



LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

The Australasian bee journal. Vol. II, No. 5 November 1, 1888

Auckland, New Zealand: Hopkins, Hayr and Co., November 1, 1888

<https://digital.library.wisc.edu/1711.dl/O7F3PFPJ7VPS38A>

<http://rightsstatements.org/vocab/NKC/1.0/>

For information on re-use see:

<http://digital.library.wisc.edu/1711.dl/Copyright>

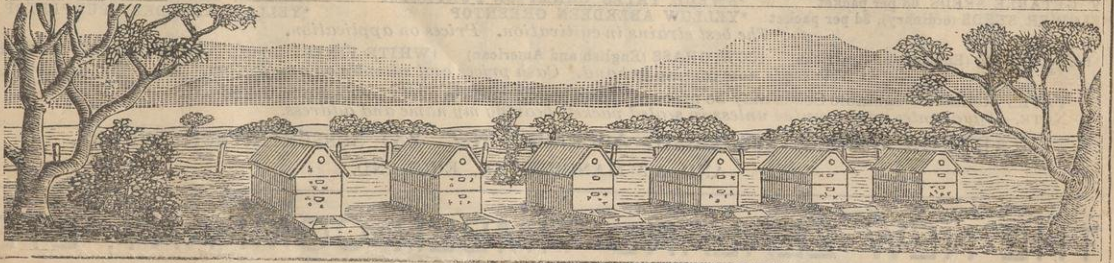
The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

H. J. Bush 10/11/08

THE AUSTRALASIAN

BEE JOURNAL



No. 5. VOL. II.] AUCKLAND, N.Z., NOVEMBER 1, 1888. [PUBLISHED MONTHLY SIXPENCE.



*Important to Dairy Farmers, Dairymen,
Cheese Factory & Creamery Proprietors.*

ALEX. HARVEY,
ALBERT STREET (Corner of Durham Street),

Begs to intimate to the above that he has imported the most improved plant for the manufacture of all the requirements for the above. Having had a long experience in this business, I am prepared to supply these goods with all the most recent improvements; and, being a direct importer, can supply same at very low prices.

The following are a few of the specialties manufactured by me: -

Cheese Factory Vats, Factory Cans, Railway Milk Cans, Creamery Vats, Cheese Hoops, Dairymen's Milk Cans and Measures, Cream Cans, Milk Dishes, Strainers, Refrigerators, Butter Tins, Honey Tins, Honey Extractors, and every description of Tin, Iron, and Copper Work.

Best value in Jam Tins, Honey Tins, Butter Tins, etc.

ALEX. HARVEY, Albert Street (corner of Durham Street).

P O. Box 185.

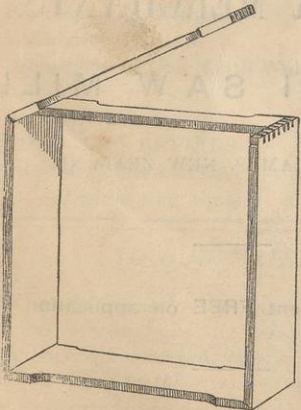
Telephone 285.

HOPKINS, HAYR & CO.

Manufacturers, Dealers, and Importers of all kinds of Apiarian Appliances, Importers and Breeders of ITALIAN QUEENS. Honey Tinned, Labelled, Packed, and Sold on Commission (see circular). Estimates furnished of cost of fitting out any-sized Apiary, and their laying out undertaken.

BEEWAX BOUGHT AND SOLD ON COMMISSION.

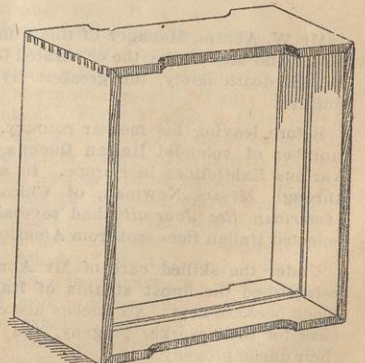
IMPROVED HONEY EXTRACTORS AND SECTIONS.



OUR IMPROVED ONE-PIECE SECTIONS.

Comb Foundation can be firmly secured in the centre of these Sections without the aid of comb-levers or melted wax, and in one quarter the time, as the section is folded and the foundation fixed at the same time. These sections are the best yet introduced. Our New Extractors are a great improvement on the old ones, and much cheaper.

Send for the coming season's Supplement to our circular and price list.



OFFICE & STORE: LOWER QUEEN STREET, AUCKLAND.

YATES' RELIABLE SEEDS.

CHOICE SEEDS FOR THE GARDEN AND FARM.

VEGETABLE SEEDS, 6d per packet

FLOWER SEEDS (ordinary), 3d per packet

*SWEDE, YATES' CHAMPION PURPLETOP

*YELLOW ABERDEEN GREENTOP

*SWEDE, YATES' SELECT GREENTOP

*YELLOW ABERDEEN PURPLETOP

*The best strains in cultivation. Prices on application.

RED CLOVER (English and American)

†COW GRASS (English and American)

†WHITE FINEST (Dutch)

†ALSYKE AND TIMOTHY

† New seeds now coming to hand. Cash prices and samples on application.

YATES' Reliable Vegetable Seeds may be procured from local agents in every township in the colony.

NOTE.—I guarantee none genuine unless in sealed packets bearing my name and address.

ARTHUR YATES, Seedsman, Auckland, N.Z., 237 Sussex Street, Sydney,
AND AT MANCHESTER, ENGLAND.

THE NEW ZEALAND TIMBER COMPANY, LTD.

TIMBER.—Weather Boarding (rusticated and feather-edged), Rough and Dressed Flooring, Lining and Scantling.

Manufacturers of every description of Joiners' Work, Doors, Sashes, Mouldings, Turnery, Carving, &c.

SPECIALTIES.—Seed Protectors, Hand Lights, Vineries (glazed on the new patent principle, without putty), and all kinds of Horticultural Implements, Hives, and Apiarian Appliances.

BRICKWORKS at New Lynn Railway Station. Available for the supply of orders to any station on the Waikato, Kaipara, and Onehunga Lines.

All Classes of Building Materials supplied with despatch and delivered into railway trucks.

Illustrated Catalogues and Price Lists free on application. Liberal discounts to cash purchasers.

MILLS.—EAST COAST, WHANGAPOUA.

WEST COAST, PORT ALBERT, KAIPARA.

HEAD OFFICE, MILLS AND FACTORY, CUSTOMS STREET, AUCKLAND.

FRANK JAGGER, Manager.

THE ITALIAN BEE

COMPANY.

BEE FARM AT PARRAMATTA,

In charge of W. ABRAM.

OFFICE, 312 GEORGE STREET, SYDNEY,

S. MACDONNELL, Secretary.

Mr W. Abram, Manager of this Company, served his time under the late Dathé, the celebrated German naturalist, and, till his death lately, the greatest living authority on bee culture.

Before leaving his mother country, Mr Abram secured a number of splendid Italian Queens, which took prizes at various Exhibitions in Europe. In addition, the Company, through Messrs Newman, of Chicago (publishers of the *American Bee Journal*), had several colonies of specially-selected Italian Bees sent from America.

Under the skilled care of Mr Abram, the Company has established the finest strains of Italians. No hybrids nor black bees are kept. All queens are carefully tested in every case for their worker progeny, and when time allows, for their queen progeny.

Price lists of Bees, Hives, Queens, etc., posted on application to the Manager or Secretary as above.

BAGNALL BROS. & Co.

MANUFACTURERS OF HIVES,

AND ALL OTHER

APIARIAN APPLIANCES,

TIMBER MERCHANTS

HAURAKI SAW MILLS

TURUA, THAMES, NEW ZEALAND.

Price Lists sent FREE on application.

N.B.—A few Foundation Machines on hand.

THE AUSTRALASIAN

BEE JOURNAL

No. 5. Vol. II.] AUCKLAND, N.Z., NOVEMBER 1, 1888.

[PUBLISHED MONTHLY.
SIXPENCE.]

The Australasian Bee Journal.

Editorial.

PUBLISHED MONTHLY

I. HOPKINS ... EDITOR.

HOPKINS, HAYR & CO.,

Proprietors and Publishers.

TERMS OF SUBSCRIPTION:

Per Annum (in advance) ... 6s.
Post Free on day of Publication.

All correspondence for publication and business communications to be addressed to the Editor, P.O., 185, Auckland, New Zealand.

Contents.

EDITORIAL—

Seasonable Operations	67
Can Honey Become a Staple Commodity?	68
Bogus Honey in Melbourne	69
New Zealand Beekeepers' Association	69
South Australian Beekeepers' Association	70
Hunter River Beekeepers' Association	70
Honey at the Hawke's Bay Show	70
Is the Ventilation of Hives Perfected? By J. R. M.	70
Jottings. By Lamb Dearg Erin	72
How it Works. By J. R. Kendall	73
Bee Gossip. By O. Poole	74
Results of Experiments with Foul-Brood. By J. A. Moreland	75
The Honey Market. By C. C. Cusack	76

CORRESPONDENCE—

Entrance Shelter	76
Beekeeping in Westland	77
Ventilation of Hives	77
Beekeeping in New South Wales	77

REPORT—

From Ox Park Apiary	77
---------------------	----

QUERIES AND REPLIES—

Infected Combs and Hives—Chloride of Mercury	
—Disinfecting Frames	78

TO OUR FRIENDS.

We would respectfully remind those of our old Subscribers who have not paid their subscriptions for the current year that they are now due, and we shall be obliged by their remitting the same. Should there be any who do not wish the Journal renewed, we shall be glad if they will drop us a line to that effect. Half-yearly subscriptions taken.

SEASONABLE OPERATIONS FOR NOVEMBER.

