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✠ THE AUSTRALIAN ✠ Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

EDITED AND PUBLISHED BY E. TIPPER.

VOL. 8. No 12. MARCH 28, 1900. PER COPY, 6D.
Per Annum 5s, booked 6s 6d ; in Australasia, outside N.S.W., add 6d. postage

The "Australian Bee Bulletin"

— WAS ESTABLISHED IN 1892. —

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The Australian Bee Bulletin

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A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—MARCH 28, 1900.

CYNIC.

The query comes in, what can be done to put the industry on a sound footing, and to get Australian honey a name in the old country as well as a price such as New Zealand has now got?

The present system adopted by the Government of New South Wales, as well as interested people elsewhere, will never do it. New men, without knowledge, will still start and produce inferior honey, not being able to get otherwise in the districts in which they live, so helping to keep the price down, as well as not improving the general quality.

What is the remedy? The one I suggest is, simply: *The cessation of all Government literature on beekeeping, Leave the industry to take care of itself.*

The man in bad districts will either give up or shift to where better honey is to be procured. The practical man, with his market relieved, and a possible higher price, getting a little more profit will be encouraged to start out apiaries. He will not do this where inferior honey is produced. The general quality of Australian honey will be gradually improved. Foreign buyers will gradually learn to seek our honey. The price will rise. More honey of a better quality will be produced. Supply dealers will get larger orders from the prosperous practical beekeeper than from the now uncertain amateur, and the general prosperity of the colonies be added to in a far greater measure by honey production than is likely to be under the present system.

Will other beekeepers have a say on this?

VICTORIAN NOTES.

R. BEUHNE.

The National Scratch-my-back Beekeepers' Committee has beyond doubt succeeded in demonstrating its incapability or its unwillingness to represent us. The "up to date" editor of the new honey worm paper, of which the *Cocoon* is a "warm up," on a fresh plate, kindly promises that the city committee will think and act for the lonely back-blocks worker, who has no words or thoughts. But he will presently find that the back-blocker has both. The apiarist column of the paper is written by the genius of the city committee, according to "up to date" methods of literary piracy. When

stripped of the ideas contributed by others, but claimed by apiarist as his own, little remains but arrant nonsense, and this trash is re-printed (I am speaking of the apiary column only) and under another cover sent out under Government Frankstamp, in the official organ of a Government subsidised association. The expert apiarist invites contributions, but of course uses his discretion as to whether they are suitable or not. So far they have all been anonymous, and I must give him credit for being so considerate.

The National Beekeepers' Committee, (National means five persons) ought to get the *coup de grace* at the beekeepers' meeting, to be held in May, so far as beekeeping is concerned. Why can't they fix their affections on some other insect, or failing that, direct their philanthropic efforts to an endeavour to supply the blacks of Central Africa with woollen socks and mittens, which enterprise would not be less useful, and perhaps better appreciated.

APIARIES ON CROWN LANDS.

This is a subject in which all beekeepers (city and suburban excepted) are more or less deeply interested, for with the advance of agriculture and dairying the specialist will be forced on to the remaining crown lands, and the man who carries on beekeeping as an adjunct to other pursuits will become more and more insignificant as a honey producer. The principal reason is that there is nothing to take the place of our fast disappearing honey producing flora, as settlement advances. Those plants to which the beekeepers of America and Europe look for their best crops, such as basswood, clover, lucerne, etc., do either not thrive here, or do not secrete nectar with anything like regularity, excepting in a few of the moister locations, and even there our system of farming does not allow the bees much use of the ground flora. Clover and lucerne are fed off or cut off before they are at their best, to ensure their keeping green longer.

It is therefore to our eucalypts we have to look for our source of supply, and the proposal to ask for the right of beekeepers to make use of crown lands held under lease, which was originated by Mr Bolton, will commend itself to all practical apiarists. That, however, is more than can be said of some of the methods employed by some of the B.K. Committee to obtain that end. The manufacture and publication of wild calculations as to the honey value of timbered country will only discredit them, and injure our cause. The subject as it is is surrounded with difficulties, and these are increased by the proposal to include forest reserves. The pastoral leases will soon expire, and new ones will be issued. Before that the matter should be settled, and it would therefore perhaps be best to secure one thing for first before entering upon the controversial subject of forest, and thus jeopardising both. I have endeavoured to get some information as to what is being asked of the Government, but have received no definite answer from the committee.

