you a lot of information on the subject, and it is my opinion that if wax is well boiled it will not carry the germs of disease with it; my reason for saying so is that I have had hundreds of pounds of foundation from yourself and Bagnalls [which was also our make.—Ed. *A.B.J.*], and have sent it all over the country here, and, so far, without any evil effects. Just now it would take a very clever apiarist to detect foul-brood among my bees, but, nevertheless, it *is* there, and will appear again next spring unless McLean's remedy removes it. I intend to give it a good trial and report.

Westland, February, 1888. BEEKEEPER.

[You certainly must have persevered with the remedies to keep the disease from spreading to your neighbours' bees. We are glad to learn that there is so little foul-brood in your district, and hope you may soon be clear of the pest. Please send us all the information you can regarding your experience and the result of McLean's remedy.—Ed.]

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

Sir,—I would answer Mr O. Poole's question in the March number of the *Journal*, "What three inventions of modern times have conferred the greatest benefits on beekeepers?" as follows:—Barring the moveable comb hive, comb foundation mills, first; honey extractors, second; section boxes, third.—I am, etc.,

G. A. GREEN.

Dairy Flat, March 13, 1888.

NOTICE TO CORRESPONDENTS.

Several communications have been held over till next issue.

Reports.

FROM TARANAKI.

We have had a very good season here for bee-culture, though I hear that beekeepers in other parts of the district have not done quite so well as myself. From 23 hives I have taken 2,739 lbs of honey at present, and I expect a few hundred pounds yet from them. Do you think there is a chance of finding a market in England for bush honey?

N. SCHUMACHER.

Taranaki, March 3, 1888.

[You have done remarkably well, considering the poorness of the season in most districts. There is a good market in England for different grades of honey, but unless arrangements can be made to send it to some friend or private person to dispose of, we would not advise you to send it to England. We know at present two New Zealand beekeepers who send their crop home every season and they net 5d per lb, but if it were sent through the commission merchant's hand, they would not receive more than half that price.—Ed.]

FROM AKAROA.

WITH regard to the take of honey this season I have been pretty successful at my German Bay apiary. From 84 supered hives, five of them swarms, I have so far taken 8,860 lbs extracted honey, being an average of 105 lbs per hive. Taking the ten best stocks they gave 209 lbs per colony, and the best of these 240 lbs. If we get fine weather this week, I shall take off the supers, leaving the body box only. I expect there will be a little more surplus honey to take after leaving a good supply for winter.

ROB. DAWBER.

Christchurch, March 3, 1888.

[Very glad indeed to hear that you have done so well. It is a remarkably good yield considering that the past season has been pretty generally throughout New Zealand very much below the average.—ED.]

Extracts from Foreign Journals, etc.

ESTABLISHING OUT-APIARIES.

THE following paper was recently written by D. A. Jones, of Canada, proprietor and editor of the *Canadian Bee Journal*, a gentleman who has had a very large experience in establishing and working out-apiaries :—

This is the question which has been assigned me by your Secretary, and it is one which is receiving considerable attention just now, as many engaged in apiculture are increasing their colonies until they have, frequently, more than they can afford to keep in one apiary. Then the questions arise, what should they do? Should they sell them off or start "out-apiaries"? There are some localities where 500 colonies might be kept with success, and there are others where 100 would overstock them. We consider from 100 to 200 colonies as many as is profitable to keep in the average apiary. In establishing out-apiaries, fifty colonies would make a start, but we would recommend a hundred, as no more trouble need be taken to manipulate them. These would contain 200 in the fall, which might be divided again ; thus your apiaries, if you double your colonies, would double every year. But counting mishaps, sales, and losses, perhaps we might more reasonably expect to double our colonies every two years. This, of course, depends largely on the practice of the apiarist. One man is required at each out-apiary during the season, which in this country varies from four to five months. From our home apiary we located one about one and a-half miles to the north-west, the next about four miles to the north-east, next seven miles to the north-east, then one five miles north, one six miles north-west, and one ten miles north-west, with sometimes smaller ones between. From personal experience we are satisfied that, in good localities, from two to three miles apart is far enough to have them. We have had as good results from the closest apiaries as from those furthest apart, and that, too, when there were over 200 colonies in each. If the locality were suitable, we should prefer to place them so we could visit all the apiaries by driving the shortest possible distance ; that is, five or six apiaries might be placed round a central one, or in a way that you could drive or take them all in in one route. Ours, unfortunately, are not so placed, and it gives us five or ten miles of an extra drive to take them all in ; but as the locations suited us better, we thought it would more than overbalance the extra cost of the journey to place them as we did. Each apiary should have a practical man or woman in charge. We have frequently had students look after them, but it pays much better to have assistants with at least one year's experience, as the foreman cannot manage to go around to each apiary more than once a week, and sometimes scarcely that, especially if he has to give a day to each apiary, to instruct the one in charge. The assistant in charge has spare time enough on his hands to keep the yard in nice condition, besides preparing sections, putting them on, keeping the hives painted, and making new ones when required. We never expect him to do all the work during the honey-flow, but give him assistance in extracting. The more assistance that is required for this purpose, the better the apiary pays. When extracting we use little boys and girls for carrying the combs to and from the hives to the extractor. Two of them, a little larger and a little practised, do the uncapping and extracting. We have also had boys from ten to twelve years old who could put the combs back into the hives very well after they had been extracted. This class of labour with us is very cheap, and there is generally plenty of it in the neighbourhood of every apiary that can be got when required. The youngsters think it as good as a holiday to get an opportunity to work in the bee-yard. With a good practical foreman to visit the yards and see after them, as much can be realised from the out-apiaries as from the home ones. Very often they bring in better returns because they are selected on account of their fitness, while your home apiary may be tolerated only because of its being your "home," rather than the most favourable place for an apiary. Almost any number of apiaries may be managed in this way if the owner is thoroughly practical, and will devote his entire time to the business, or if a reliable foreman and trusty students can be secured, or, better, those who have had, say, a year's experience. We are satisfied, that, after one has mastered the business, and understands it thoroughly, if his surroundings are suitable he is only fooling away his time with one apiary, as he can manage several without any more trouble than is required to manage one. He would require a suitable rig, so that in driving to each apiary he could take such supplies as he might require, and in returning could bring any honey that there might be on hand.

We have parties offering us the privilege of establishing apiaries on their premises, without any charge. One man, where we had an apiary for over ten years, sold his place and moved away. He has asked us to come and establish one on his new place, free of charge, knowing as he does the benefit that the clovers, fruit-trees, and vines receive from the fertilisation of the flowers by the bees. The highest that we have ever paid is $25.00 a year for bee-houses or cellar to winter in. All the ground that is required is a quarter to half an acre to place the bees on. From $5.00 to $10.00 a year is the usual rent where a charge is made at all. Even though a person has a sale for all the extra colonies of bees he can spare, it will pay him to have at least one or two out-apiaries, because, if increase is the principal object, the sale of bees will doubly repay the interest on capital invested Any honey that they may stow away, more than is required, can either be extracted, or the filled combs may be kept for future use, as it is desirable to have some such combs on hand to save feeding colonies that are run more exclusively for honey. We believe that all such apiaries should be managed for both honey and increase, unless the sale of bees is almost impossible at a very low figure, in which case increase is a thing not so much to be desired.

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