THOUGH a little rough and cold in the early part of last month, there has been no check to speak of to the continuation of the favourable season we noted last month. From all parts of New Zealand reports have come in of the past mild winter, and the strong condition of the colonies in the early spring. In the extreme south, a spell of very cold winds in September did some damage and caused "spring dwindling," but with this exception the present spring has proved the best from a beekeeping point of view that we have had in New Zealand for many years. We mentioned last month having supered a hive on the 16th of September to keep the bees from swarming. On the 14th of last month a large swarm issued from this hive, but in the meantime the colony had filled the top box with honey after working out several sheets of foundation. We have another colony working in the second super at the present date (22nd Oct.) which is an experience of early work that we do not remember having before. It is as well to mention that the two colonies are composed of hybrid bees (first cross) Italian—blacks, our favourite workers.

Swarming has been pretty general throughout N.Z. during the last month, and those who have carefully looked after their bees will now be reaping their reward. Swarms should be expected during the whole of this month and the hints under the headings "Swarming" and "Hiving Swarms," given last month, will be applicable to this.

PREVENTING AFTER SWARMS.

Mr Langstroth laid down the axiom that "a moderate increase of colonies in any one season will, in the long run, prove the easiest, safest, and cheapest mode of managing bees," and that this is perfectly correct, we are convinced. It may of course be an advantage, under exceptional circumstances, as for instance when a person is desirous of rapidly enlarging his apiary, to take every opportunity to increase the number of his colonies without any thought of surplus honey. But under ordinary circumstances the number should never be more than doubled, and except in a small apiary that would be too much. In any case, after the first swarm has issued from a hive, all further swarming from that colony should be prevented if possible, the more especially if surplus honey be the main consideration. Shortly after a first swarm has issued, there is pretty certain to be one or more after swarms leave the hive unless steps are taken to prevent after-swarming. Every swarm will be smaller than the one that preceded it, and in the end leave the parent colony very weak. As a general rule, the first swarm issues on the day the first queen cell is capped over, which is about the eighth day from the egg being laid. On the sixteenth day the queen comes to maturity and emerges from her cell, and on the next day she leads off an after-swarm. The exception to the above is when, through bad weather, the first swarm has been kept back. We have known swarms to be kept back till about the time for the young queen to emerge, when the first and second swarms have issued on following days. However,

in ordinary cases, the whole of the queen-cells, excepting one, should be cut out of the parent hive five days after the first swarm came off. There being now only one queen to come to maturity, she must remain at the head of the parent colony, and thus cannot lead off an after-swarm. Should the cells be cut out earlier than the fourth or fifth day the bees may take it into their heads to build other cells over the young larvæ and thus frustrate the object in view.

PUTTING ON SURPLUS BOXES.

Top boxes for surplus honey should be put on when the brood chamber is getting pretty full of bees, plenty of young bees emerging, and honey coming in freely, taking care that the bees have not already made preparations for swarming. When working for extracted honey, two of the side frames containing honey only should be put with the adhering bees into the centre of the super, and the two empty combs or frames of foundation from the super into the centre of the brood chamber. With this arrangement of the combs the bees will start work in the super at once provided it has been put on at the right time. It is a little more difficult sometimes to get the bees to start in supers containing section boxes, and there is the more need to provide some inducement for them to start. In this case we have found that two or three partly worked sections placed in the centre frame of the super has had the desired effect. In the event of there being no partly worked sections on hand a nice clean comb cut and fitted in the section boxes will answer equally as well. For many reasons which we have frequently given, we prefer half-story supers for comb honey, putting on one first, and when the bees are fairly started in that placing the second one underneath, next to the brood chamber. This system tends to keep the latter cool and so prevent swarming, which is more likely to take place when working for comb-honey, than when working the larger supers and frames for extracted honey.

Keep down long grass and weeds about the apiary, especially near the hives. The first sowing of buckwheat for autumn forage should take place this month, reserving the sowing of the main crop till December.

CAN HONEY BECOME A STAPLE COMMODITY?

No intelligent beekeeper, after having carefully read the two articles by Mr. T. J. Mulvany on the above subject, can arrive at any other conclusion than that the matter has been thoughtfully and ably handled. Though Mr. Mulvany is a beekeeper and deeply interested in the question of making honey a staple commodity, his articles do not show the least trace of bias in favour of the conclusions he has arrived at. On the contrary every point is well-chosen, and argued fairly *pro* and *con*. In the first article (September number) he has clearly shown that the arguments of those quoted, opposed to the belief that honey can become a staple article, are not based upon sound reasoning. To say that because an article is considered a luxury at one stage of its production it can never become a staple, is to argue against our experience. How many articles do we now consider indispensable to the daily wants of even the poorest, that within our own time were looked upon as luxuries? It is a question of cost. An article costing one shilling may be considered a luxury while it remains at that price, but in course of time, if the price be reduced to one half or one third that sum, the chances are that it will come into general use. This is our daily experience. As a rule, when an article is too costly for us to purchase it, we con-

sider it a luxury; but when it is within our means, it becomes a need.

Mr. Mulvany, in his second article, gives very "reasonable grounds" for his belief that "honey may become a staple commodity," and tends to show by analogy that it can only become so by being offered at much lower rates than beekeepers have hitherto been accustomed to look for. We know that there are many beekeepers in these colonies who still entertain the idea that the price of honey in bulk should never be less than fourpence or fivepence per pound, and that beekeeping will not pay if it is sold for less. To those who think so, that part of Mr. Mulvany's article which says, "The producer of ordinary extracted honey must make up his mind, once for all, to be content with about the same low price for which the best quality of sugar is actually produced," will come as a not very agreeable surprise. We cannot shut our eyes to the fact that sugar is the rival of honey, and the sooner we realise this fact the better. We, however, see nothing in this that should discourage beekeepers. It may be that amateurs will eventually have to confine themselves to raising honey for home use, and leave the business of raising honey for market to specialists—men who are prepared to devote the whole of their time and attention to it. This is what, in our opinion, beekeeping must come to, sooner or later, if it is to be a success. Conducting the business on a large scale and with the strictest economy, is the only way we can reasonably expect to meet the case in question. Under these conditions, with the exercise of intelligent judgment in choosing a district for carrying on operations, we see no reason why honey should not be produced at rates sufficiently low to enable it to compete successfully with the best grades of sugar. We have not the least doubt that when large quantities of honey can be obtained regularly and at a cheap rate, it will enter largely into the manufacture of various articles in which sugar or glucose is used now. For table use there will always be a comparatively limited demand at an advanced price for the best grades of honey, such as that from white clover, which is deservedly worth the highest price when compared with other kinds, and more especially because it cannot be produced in the same proportion as the lower grades. The exigency of the trade in this class of honey will require that it be put up in small and neat packages, and as Mr. Mulvany remarks, it must "be dealt with on entirely different commercial principles" to the ordinary grades. Before closing we would ask our readers to give this subject their serious consideration, and if there are any who hold different opinions to those expressed by Mr. Mulvany, we should like to know them.

TO OUR SUBSCRIBERS.

THE *Journal* is posted to every subscriber on the day of publication, but should any go astray, we will gladly post another copy if notified before the edition is exhausted.

Those who have not received the whole of their copies in due course please notify us at once.

BOGUS HONEY IN MELBOURNE.

OUR friend Mr. Kendall has kindly forwarded us several copies of the Melbourne papers, wherein he makes a vigorous attack upon the honey adulterators of that city. A considerable quantity of glucosed honey has of late been palmed off on an unsuspecting public as the genuine article. Those interested in the sale of this article have come boldly forward affirming that all pure honey contains glucose; but suppressing the fact, as we pointed out in a letter to the Melbourne press, that the glucose naturally found in pure honey is *totally* different to the *glucose of commerce*. We intended alluding to this matter at greater length in our present issue, but are precluded from want of space. We shall, however, do all we can to assist Mr. Kendall in putting a stop to this fraudulent practice, and shall refer to it again in our next number.

NEW ZEALAND BEEKEEPERS' ASSOCIATION.

THE regular monthly meeting of the Committee was held at Hopkins, Hayr, and Co's office on Friday, October 5th, at 2.30 p.m.—Mr G. L. Peacocke, vice-president, in the chair. The Rev. Father Madan, a member of the corresponding committee, who was on a visit to Auckland, took part in the meeting. The formal business having been disposed of, the matter of the proposed convention was discussed at some length, and it was considered advisable to find out whether, in the event of a convention being held in March next, some concessions could be obtained from the Steam Shipping Companies in the cost of passages to beekeepers attending the same, for if so the sooner it was made known the better, as it might be an inducement for some to attend. It was resolved, 'That the President, Vice-President (Mr Peacocke), and the Secretary, be appointed a sub-committee to wait on the managers of the Steam Ship Companies to ascertain what, if any, concessions can be obtained in the way of reduced fares to beekeepers coming from different parts of the colony to attend the Convention in March next.' The Chairman pointed out the desirability of holding a show of honey and beekeepers' appliances at the same time, and thought that it would be a good opportunity for those attending to exhibit their productions, as they could bring their honey, etc., with them and see after their exhibits at the show. The Committee agreed with the remarks of the Chairman, but considered it advisable to try and arrange with the Auckland Horticultural Society to hold it in conjunction with their autumn show, which is usually held in March. It was resolved, 'That the Secretary be empowered to interview the Chairman of Committee of the Horticultural Society and see if any arrangements can be made on behalf of the New Zealand Beekeepers' Association for holding a bee and honey show in connection with the society's autumn show and to report to the next meeting.'