When we ask permission to put apiaries on forest reserves, we get on to dangerous ground. If their permits are to allow residence at the apiary, then clearing will have to take place as a safe guard against bush fires and falling timber, and as it is stated that silk culture, scent or poultry farming, should be combined, then there will be more clearing. How, then, can the law be supposed to make a distinction between silk and scent farming beekeepers, and bee keeping silk and scent farmers, for every man is a beekeeper who hives a few colonies. If, on the other hand, residence is not asked for, then the concession will only benefit those in a large way, and debar the man who goes in for concentrating 100 to 200 colonies under his constant care. I bring these points forward so that beekeepers can formulate their ideas and bring them forward.

£1,672 worth honey imported into the United Kingdom during the month of October last.

Mr. Simmins, the editor of *Bee Chat*, has decided to discontinue it as a regular monthly publication.

Sweet clover yields honey in more portions of the United States than any other plant—so says *Gleanings*.

Mr Cogshall says if there are queen cups in the super, and they are polished out, the colony below is queenless.

Mr Doolittle says that colonies having burr combs or ladders on top of frames finish more sections than those without.

Mr. Kelly, who last year secured the phenomenal flow of 17 tons from 70 hives, has this year only taken 2½ tons.

The best bee dress we have come across for working in the apiary, is a Khaki suit we purchased at Hordern Bros., Sydney.

Very pleased to hear Mr. R. Helms is again in Sydney in connection with the Chemical Department of the Department of Agriculture.

Many farmers we have met are attributing the constant dry weather, and their consequent loss to so much country being ringbarked, interfering with the rain fall.

Dr. Miller says if you put a just-hatched queen in a hive—one that has not been held in the cell—she is always kindly received without the removal of the old queen.

An American sells honey in a waggon drawn by an auto-mobile. On top of the waggon is a gramophone that does the talking and singing while the vendor is selling his honey.

We shall be in Sydney during the Royal Agricultural Show, also at the Bee Convention held at that time; and shall be very pleased to shake hands with a good number of our bee friends.

Geo. Franklin gives an account in the *Beekeepers' Record* of a queen so small she easily passed through the excluder zinc, and yet a more prolific queen or a colony that gave better results he never had.

In Idaho, U.S., a swarm of bees is said to have settled on a bicyclist, and when the wheeler retreated settled on the saddle of his bicycle, where they were captured.

Owing to the failure of the honey crop this year, and the large importations of bee goods made last year, several thousand pounds worth of such are now stored away in Sydney for future trade.

Mr. W. L. Davey, Melbourne, writes: I beg to inform your readers that I have no connection with the *Austral Cultivist* magazine whatever. My name has appeared very profusely therein, but not by authority or permission of myself.

A Cincinnati apiary gives bees ventilation by having the front of the hive in two parts, the lower to slide up over the top. It is said to ventilate the brood chamber, without allowing heat to escape from the supers, a vital matter in connection with production of comb honey.

Honey production seems to have been extensive in ancient Ireland, a whole treatise of the Brahon law being devoted to the subject. We find mentioned amongst the list of officials of an ancient Celtic chieftain "a keeper of bees.—E. H. Meath, in *Beekeepers' Record*.

Mr. Martin, *Gleanings* correspondent in Southern California, says that he has been beekeeping there for nine years, during which four years was a total failure, two a partial success, leaving three good years out of nine. The principal source of honey is mountain sage.

Association has risen the price of milk in America from 6½ to 10 cents. Why can't it do the same with honey? Everybody takes milk. Honey is a luxury. The supply of milk is controlled by distance from local market, much more so than honey. Milk will not keep like honey.

We spent a very pleasant time recently with Mr. and Mrs. J. J. Branch, late of Port Macquarie, now of Granville. When at Port Macquarie, their nearest neighbour was a good hours' boat pulling away. They have been fairly successful beekeepers as well as poultry raisers. Mrs. Branch showed us some very nice

comb foundation she had made for their own bees. There are four little branches, very bright and interesting, all girls. When asked if they would not have liked a brother they said they did not want to be bothered with boys. Will they say so when they grow up?