A long discussion then ensued on the question of marketing honey, during which the articles "Can honey become a staple commodity?" by Mr T. J. Mulvany, were very favourably commented upon. The Rev. Father Madan and others were of opinion that honey would become a staple article, just as cocoa and other things had become staple commodities, within the recollection of the speakers. It was the general opinion of the Committee that there is very great scope for increasing the demand for honey; that beekeepers should lose no opportunity for bringing it before the public; that they believed many families would use it for the sake of economy if they were aware that it could be purchased in bulk for less than half the cost of butter. It required pushing; the distribution of the honey pamphlets had undoubtedly done a deal of good towards bringing honey under the notice of the public. The Secretary gave a

few statistics to show that the demand for honey is steadily increasing and prices improving. The firm with which he is connected had done their utmost to establish market rates for the different grades, and he believed they had succeeded to a very great extent during the past season. There was, however, a great drawback in the fact of so much being sent to be sold by auction, although he was glad to say that prices had ruled better even in the auction rooms recently than in times past; he had great faith in the future of beekeeping. In speaking on Mr Mulvany's articles several of the Committee recognised the fact that sugar must be looked upon as the rival of honey to a very great extent, and the nearer the prices of the latter were to the former the larger will the consumption of the latter be. After some further discussion during which it was suggested by the Rev. Father Madan and Mr Poole that if small portable packages of honey were on sale at groceries and confectioners at a cheap rate it might lead to an increased demand for family use, it was resolved on the motion of Mr Poole seconded by Mr Hooker, 'That the Executive Committee, after careful consideration of the subject of Mr Mulvany's articles, fully endorses all that he has said and tenders him a hearty vote of thanks for his valuable assistance to the Association.' The further discussion of marketing honey will take place at next meeting.

The Chairman drew attention to the fact that the Association, in order to deal intelligently with matters affecting the welfare of the industry it represented, should know approximately the extent of the industry in New Zealand, for without a knowledge of the number of beekeepers, colonies of bees under domestication, and the quantity of honey raised, the Committee were in a great measure working in the dark. He thought the Association should take some steps in the matter and suggested sending out forms to each beekeeper to be filled in and returned. The Secretary expressed his conviction that such a method would not be successful. To be worth anything the statistics must be complete. The former association had tried the plan suggested and it failed, only comparatively few sending in their returns. The Chairman then suggested asking the Government to arrange for the returns being furnished annually in the agricultural statistics papers. This was considered to be the better plan, and the Secretary stated that some three years ago when acting as sub-enumerator for the Matamata district, he had suggested to the chief-enumerator that columns should be set apart in the agricultural statistics papers for the returns of colonies of bees, honey, and bees-wax, and was thanked by the Registrar-General for the suggestion, which he considered a valuable one. However, nothing had since been done by the Government in the matter, but no doubt representations from the Association might have some weight in bringing about the desired result. It was resolved to communicate with the Government and ask them to obtain statistics annually of the apian products in the same way and by the same means as the agricultural statistics were collected.

The Rev. Father Madan gave a description of an interesting series of experiments he was about to carry out with a hive and colony of bees placed at his disposal by Mr Hopkins, with the view of determining the best system of ventilating hives. He was going to remain in Auckland for some time, and he hoped to be able to give at some future meeting the results of these experiments which he believed would be of value to beekeepers.

A vote of thanks to the chair concluded the meeting

A LIBERAL OFFER.

AS we have a number of spare copies of each issue of the *Journal* (with the exception of the first, which is now out of print), we will send post free to any address in Australasia the eleven numbers of Vol. I. for 4s. This is a good chance for new subscribers to get the *Journal* from the start.

There are also a few copies of Vol. I. of the *New Zealand and Australian Bee Journal*, cloth bound, still on hand, which will be sent post free in New Zealand for 3s., or out of New Zealand for 3s. 6d.

HOPKINS, HAYR & CO.

SOUTH AUSTRALIAN BEEKEEPERS' ASSOCIATION.

WE NOTICE that the South Australian Beekeepers' Association recently held their annual meeting under the presidency of Dr. T. A. Kohn, M.P., who alluded in feeling terms to the loss sustained by the Association and the colony generally, in the death of its late president, Sir R. D. Ross. The annual report stated that important strides had been made in beekeeping during the past year, and that every requisite in the industry was now manufactured in the colony, the business being large enough to maintain at least two firms. Four new associations had been formed, and sixteen new members had joined during the year. The passing of the Foul Brood Bill was alluded to with satisfaction, and it was stated that it had been acknowledged, even by its opponents, to have been beneficial and conducive to the best interests of beekeeping. Mr. C. F. Clough was elected President, Messrs. S. Randell and A. Molineaux, Vice-Presidents; Messrs. T. Hubbard, C. Dickens, sen., H. H. Dolman, and W. C. Hacket, Committee; Mr. C. G. Gaw, Secretary; and Mr. S. Randell, Treasurer. The coming season is full of promise of a better honey harvest than the preceding one, as the eucalypts all over the colony are full of flower buds.

HUNTER RIVER (N.S.W.) BEEKEEPERS' ASSOCIATION.

WE have received the first annual report of the above association which was submitted to a recent general meeting of members, presided over by Mr Robert Scobie, President of the Association. From a perusal of the report we learn that the association was inaugurated on August 27, 1887, the originator of the movement being Mr. R. F. Munday, who was appointed secretary for the first year. The principal objects in view in forming the association were for 'the mutual improvement of members in the management of bees, the adopting of a better system of sending honey to market,' and co-operation of the members for the purpose of obtaining beekeepers' requisites in as cheap and serviceable a manner as possible for their use. Monthly meetings have been held, and six interesting and instructive papers were read during the past year. Judging by the report the secretary and committee deserve great credit for their earnestness in carrying out the objects of the association, and bringing the first year to a successful termination. We are sorry that want of space precludes our giving a longer notice of the proceedings.

HONEY AT THE HAWKE'S BAY SHOW.

(FROM OUR OWN CORRESPONDENT.)

LAST year I sent you a report of the honey at the Hawke's Bay Agricultural and Pastoral Society's Show, and a brief mention of this year's exhibit may be of interest to your readers. This year the arrangements for the exhibition of honey were much better than last, in the first place being better lighted, and not placed in a corner of the produce shed. Two exhibitors competed, and the honey shown surpassed that of previous years, both in quantity and quality. What was very gratifying was, seeing honey brought from Poverty Bay to compete against the local product; and the exhibitor deserves great praise for his energy and enterprise, in bringing Poverty Bay honey so prominently forward in Hawke's Bay. Though he took second prizes in each class, he was beaten very narrowly, and I hope to see him exhibit next year. Both exhibitors showed extracted and comb honey, and judging from the crowd round the exhibits all day, the public were considerably interested in this part of provincial produce.

On going into the produce shed the first item that attracted my attention were two large coloured diagrams (issued by the British Beekeepers' Association), showing the anatomy and physiology of the honey bee, and its relation to flowering plants. These diagrams were exhibited by Mr W. A. Neale, who procured them from Mr Hopkins, of Auckland, and were universally admired. On a table running alongside of the room the honey was exhibited, in two classes, 245 being for extracted, 246 for comb. Mr George Stevenson, of Poverty Bay, in Class

245, showed some excellent granulated honey, two dozen jars, very neatly labelled and got up. In Class 246, some two dozen sections of comb honey enveloped in cardboard boxes with glass fronts took my fancy, though the sections were not filled so perfectly as the other competitors. Still the exhibit reflects great credit on the exhibitor, and the manner in which the comb honey was got up was uncommonly neat and workmanlike.

The exhibit of Mr W. A. Neale, of Longlands, in Class 245, was a large and varied one. In the neat 1lb. and 2lb. jars I saw some 50lbs. of beautifully clear extracted honey, together with two large 5lb. glass jars, and half-a-dozen 5lb. tins of granulated honey. I was shown one jar in particular of beautifully white granulated honey. This was gathered in the height of the clover bloom, and the flavour was delicious. I noticed also some jars of partially granulated honey which was extracted about the middle of February, presumably gathered from thistle bloom. This, too, had a very delicate flavour, but the clover honey was to my taste superior. The comb honey shown by this exhibitor was a credit to the district, and to the exhibitor. Four large glass cases, containing some sixty-four sections, together with two glass cases of the large extracting frames, and some sections showing comb honey in course of formation, completed this exhibit. The sections were well built out, and the cappings to the cells snow white; these had evidently been built by the black bees. Both exhibits from Longlands Apiary took first prizes in their respective classes, Mr Stevenson taking the second prizes.

Mr Neale exhibited in six rather novel miniature hives Ligurian, hybrid, and black bees, which were a great attraction to the public during the day. Another interesting exhibit of his were some of Hopkins, Hayr and Co.'s new improved one-piece sections, some in the flat and some made up, with wax foundation already put up. I noticed several of our local beekeepers taking particular notice of these, as also did they of Mr Stevenson's cardboard envelopes.

Mr James Adamson, of Pine Apiary, Hastings, was to the fore with a good collection of hives, frames, foundation comb, smokers, etc.: also honey in jars, bottles, and tins. I should like to have seen him competing, as I believe he would have run both prize-takers pretty hard for honours, as the honey from his apiary is some of the finest in the district.

It is at shows like these that, if beekeepers wish to make honey a staple commodity, they ought to show their products. If the public are once initiated into the taste of good honey, at a fair price, they won't care to use the trashy syrups that go under the name of genuine honey.

IS THE VENTILATION OF HIVES YET PERFECTED?

(Continued from page 56.)

No. 4.

By J. R. M.

PLACE a wooden box of one-inch wood, less than two feet square by one foot in height, in the open air on a cold, frosty, windy night. Bore a hole half an inch in diameter in its weather side, and, for the matter of that, in any side. With some ten superficial feet of cooling surface, and the change of air due to incoming blasts, or the suction from air rapidly passing across its entrance, what amount of heating power will be required to keep the internal atmosphere at a temperature of, say, 60° to 85°? And if the heating power has to be evolved from the chemical changes in the tiny stomachs of insects, consuming honey, how much honey has to be consumed, and what is the waste of vital energy in producing the necessary chemical change, in order to counteract the effect of the wind—a relentless foe that seems to take pleasure in sweeping out

into the open waste the hardly-earned warmth, as if it could be of any use towards raising the temperature of that part of the globe!

Should this question meet the eye of any scientific expert in the matter of heat, we beekeepers would be grateful to him to give us exact statistics, so that we may not live any longer in happy ignorance. Meanwhile, the writer has too often tried on a cold, windy night to keep himself warm in an eighteen-inch plastered brick-walled box, with two or three warm coats on, a ten-candle power lamp, and a blazing fire, and a well-filled stomach, but with badly-fitted windows and doors, not to be anxious as to the personal experiences of bees, who have perhaps only the well-filled stomach to coddle themselves with.

How is it, secondly, that an epidemic disease will, in running through a district, get hold of some persons and pass by others? How is it that, of two persons nursing an infectious case, one will take the disease and die, and the other feel no effect? Why will the same person at one time be subject to colds and other diseases, and at other times not? The usual answer to these questions is, that it will be found that (putting aside the cases where previous diseases or inoculation has rendered the person proof) a lowered state of health from cold and damp or want of nutritious food, renders whole classes of people or individuals liable at one time to assimilate the germs of disease which at other times they would throw off; or at one time to develop a disease which at other times would not show itself.

Taking these facts into consideration, is it not probable that bees, kept in our artificially provided hives, have, from some defect in our arrangements, been frequently so lowered in general health as to render them liable to catch or develop the diseases which now trouble them? A natural hive, as provided by nature (*e.g.*, hollow trees or hollow rocks), has thicker sides than what we usually provide, at least in Australia; and they make for themselves a snugger nest for clustering in than we allow them to make. We, having very cleverly found out that a three-eighth passage is of such an exactly required awkward size as to prevent them closing it up either with propolis or comb, encircle them with air passages on every side. We thus place them in much the same position as a person lying indeed between warm mattresses, and upper sheets and blankets, but untucked up; and what is worse, forcibly kept open at the sides. Very little sleep would a person in such cases get on a cold windy night. He would be kept awake all night endeavouring to evolve a little heat in his poor stomach, and he would not be over well for his next day's work in the morning. Naturally the combs are run out to the sides, and where room permits a snug nook seems to be provided for in cold weather. It follows from this that probably we have to be more careful in guarding the entrance of the artificial hives, and generally in providing against the rapid cooling down of the air inside than is required in what are understood as natural hives, and even straw skeps.

This cause of the excessive cooling down of air in circumstances similar to the air inside a hive,

and the normal effect of the difference between heated air inside and cold air outside a box, like a hive with a porous top, has been so often repeated in previous numbers, that the writer must apologise for alluding to it again before he has been able to produce proofs that it really does apply to colonies in modern hives. Having prepared some thermometers, and having had (in his absence from home) a hive placed kindly at his disposal by no less an authority than the experienced Editor of this *Journal*, he hopes to have some observations to lay before beekeepers in the next number; and the readers of this *Journal* will have the satisfaction of knowing that the circumstances under which these first observations are taken will be guaranteed to them as normal circumstances, by no less an authority than the one named. It must, however, be borne in mind that we are now approaching that time of the year when bees are least tried by the cold or heat in which they work, and that it will not be until next winter that those observations can be made, which will decide, once for all, whether or no we have been overlooking a matter which has been the cause of the loss of many colonies, the weakening of still more, and possibly the fundamental cause of foul brood and other diseases appearing so lamentably.

By way, however, of placing in the hands of those who are out of the way of libraries, the ascertained laws of the power exerted (a) by air when in motion, and (b) by the difference of temperature of air inside a funnel and that outside it, he will by way of conclusion subjoin them:—

I.

TABLE SHOWING THE PRESSURE EXERTED BY WIND AT DIFFERENT VELOCITIES.

Rate of Wind per hour.	Pressure in lbs. $\frac{1}{2}$ superficial foot.	Usual Description of Wind.
Miles.		
5	.123	Gentle breeze
10	.492	Brisk breeze
15	1.107	Strong breeze
20	1.968	Strong wind
25	3.075	Blowing hard
30	4.429	Half a gale
35	6.027	Three-quarter gale
40	7.873	Gale
50	12.300	Storm
60	17.715	Violent storm
80	31.490	Hurricane
100	49.200	Violent hurricane

A few weeks ago at Sydney in the 'dust storm,' the wind was occasionally at the rate of 80 miles an hour.

II.

FORMULA FOR ASCERTAINING THE POWER EVOLVED BY AIR OF DIFFERENT TEMPERATURES.

(From Shande and Cox's 'Dictionary of Science.')

'One of the most efficient means of ventilation is afforded by the action of heat. At ordinary temperatures air suffers an expansion of about $\frac{1}{450}$ for each degree of Fahrenheit's thermometer, by which the temperature is raised, and, being rendered specifically lighter in the same proportion, the pressure of the surrounding atmosphere predominates, and the heated atmosphere is forced upwards. This principle is exemplified in the action of the ordinary chimney, which may be regarded as a tube open at both ends, and placed in any position except the horizontal. The air in the lower end of the tube, being heated by fire, rises and passes out at the upper end, while its place is supplied by the pres-

sure of the fluid surrounding the lower opening; and the circumstances of the motion are the same as if another tube filled with air of the original temperature were adapted to the lower end of the chimney, which is filled with heated air, so that the current is established in the same manner as an inverted syphon, in which two columns of air of different densities, but equal altitudes press against each other. At the lower opening of the chimney the draught or the velocity of the current is expressed by the formula

$$V = \sqrt{2gha(T-t)}$$

where V denotes the velocity in feet per second; g the accelerating force of gravity ($=32.2$ feet per second); a the rate of expansion for one degree of increased temperature; T the temperature of the heated air as it enters the chimney; and t that of the external air. It appears from this, that the velocity of draught is as the square root of the height of the chimney, and the square root of the excess of temperature at the lower opening. But as the same quantity of air must be supposed to pass through every different section of the chimney in the same time, it follows, that the velocity at every part must be inversely as the density, and therefore decreases from the bottom to the summit."

[With the exception of giving the results of experiments about to be tried our esteemed correspondent has now for a while concluded his observations on ventilation, and he is anxious that those who may differ with him on any point, or who may have suggestions to offer connected with the subject will communicate their views through the *Journal* as his sole object is to arrive at a correct understanding of the matter.—Ed.]

JOTTINGS.

BY LAMH DEARG ERIN.

IN the last *Journal* I see a notice to the members of the New Zealand Beekeepers' Association and to beekeepers generally, that should sufficient support be promised, a beekeepers' convention will be held in Auckland in March next. If the proposed convention eventuates, which I sincerely trust it does, it will be a rare opportunity of meeting some of our ablest and most experienced apiarists there, and amply repay one for the trouble of attending. Professor A. J. Cook says: "Attend conventions whenever distance and means render this possible. I have attended nearly all the meetings of the Michigan Convention, and never yet was I not well repaid for all the trouble and expense by the many, often very valuable, suggestions which I received." So, friends of the cause, "chip in," and the convention will "boom"

* * * *

With regard to the adulterated honey, I am glad to see by the late journals that some attention is being paid to the matter, and I hope the Executive Committee of the New Zealand Beekeepers' Association will keep their eyes open, and have any doubtful samples thoroughly tested. For a private individual to come forward and expose a fraud, as in Major Shallard's case, he lays himself open to having his own honey adulterated by unscrupulous persons by way of retaliation, especially if he is a large producer of honey, and I am sorry to say that it is a comparatively easy matter for such a thing to be done, and the way in which it can be I don't consider myself justified in stating. I think Root made a mistake in publishing Doolittle's recipe in his *A B C of Bee Culture*. I note Kendall's clippings in the *Melbourne Age*, and am glad to see he still takes an interest in us.

The "bogus honey" mentioned in my last, and to which the editor refers, will be duly forwarded with particulars as to who put it up, as far as I can ascertain. I could only procure one sample, the extracted one. The other had been "disposed of." It was a small piece of honey in comb, surrounded with clear liquid honey; put up in glass jars and labelled "Pure Californian Honey." No doubt the recent exposures have made retail dealers shy—so much the better—but I consider it is rather rough on the retail dealers to be made the scapegoats for the manufacturers' sins. What we want to get at is the parties who adulterate and sell to the wholesale merchants. They are generally too "knowing," and hard to "lamp." James Heddon in his advice to beekeepers on this matter says:

"Keep perfectly still; if the adulterated article is better than the genuine there is nothing we can conscientiously say: if it is inferior, consumers will soon discover it, and in making purchases will govern themselves accordingly. Thus it seems to me there is no need for beekeepers to agitate the question. I do not object to such agitation because of the trouble and expense arising from it, but for the reason it tends to frighten customers, and has done so in the past to that extent that the prevailing opinion regarding the adulteration of our product is magnified twenty fold beyond the facts in the case. I think our whole duty and best policy is to take advantage of every proper occasion, when the subject is forced upon us, to inform consumers of the fact that they might have to go a long way and take great pains to become possessed of a single can of adulterated honey. Of course, adulteration increases the supply, but so little of it is practised now-a-days since producers have taken small packages out of the apiary and out of the city honey houses, that as a source of supply it does not for one moment compare with the increase in production arising from recruits in the business. Another point is, that the city dealers, the mixers, have done much to introduce and encourage the consumption of honey. No beekeeper can adulterate honey with profit. If the article was a staple like wheat, corn, or potatoes, and the demand was endless, adulteration might pay him for a time, but in that case he would soon drop the production of the pure article, becoming a specialist at mixing, the same as have all other adulterators. I think consumers are now pretty well convinced that only genuine honey can be procured from producers, and the less we agitate the subject the better for our interests."

There may be a good deal in this, but I do not agree with him. A fraud is a fraud all the world over, and the sooner it is exposed the sooner honest men will have a show.

* * * *

I was very pleased to see such a good exhibit of honey at the Hawke's Bay Show. Mr. Stevenson, of Poverty Bay, and Mr. Neale, of Longlands, both had some fine samples of honey in comb and extracted in jars. Mr. Stevenson exhibited comb honey in very neat cardboard boxes with glass fronts, the first of the kind I have seen. Mr. James Adamson, as usual, had a good exhibit of honey, hives, and apiarian appliances, which attracted a good deal of attention; also some small boxes of Ligurian bees exhibited by Mr. Neale, of Longlands.

* * * *

I note Mr. Mulvaney's able article on "Can Honey Become a Staple Article?" He has argued the question so thoroughly that further comment on the subject is needless. For my part, I per-

flectly agree with him. The great point is this: "To get the honey put up in suitable and cheap packages which shall add as little as possible to the prime cost, for he who produces at a maximum cost will fail, and he who produces at a minimum cost will succeed."

October 12th, 1888.

[We do not agree with all that Mr. Heddon has said in the above quotation. For instance, if we were certain that adulterated honey was being offered for sale, instead of leading the public to believe it could not be obtained, we should take every opportunity to put them on their guard. We do, however, object to beekeepers and those interested in the sale of pure honey making a great fuss about adulterated honey. For several years the American bee journals were teeming with letters on adulterated honey, many of which went the rounds of agricultural and other papers, till at last it culminated in the "Wiley Lie," and an immense amount of harm was done to the industry by the injudicious action of beekeepers themselves. We warned Major Shallard of the harm that he might do in crying "wolf" before he was certain the wolf was there. Let us always be on the look out for suspicious honey, and if we drop on a sample we believe to be adulterated, let us go quietly to work and send it along to the New Zealand Beekeepers' Association, and leave the committee to do the rest. It won't be neglected, we can answer for that.—Ed.]

HOW IT WORKS.

BY R. J. KENDALL.

SOME months ago, when I was in New Zealand, one of your correspondents tried to sit upon myself and another contributor to the *Journal*, "Lamh Dearg Erin," as to the formation of a New Zealand Beekeepers' Association, the correspondent contending that the Association, practically, would do no good. We chipped about it with the result that the event was left to prove itself. Now, since I have been in Melbourne, there has been a prosecution for selling adulterated honey (which I sent you). This prosecution formed the pretext for a firm dealing in canned and preserved fruits to rush into print with a statement that the best honey contained the largest percentage of glucose. This was a little too much for my instincts, and I took a hand in the controversy, and I have sent you copies of the correspondence. Now probably every beekeeper in New Zealand knows that the New Zealand market, as is also the Melbourne market here, is stocked with canned imported honey, and that this honey is pretty well adulterated with glucose; and that it is to burke this imported stuff, drive it from the market, and to leave the market open for New Zealand honey, and enable New Zealand beekeepers to get a living, and obtain a market for their goods, instead of being crowded out by American exporters, that the Association was formed, as well as for other objects thought desirable to combine for to protect the interests of New Zealand beekeepers; and to show how it works when this is left to individual exertions, I may

say that, while Melbourne has any quantity of American and other outside honey, yet positively so undecided feel some local beekeepers, that a quantity of honey was submitted to me the other day, sent in by a settler, he asking me whether it would sell or was "good enough for Melbourne." I replied distinctly telling the settler it was, and how to send it in; also adding that I preferred it to much of the American honey now on the Melbourne market having a free sale, and I allowed myself a considerable margin there. The honey was of excellent quality, and tasted very good. In fact, while I have tasted better, I have myself raised worse, and tasted and seen any quantity of worse. Yet this settler was in doubt, and nervous as to his sending the honey to Melbourne, and probably or possibly it may be owing to my little bit of encouragement that he may be induced to do so, and thereby make money; and had it not been for this, it is possible that he might never have done so, thinking his honey was not good enough for Melbourne. And the thought occurs to me as to how many more cases there are like his; and yet American glucose and water-adulterated stuff can come in and be palmed off on the people. It is to correct this sort of thing, and to give strength, security, encouragement, and assistance to settlers, that the New Zealand Beekeepers' Association was formed, and if utilised properly, will do its work; and if it did no more than the above, I would ask if the Association was not worth forming? All I know is that what I have seen and learned as to the honey market here in Melbourne since I arrived, I am more than ever convinced, not only of the utility and advisability, but absolute necessity of such Associations, and from the bottom of my heart I wish the New Zealand one God-speed and every success, and I trust that every beekeeper in the colony will do his utmost to help, by giving the Association his hearty co-operation. It is his duty, and I hope it will be his pleasure. The old saying of "union being strength," was never more true than it is of beekeepers and their interests in New Zealand today. Other businesses have their trades unions, which have worked for their welfare, as I believe this will for beekeepers. There is no reason to suppose that what has proved advantageous to others on similiar lines will prove disadvantageous to beekeepers. I don't desire to "squelch" discussion, or to prevent the raising of queries, but I do desire to see disunion ended, and all work together for common good, feeling certain that the good of the whole means the ultimate benefit of the individual.

Melbourne, October 10.

ERICA ARBOREA FOR SHELTER AND BEE FOOD.

THIS is a most useful plant for the apiary. Grown as a hedge it affords good shelter for hives, and belonging to the heath family is sufficient to recommend it as a bee plant.

We have made arrangements by which we can supply large plants, well balled, at 6s. per doz. or 35s. per 100. Smaller plants 25s. per 100, with 1s. 6d. added for packing case.

If planted four feet apart a close and ornamental hedge will be obtained which will bear trimming to any extent.

BEE GOSSIP.

By O. POOLE.

THE HONEY SEASON IN THE NORTHERN HEMISPHERE.—From Great Britain, America, and parts of the European continent, come sad complaints of the poor, or rather disastrous honey season of 1888. The *British Bee Journal* for September 6th last commences with an editorial on the subject in the following strain:—

“It may be safely asserted that there is scarcely a beekeeper to be found who can recall such a disastrous honey season as the one now rapidly drawing to a close. Incessant rain for weeks, accompanied by an abnormally low temperature at the very period when a genial high temperature, with a correspondingly good honey flow, should, according to our usual experience, have gladdened our hearts and encouraged us on to greater efforts in future years. The last three seasons have certainly been sufficiently trying to damp the ardour of anyone except a thorough-going beekeeper. In 1886 it was necessary to feed regularly until the 21st of June, when a good honey flow was obtained from limes. Then 1887 may be chronicled as the ‘dry year,’ followed as we know by wet 1888.”

With regard to the season in the United States, the *San Francisco Chronicle* has the following:—

“Reports from all over the States are to the effect that the honey crop is so short that it is no exaggeration to say that it is a total failure. There is hardly an apiary in the hitherto most prominent beekeeping counties of the state which has this year produced surplus honey enough to pay interest on the capital invested therein. The same reports come from the East, and never since the care of bees attained the proportions of a regular industry has the honey yield of the United States been so limited as in the season now closing.”

* * * *

THE KOERB COMB FOUNDATION.—With regard to the new foundation that, according to the inventor and others, was going to do such wonders, Mr Hj. Stallhammar, of Sweden, writes as follows to the *Canadian Bee Journal*:—

“As regards the Koerb comb foundation (one sided, with cells of double depth), this summer it has proven itself a failure, the queen filling the cells with eggs before the bees had drawn the cells out long enough; and, furthermore, when fastened on one side of one edge of the frame, the bees are inclined to build a new comb on the other edge of the same frame.”

* * * *

ARTIFICIAL COMB.—This time we have a *comb*, not a new foundation. Mr Weed, of Detroit, Michigan, it appears, has perfected machinery for turning out comb, the walls and septum of which are as thin as natural comb ($\frac{1}{250}$ of an inch thick). Mr Weed has, at the request of the editor of the *Review*, given some particulars regarding its manufacture. He says there is no limit to the height to which the cells can be made, and that “the idea is not to furnish the bees with foundation to draw out, but with comb, to add to if necessary, but which will require no further manipulation.” According to Mr Weed there are two machines used (not described), one to make the cells and the other to put in the septum. The wax is not previously melted, but used in blocks of six inches thick, the machine delivering “a continuous stream of comb at the rate of about one foot per minute.” The machines and comb will be patented in America and other countries.

It has been very favourably reported upon, and I shall watch for further word of this marvellous invention and report.

* * * *

SULPHURIC ACID FOR FOUL BROOD.—In the *American Bee Journal* for August 29th, Mr Gerd Wendelker, a German, recommends the use of sulphuric acid as a cure for foul brood, stating that so far back as 40 years ago he used it with success in Germany. He says: “When fed with honey or syrup to foul-broody bees, it will kill the foul-brood germs, but it has to be diluted to such an extent so as not to kill the bees or brood—one part in 700 or 800 parts of water will do.” His manner of mixing and feeding is as follows:—The acid must be handled with great caution. Great heat is given out when it is mixed with water, and therefore the mixing should be very gradual. The diluted acid should be kept in glass or stone vessels. In 1887 he mixed one ounce of acid in one quart of water; of this solution he put $2\frac{1}{2}$ teaspoonfuls in each half-pint of syrup, and fed this mixture to 10 or 12 colonies, and found it did no injury to the bees or brood. He calculates that colonies treated in this way can be cured in about two weeks. He recommends the solution for disinfecting the hives, which he says should be done.

* * * *

THE TAR REMEDY.—A correspondent referring to a remedy given in a late number of this *Journal* in “Bee Gossip” asks how much tar should be used. In reply, the quantity is not stated, but I conclude that it is meant that the flannel or felt should be saturated with it.

* * * *

A NEW METHOD FOR BEARING QUEENS.—Mr Alley, of queen-breeding notoriety, promises shortly to astonish the bee-keeping world with a method of making bees rear queens from eggs given to them for the purpose without first removing their queen or unsealed larvæ, or in other words to take a colony in its normal condition and start the bees building queen cells over special eggs and over no others. When these cells are ready to remove they are taken away, other special eggs are given them, and the process is repeated. He has tested a number of colonies with success and says:—“He has now (August 29th) one colony at work on the fourth set of cells, and the bees seem to take as much interest, and work on them with the same vigour as they did on the first lot of eggs given them.” He is not quite ready to make the method known, but will probably do so at the proper time. If not overstated, such a system will be a great boon to the beekeeping world.

* * * *

HUMBLE BEES AND RED CLOVER.—Mr. Douglas, of Motiti Island, a few days ago kindly brought me up a sample of red clover seed which he has been enabled to harvest since the introduction of the humble bees. The seed was perfectly sound and clean in the grain, and equal to any imported sample I have ever seen. Surely farmers

in this neighbourhood will not delay much longer the introduction of these useful insects.

* * * * *
 APPRECIATION OF THE JOURNAL.—I am pleased to see, Mr. Editor, by the September number of the *Journal* of the National Agricultural and Industrial Association of Queensland, that our *Journal* is duly appreciated by our bee brethren in Australia. The writer of a very complimentary notice, and who evidently holds the *Australasian Bee Journal* and its contributors in great estimation, says:—

“Eight members of the Queensland Beekeepers' Association became new subscribers to Mr. Hopkins's *Australasian Bee Journal* at the last annual meeting; assuredly they will not regret it. Mr. Hopkins is an intensely practical man. He makes the honey business go in Auckland. The *Journal* is so well managed, and has such capital contributions, that it must take a front rank among any publication on beekeeping. It is not too much to say that many of its contributors' names will ere long be as well-known as Doolittle, Heddon, Root, W. Z. Hutchison, and others. The southern beekeepers may be proud of so enterprising a periodical, and it is to be hoped we will, every man and woman of us, do all we can to make it a financial success.”

[We never had the slightest bit of faith in the success of the Koerb foundation, and expressed as much to several friends.—Ed.]

RESULTS OF EXPERIMENTS WITH FOUL-BROOD.

BY J. A. MORELAND.

FOR the first time this season I have gone through my hives, and have given them a general overhaul and a cleaning, and I am glad to say that I feel better to-night regarding the bees than I did this morning. I started on what I thought the bad ones first, and no doubt they were bad, foul-brood still raging in five out of seven hives. One I have condemned, the other four I cut the foul-brood out and burned, changed my clothes, and looked at what I thought the good ones. These are the ones that raise our spirits when we look at them. These good ones are the ones I experimented on last December (see February *Journal*), but I suppose I must place them in their order.

No. 1. Hived after being fourteen days from their combs on wired foundation. *Perfectly clean*, and full of honey. Queen jammed for room for laying. Would fancy, looking at this hive, we were in the midst of a large flow of honey, frame after frame of sealed honey, with sealed brood, and where the brood has emerged filled with honey. More surprising this for we have very cold frosty nights, yet I do not like to extract the honey or put on top story, and I do not think it warm enough to build out foundation. Give me some advice, friend Hopkins.

No. 2. Hived seven days from combs on the starters of old combs with three new combs. This is diseased, but not badly. The colony that dwindled have come through the winter in their nucleus hive and are strong for a nucleus, but are diseased slightly.

No. 3. The pickling business I consider a success as there is no foul-brood in this hive, but there are some dead bees in some of the bottom cells which, when drawn from the cells, appear mildewed. I have saved some of these, and if I can I would like them examined. There would be about one hundred in all. In this hive there is at least 60lbs honey. This came through the winter and is at present a two-storied hive. These ten combs were used with ten others selected from a number taken from other hives when I tackled the foul-brood last December.

I noticed one of your subscribers has stated he does not think this washing the combs worth the trouble. I would like to ask what value might be placed upon a nicely built out comb, which, multiplied by the number of combs to be destroyed, will give some idea of the gain to be derived by the use of a few pounds of salt, a few gallons of water, and labour to the amount of two hours for twelve combs with percentage for syringe. If I stated what I thought the value I might surprise him.

I would advise your subscribers, instead of burning their combs, to give this salting business a good trial, for I consider the saving of combs one of the great secrets of profitable beekeeping.

Re Corrosive Sublimate, a Mercurial Poison. A gentleman told me to-day that he does not think it ought to be used, as the mineral does not evaporate, but if once placed in a hive remains there to be taken up, either by the bees or the honey; if by the honey and you sell it, you are supplying your customers with a medicine they might not appreciate, although the doses might be small.

Blenheim, September 7.

Later (October 1st).—My bees are gathering large quantities of honey just now, and I have had to put on top boxes. The combs that I put in brine in December last are still free from disease, though I have four infected hives close to them. I may also add that the bees I removed from their combs for fourteen days are clean and had queen cells nearly capped over last Saturday, which I removed. It is a difficult matter to get clear of the disease here as the whole district is rotten with it.

[With regard to No. 1 hive we should certainly have no hesitation in extracting the honey in the outside combs while honey is coming in so fast, and when empty they should be put one on each side of the centre comb. This would provide more room for brood. Foundation would be built out if put in the centre of the brood chamber and the hive made snug. You might if you wished utilize a frame or two of emerging brood to strengthen some of your weaker colonies, and put foundation or empty combs in their places. Your communication is valuable, and we shall be glad to have further reports from you on any experiments you may undertake. Send the bees and we will have them examined. *Re Corrosive Sublimate*, so little is required to be used—1 part in 15,000 or 20,000 parts of water, and then only a very small portion of the solution—that it could not possibly make any difference to honey stored in the combs that had been sprayed.—Ed.]

QUEENSLAND.

THE HONEY MARKET.

By C. C. CUSACK.

THE committee of the New Zealand Beekeepers' Association have invited the members to communicate their views and suggestions on "the whole matter of marketing honey." On the satisfactory settlement of this question depends in a very great measure the life of the beekeeping industry, not in New Zealand only, but in the whole of the Australasian colonies; and as the *Journal* is published in the interest of us all, it is to be hoped that beekeepers in all the colonies will give a helping hand to solve the question by communicating their views. There is a deal of truth in the old proverb, "in a multitude of councillors there is wisdom," and let us hope that our friends will realise the importance of the subject, and not allow it to drop until we have arrived at some satisfactory understanding as to the best course to pursue in the future.

In the September number of the *Journal*, Mr T. J. Mulvany has an opening article, and I am anxious to learn his views on the matter. With regard to my own opinion on the subject, I hold that honey will become a staple article of food in the sense that jam, butter, poultry, and eggs are, but it will take time and a judicious management of the honey market to bring it about. We must use all possible means to educate the people as to the value of honey as an article of food, at the same time taking care to put the best article we can on the market in proper form. Quality and price are two of the chief points to consider. With regard to the first, I believe that our industry has suffered terribly in Queensland, New South Wales, and some of the other colonies through the bad quality of much of the honey placed on the markets. It is not adulterated so far as I know, but is simply spoiled by straining and squeezing combs from box hives and trees—the readers of the *Journal* will know what that means—and is sent into market in all sorts of dirty vessels, such as kerosene tins, oil drums, etc., and sometimes in pickle bottles, with a plug cut out of a corn cob or made of brown paper. This kind of honey, which has cost the producer comparatively nothing, is sold at a low price, and thus the business of the progressive beekeeper—the man who lays himself out to produce a first-class article—is seriously injured. The public do not as yet know the difference between a first-class and an inferior honey. There is, however, to my mind something more than this to account for the general public "going for" cheap things without regard to quality. In the case of jams people seem to prefer the "cheap and nasty" rather than pay a trifle more for a good article. Probably one reason for low-priced honey, jams, and syrups finding a ready sale is that they are bought for children's consumption. I recently bought a bottle of honey at a grocer's shop. It was rather dark, but otherwise looked all right. It was labelled "Fine Garden Honey," but there was no name or address attached. It had a most unpleasant flavour of pollen, in fact it was quite disagreeable. It was given to some children along with some of my own honey, which was really first-class, but the children could not detect any difference between them—which was not at all flattering to my production.

A great deal might be done to prevent the sale of adulterated honey by following the example of the Dadants, in America. They have built up a large business by dealing in candied or granulated honey only. When the public come to understand that granulation is a pretty certain sign of pure honey, they will look upon the liquid article with suspicion, and this will be a severe blow to those who concoct the mixture of "glucose with a little honey in it." Honey, if not already so, should be brought under the "Adulteration of Food Act."

The prices of most articles are ruled by supply and demand, the cost of production being taken as a basis. A great deal of honey is produced at practically no cost. I am referring to amateur beekeepers, farmers, and all those who keep bees merely as an adjunct to their regular business. It is a matter of no great concern to them whether the price of honey goes up or down. Their

outlay is very small; their labour counts for nothing, being only odd spare hours. Beekeeping being a pleasant out-door occupation, yet requiring sufficient use of the mental faculties to make the work interesting, renders it particularly suitable to many, and they are satisfied with a less pecuniary return. The above-mentioned cause will tend to lower the apiarist's returns compared with the returns of other occupations requiring the same amount of bodily and mental exertion. According as the market price of produce rises and falls, so we have a greater or less number of producers.

Indooroopilly, Queensland.

(To be continued.)

Correspondence.

[These columns are open for the discussion of all matters connected with Apiculture, but the Editor does not hold himself responsible for the opinions expressed by his correspondents, who will please give their name and address, not necessarily for publication. When referring to any previous communication, please quote month and page.]

TO OUR CORRESPONDENTS.

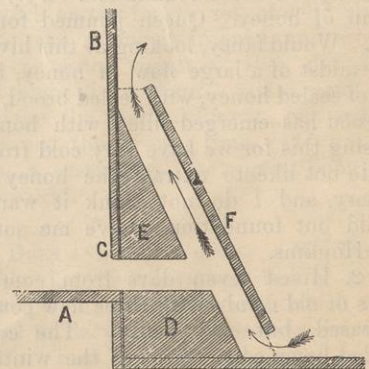
OWING to clearing off matter that was crowded out last month, and the consequent pressure on our space, we have been obliged to condense much of the correspondence received for this month, and to hold over the article on 'Queen Rearing' which we intended giving in this issue.

ENTRANCE SHELTER.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—My bees suffered severely from the cold wind this spring, and colonies which had come through the winter in good condition lost more than half their number during the month of August. Breeding had been kept up late into the winter, so that the ordinary cause of spring dwindling was here wanting, and I could only blame the gusty weather we have been having for the damage done in the apiary. This set me thinking about windproof hives again, and the result is, I fancy I have hit upon a device which will make any well-made hive absolutely perfect in this respect. It is simplicity itself, and this makes me think that it must have been thought of and tried long ago, but that something, which has escaped my notice, has prevented it being brought into general use. If my fears should turn out true, please consign this little drawing to the waste paper basket, while on the other hand, if I have tumbled on something new, pray let your readers have the chance of trying the contrivance for themselves. I need hardly remark that the present V entrance of the Langstroth hive would have to be done away with, and sliding shutters substituted. Fig. 1 is a section view of the front part of a

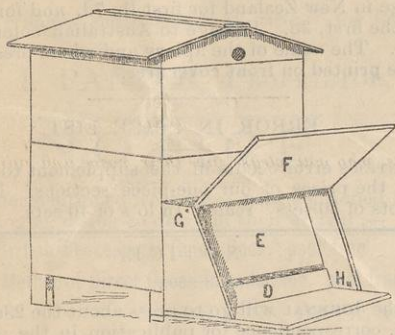
FIG. 1.



hive and entrance, A being the back board, and BC the front wall of the hive, the entrance being at C. D is a

block of wood, the outer face being bevelled off, and this block is nailed on with the top flush with the entrance. A triangular piece marked E is fastened on above the entrance. These two pieces extend across the whole width of the front, and a little board is nailed on at each end. Fig. 2 shows the shape and position. Two nails are driven through the upper front corners of these boards, and into the ends of the flap board F, and so form hinges for the board F; a stop at H prevents this board from falling down on the block D, and so shutting up the entrance altogether. The flap board has to be hinged, otherwise no smoke can be blown in at the entrance, as I found out with the first model I made.

FIG. 2.



N.B.—The flap board is raised to show the stop.

The space between the flap board and blocks D and E should not be more than three-eighths of an inch, which is the height of the entrance. Now, it will be easily seen how this arrangement works. The wind rushing in at the door meets the bevelled face of D, and is turned up the flue or passage formed by the flap-board and block E and out at the top, and I find that the stronger the wind the better it acts. Trusting that I have explained sufficiently, and that much more experienced beekeepers than myself will give it a trial and report, I remain, yours truly,
C. BARHAM MORRIS.

Fernbrook Apiary, N.E. Harbour,
Otago Peninsula, 3rd October.

[The device is, no doubt, an excellent one, and so far as we are aware quite original, but we think there would be no difficulty in making it fit the Langstroth hive without altering either the bottom board or the entrance as we now have them. It should also, in our opinion, be apart from the hive, so that it could be removed at pleasure.—Ed.]

BEEKEEPING IN WESTLAND.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—As no one has yet sent you any information on the progress of beekeeping in this part of the colony, I have undertaken the task, as it may be of interest to you to learn how we are getting along here.

Our district as a whole is not one of the best for bees, neither is it one of the worst, perhaps. The dense humid forests of Westland, one might suppose, would offer little encouragement to the honey-bee, but notwithstanding the high average rainfall and consequent want of sunshine, it seems to find conditions favourable to its habits, for colonies of wild bees are spreading far and wide over the 'forests primeval.' Beekeeping has begun to attract the attention of many people in this goldmining country, but with a few exceptions they have graduated no further than the brimstone pit and flannel-bag extractor. It is useless at present to try to enlighten these people—they know too much, or fancy they do, and the only chance of their progressing is when they become convinced of the fact that they are losing money by their mismanagement. There is hope for the rising generation of beekeepers, as they will have fewer pet prejudices to get rid of.

Last season was the worst ever known here for surplus honey—very few beekeepers secured any. The past winter was very mild, and the bees are now (August 27th) rearing

brood and doing well. The kawai is in flower, while peaches, pears, gooseberries, and some kinds of plums will very shortly be in full blossom. It is not the cultivated plants that yield the main honey harvest in this district, for with the exception of white clover the bees rely chiefly on the native flora. It is rather discouraging and an up-hill task to get the majority of people to adopt anything new, however beneficial to themselves it may be; but truth is sure to prevail in the end. The *Journal*, though scantily recognised now by those in whose interest it is published, may have a bright future before it, and it is worth considering that many periodicals that are deservedly valued to-day had the same hard struggle to live at first.—Yours, &c.,
CHAS. SHEARER.

Ross.

[Many thanks for your contribution. We like to know how beekeeping is progressing in every district the *Journal* circulates in. We hope to hear from you again.—Ed.]

VENTILATION OF HIVES.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR.—A word re ventilation from a practical point of view. I use a wooden crown board in three parts with about a 3in. circle of wire gauze in it; but some colonies propolise all the joints and stop up every hole, seeming not to want any upward ventilation at all. A few bees at the entrance appear to be able to regulate the ventilation easily, and no doubt have sometimes to counteract the "draw" of the heated air. I have noticed sometimes that it is difficult to get any smoke into the entrance of a hive, but quite easy to get it under the cover or through the gauze. If there is any sort of shelter, or even without it, the force of the wind is not nearly so much six inches from the ground as it is even only a foot higher on account of the greater friction near the ground.—Yours, &c.,
W. F.

BEEKEEPING IN NEW SOUTH WALES.

TO THE EDITOR OF THE AUSTRALASIAN BEE JOURNAL.

SIR,—Many thanks for inserting my former letter. I am glad to say that since then we have had a nice fall of rain, which will prove of great assistance to the bees. There are plenty of flowers about now, and consequently all strong and healthy hives are very busy. I predicted in my letter that I would get some young swarms about the beginning of October. So far, I have not, but the bees are very busy, and as the drones are flying about in the middle of the day, I do not suppose it will be long. The moth has proved destructive to some swarms in the district, but this is principally the owners' own faults, as in their greed they rob the hives to the utmost, and leave the bees nothing to subsist on during the winter. We have no Italian bees in the district.—Yours, &c.,
W. SHAW.

Mudgee, N.S.W., October 6.

P.S.—I am forwarding you the annual report of the Hunter River Beekeepers' Association. — W.S.

[Many thanks for the report; glad to see your Beekeepers' Association so active and taking such interest in the welfare of its members. We should be glad if the secretary would send periodical reports of the Association's doings.—Ed.]

Report.

FROM OX PARK APIARY.

KNOWING you are desirous of having reports from your subscribers, and believing that some information as to what has been accomplished at my own apiary may be of interest to your readers, I send you a brief report for the two last seasons commencing October, 1886, and ending August, 1888.

I commenced the season of 1886 with 90 colonies, but did not begin to extract till the 23rd of December, and the yield for the season totalled 10,000lbs. of extracted honey. Last season we began with 100 colonies, and took 12,000lbs. It commenced unusually late, as we did

not begin to extract till the 9th of January. However, we soon made up for it, for on the 19th of the same month—that is, in ten days, we had extracted 2,300lbs, and considering that this was taken from colonies which had been hived on foundation comb a short time previous, it was very good. From the 19th of January to the end of the season we extracted about every five days. I kept an account of the yield from a few of our best colonies the past season, which was as follows:—

No. 1, 420lbs.; No. 2, 400lbs.; No. 3, 338lbs.; No. 4, 325lbs.; and No. 5, 300lbs. The average per colony for the five best was a little over 356lbs., and the total average for the whole was 120lbs. The honey was of very good quality, and granulated in five or six days after it was taken from the combs. It is worth mentioning that we have had no other bees but Italians during the two seasons.

G. BLACKWELL, Great Barrier.

[You have done remarkably well, and we thank you for the report, but it would be more valuable and interesting if you would follow it up with some details as to the particular flora from which the honey was gathered, time in blossom, the date of your last extracting, and your opinion of Italian bees as compared with blacks. If you will kindly furnish us with this information we shall be obliged.—Ed.]

Queries and Replies.

QUERY.—*Infectious combs and hives.*—1. How long will combs diseased with foul brood, and hives in which bees have died with the disease remain infectious, supposing a neighbour neglects to destroy or disinfect them? 2. *Chloride of mercury.* Will the chloride of mercury kill the brood if sprayed on it, or make the honey and pollen poisonous to it?—W.F.

REPLY.—1. We cannot say with certainty how long diseased combs would remain infectious, but from what is known of the life history of the germs of foul brood, we believe the combs would be infectious as long as they lasted. A little explanation will make our view of the matter clear. In the early stages of diseased brood the bacilli exist in their perfect state, but when the juices of the former have been consumed and there is nothing left for the latter to feed upon, that is, when the brood has reached the gluey coffee-coloured stage, the bacilli instead of dying out develop into spores or seeds, which are very tenacious of life. In that condition they remain until by accident or chance they are transported to more congenial surroundings, when they again take the form of bacilli and produce disease. Intense frost is known to have no effect upon them, and it is known also that nothing short of a boiling heat kept up for some time will destroy the spores. Under these circumstances we are justified in believing that spores would remain in the diseased combs, and thus the latter would continue infectious until they were either destroyed or disinfected. The same argument applies to the hives.

2. We should not advise spraying the brood with chloride of mercury solution: at all events, were we intending to try it, we should only use it on very little at first and watch for the effect. The proportion of chloride of mercury recommended for use is so small—one part in 20,000 of water—that one would scarcely think it could harm the brood. We should have no hesitation in spraying the honey or pollen. Several have reported favourably of the remedy.

QUERY.—*Disinfecting Frames.*—1. What is the best way to disinfect super frames which may have come off a diseased hive? 2. One of your correspondents stated in January number, 1888, p. 107, that McLain's remedy was too strong as given in the November number, 1887. Is this correct, and how much, if any, should it be reduced for spraying?—W.F.

REPLY.—1. See schedule attached to Foul-Brood Act, p. 23, in August number, Nos. 1 and 4 solutions. 2. Will some of our readers who have tried McLain's remedy kindly supply the information required?

HONEY PAMPHLETS.

As inquiries are now coming in for honey pamphlets, we have pleasure in stating that we have arranged to get out another edition of several thousands as soon as orders for the number of 2000 are received. As they are sold at *cost price* we are obliged to guarantee the printer the sale of the edition, hence the necessity of getting some orders in advance.

The price for parcels of 500 or more will be the same as last season, viz., 5s 6d per 100; for any less number 7s 6d per 100. Advertisement on the back cover one charge of 2s 6d. Twenty four pamphlets weigh 1 lb.; postage in New Zealand for first lb. 7d, and for every lb. after the first, 3d. Postage to Australian colonies, 1s 4d per lb. The name of the apiary and whom presented by, will be printed on front cover free.

ERROR IN PRICE LIST.

A PRINTER'S ERROR occurs in the supplement to our price list in the prices of our one-piece sections. Instead of "In lots of 50 sets" read "In lots of 40 sets."

NOTICE.

As the JOURNAL will go to press about the 23rd of each month, correspondence for publication in the next issue should reach the Editor not later than the 15th.

CORRESPONDENTS will oblige by writing on one side of the sheet only anything sent for publication, and apart from business communications.

P. O. ORDERS for subscriptions, advertisements, etc., to be made payable to Hopkins, Hayr & Co., and addressed to P. O. Box 296, Auckland, New Zealand.

POSTAL NOTES for sums under £1 are the handiest and cheapest.

ADVERTISEMENTS for the next issue should reach the Publishers by the 20th of the month.

“N.Z. & A. BEE JOURNAL.”

A few Copies of Vol. I. of the above Journal, bound in cloth, free by post, 4s.; original price, 8s.—I. HOPKINS, P.O. Box 96, Auckland.

THE

AUSTRALASIAN BEE MANUAL

COMPLETE GUIDE TO MODERN BEE CULTURE

IN THE SOUTHERN HEMISPHERE.

BY SAAC HOPKINS, AUCKLAND, N.Z.,

With which is incorporated "The New Zealand Bee Manual."

THIRD EDITION. FOURTH THOUSAND.

Crown 8vo. 350 pages 143 illustrations. Acknowledged to be the most complete practical work on Apiculture yet published.

Price, handsomely bound in cloth, 6s.; postage 9d.; foreign postage, 1s. 6d.

Published by the Author.

Copyrighted in all the Colonies.

To be obtained at all Booksellers.

Wholesale Agents—Bagnall Bros Turua, Thames; J. H. Teh, Elizabeth Street Melbourne; G. Robertson & Co. Melbourne and Adelaide; J. L. Hood & Co., Hobart Tasmania. Hopkins, Hayr & Co., Publishers, Auckland.

TELEPHONE No. 370.]

[TELEPHONE No. 370.

WAVERLEY HOTEL

QUEEN STREET (ADJOINING RAILWAY STATION)
AUCKLAND, NEW ZEALAND.

The above Hotel is one of the largest in the City of Auckland, and for the accommodation of families and travellers is unsurpassed.

HOT, COLD, AND SHOWER BATHS.

Tram Terminus and Busses to all parts of the City and Suburbs.

G. I. PANTER, PROPRIETOR.

NOTICE.

The undermentioned works are not mentioned in our new Catalogue, owing to delay in their arrival:—

Cowan's 'British Beekeepers' Guide Book,' post free 2s 4d

Simmins' 'Method of Direct Queen Introduction,' post free 1s 2d

HOPKINS, HAYR, & CO.

BEEES AND HIVES FOR SALE.

A RARE CHANCE FOR BEGINNERS.

Finding my business prevents me giving the neces ary attention to apiary matters is my sole reason for giving up beekeeping. NO REASONABLE OFFER REFUSED.

5 Two-story Langstroth hives with narrow frames, nearly all the combs built out, and most of them w. red.

2 Two-story ditto fitted with sections, etc., complete.

2 One-and-a-half story ditto with sections, etc., complete.

4 COTTAGE HIVES COMPLETE.

All the above hives, which are in first rate order and nearly new, contain strong and healthy colonies of black bees. They will be securely packed and landed in Auckland.

Communications to "J.W.R." care Hopkins, Hayr and Co. will receive prompt attention.

EXTRACTORS FOR SALE, CHEAP

Two 2-Comb Honey Extractors, very little used, as good as new. Price 32s 6d each.

HOPKINS, HAYR & CO.

TO THE MEMBERS OF THE
NEW ZEALAND BEEKEEPERS' ASSOCIATION
AND BEEKEEPERS GENERALLY.

IT has been decided by the Executive Committee of the New Zealand Beekeepers' Association to hold a Beekeepers' Convention at Auckland in March next, provided a sufficient number of beekeepers will promise to attend to make the meeting a success. The Committee request all who will attend to send in their names to the Secretary of the Association as early as possible.

I. HOPKINS,

Hon. Sec. and Treas. N.Z.B.K.A.

SPARE LOT OF 2LB. SECTIONS FOR SALE, CHEAP.

Twenty-seven sets (750) 5½ x 6½ 2lb. Dove-tailed Sections, known as the American Prize Sections, in one lot, at 1s per set. Half above quantity, 1s 2d per set. Usual price, 2s. Packing free.

HOPKINS, HAYR & CO.

ODLUM & SMITH

Coppersmiths, Gasfitters

HOUSE and SHIP PLUMBERS.

TIN, ZINC, and IRON-PLATE WORKERS.

SPECIALTY

Having imported machinery for making all kinds of HONEY and JAM TINS we are prepared to supply these articles at the LOWEST PRICE in any quantity

Took FIRST PRIZE at the Exhibition for Honey Tins

NEAR THE DOCK

LOWER ALBERT STREET.

AUCKLAND.

F O R S A L E.

Owing to my leaving for England at an early date I wish to dispose of the following goods:—

140 Colonies of Bees, mostly hybrids, in 2-story Langstroth Hives with Combs complete.

7 Pure Italian Colonies do.

1 "Given" Foundation Press, very little used, £9.

6 Queen and Drone Excluders, Alley's, 2s 6d each.

80 Drone Excluders, 3d each.

All particulars with regard to price and delivery of bees can be obtained from Mr J. Main, Hautapu, Waikato.

The hives will be sold in lots, not less than 1 package of four at 6s per hive; for 3 or more packages, 5s 6d per hive.

All goods packed and delivered in Auckland.

L. PERRETT,

Care of Hopkins, Hayr & Co.

THE

SCOTT PRINTING COMPANY

HIGH STREET and VULCAN LANE,
AUCKLAND.

GENERAL JOBBING PRINTERS

BILLHEADS, MEMOS, CIRCULARS,
PRICE LISTS, CARDS, Etc. Etc.

ESTIMATES GIVEN.

H. H. HAYR & Co., PROPRIETORS

FIRST EIGHT HOURS' ROLLER MILLS

J. C. FIRTH, PROPRIETOR.

By a combination of mechanical and scientific appliances, Mr. J. C. FIRTH has produced at his Eight Hours' Roller Mills a Pleasant and Wholesome Breakfast Food as Porridge,

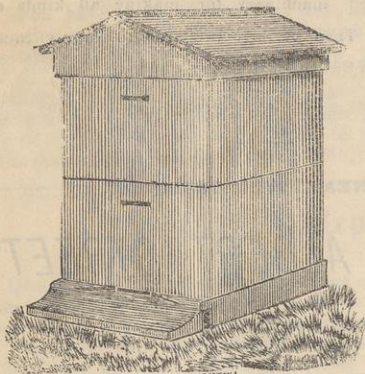
(PATENTED) **"GERMINA."** (PATENTED)

Easy of Digestion, and remarkable for its Bone and Flesh-Producing Qualities. Free from the heating and flatulent properties incidental to Oatmeal.

For PUDDINGS it is unsurpassed, if even equalled by RICE, SAGO, or CORNFLOUR.

This admirable Food for Young and Old is now on the market.

IN 10lb BAGS, OF ALL DEALERS.



J. G. BRICKELL,
BATH STREET, DUNEDIN.

MANUFACTURER OF

IMPROVED LANGSTROTH HIVE
THE HEDDON REVERSIBLE HIVE
SLATED HONEY BOARDS

All in one-piece sections, with two or four bee ways.

COMB FOUNDATION, EXTRACTORS, SMOKERS,
And everything required in an Apiary.

WANTED, Clean Beeswax. Will give 10d. per lb. cash, or 1s per lb. in trade.

Price List Posted Free to all Applicants.

G. CAMPBELL,

TAILOR,

225 QUEEN STREET,

AUCKLAND.

EGGS FOR HATCHING

From my WYANDOTTES.

Including Imported and First Prize Birds (2 strains), Auckland Poultry Show, 1887. £1 for 13 eggs. F. STEPHENS, 136 Queen Street, Auckland.

BONEDUST! **B**ONEDUST!

J.C.E.

J.C.E.

The undersigned has for sale—50 tons of Ellis's well-known J.C.E. brand of Newcastle Bonedust, in lots to suit purchasers.

Iron Bark Timber, Spokes, Shafts, etc., in any quantities.

M. V. HURLEY, 7, Queen-street.

F. STEPHENS

Boot and Shoe Manufacturer

136 QUEEN STREET

AUCKLAND, NEW ZEALAND.

KIDD & WILDMAN

Booksellers & Fancy Stationers

ENGLISH, AMERICAN, and COLONIAL
PERIODICALS SUPPLIED.

COUNTRY ORDERS PROMPTLY ATTENDED TO.

VICTORIA ARCADE. AUCKLAND