The result of the incubator experiment given in our last was six chicks, six with dead birds, and six unfertile. Possibly the fowls now moulting, and the parents being weak may account for so many dead birds, they not having strength to break the shell. At same time we had 48 Orpington eggs under four sitting hens—result only 13 live ones. Incubator, 6 alive out of 18; hens, 13 alive out of 48.

Doolittle's bee cellar has four doors with three dead air spaces between them. A roof of stone, with three feet of dry earth, and a board roof over the whole. No ventilation, enough seems to come through the earth, mason work and doors to supply all the bee needs. The floor is strewn with fine sawdust every two or three weeks, which absorbs all moisture and keeps the cellar sweet and nice.

With this issue terminates the eighth volume of the "A. Bee Bulletin." With next number the index of the volume will be published together with title page, so that subscribers can have them bound, which we shall be pleased to do, including postage return for 4/6.

There has been a remarkable yield of nectar from the honey producing heather of Scotland during the past season. The editor of the *Beekeepers' Record*, speaking of the unwonted flow says. "It astonishes one so generally well informed on such matters—as editors are supposed to be—to receive, along with an excellent sample of honey, redolent of the heather bloom a query like this:—Is this stuff fit

for sale? I have never before had any honey from my bees like it." Or another: "My late-gathered honey this year is darker than usual, and has a most peculiar smell and flavour. What is it?" The editor says an admixture of heather honey with that from clover is one of the best "blends" among sweet stuffs that can be imagined.

At the Armidale Show there was a very poor display of honey and bee items. Mr. R. Roberts secured nearly all the prizes. The best queen and bees belonged to Mr. D. Mitchell. The show generally was very good, the takings at the gate being considerably more than last year. Mr. Allingham, the indefatigable Secretary, was backed by a splendid working committee. On the second evening, a large meeting of farmers was held and a branch of the Farmers' and Settlers' Association formed. The Show was opened by Earl Beauchamp.

PUBLICATIONS RECEIVED.

From the U. S. Department of Agriculture, Division of Entomology. "Preliminary Report of the Insect Enemies of Forests in the Northwest." An account of a reconnaissance trip made in the spring and early summer of 1899, by A. D. Hopkins, Ph. D., Vice-Director and Entomologist of the West Virginia Experiment Station. Mr. Hopkins travelled some 9,000 miles to enquire into the life habits of insect enemies of the American forests, which are causing great destruction among pine, larch and spruce trees. He collected some 5000 specimens connected with same.

We acknowledge receipt of "A Modern Bee Farm and its Economic Management," by S. Simmins, author of several English works on beekeeping. It is nicely printed and bound, and the reading matter is very interesting, independent of being instructive. Of course the system of beekeeping in England is somewhat different to that in Australia. Among the items, are "the estimated expenses for the first two years," starting with an apiary of not less than 100 hives.

We are told a capital of £500 is required. The beginner is recommended to serve in some established apiary for a couple of years if possible. Among other matters he recommends starters, not sheets of foundation. Queen raising, diseases, planting, the Wells hive and system of management, are all carefully and fully treated on. It is a work we should strongly recommend to be placed in every beekeeper's library. Messrs Woodford, Fawcett & Co., 112 Fleet street, E. C. London, England, are the publishers.

We acknowledge receipt of illustrated catalogue of the Davies Franklyn Cycle Co., of Ballarat, Victoria. Victoria evidently has a good deal of Yankee push, and with its Protection policy is pushing various industries of this kind ahead. We should strongly recommend those in want of a bicycle to show their Australian patriotism by giving them a turn.

The S. A. *Garden & Field* for March, has a fine engraving "Our Boys" troop of the South Australian Mounted Infantry. "He's not a beggar, or by no means absent minded."

Mr. Stead's publication, "War against war in South Africa." Reading this, if we believe it all, we must come to the belief the British are a very wicked and foolish race of people, their leaders especially stupid and greedy. Mr. Stead however, is one of the same race of people.

HUSKS & CHAFF.

G. R. HARRISON.

A queer statement to find in so generally well-informed paper as the B.B. "Honey after candying, being warmed to liquefy, will not candy again." I heard that fairy tale several times when I was a beginner, but I soon found it to have the same substantial foundation that all good fairy yarns are built on. I have had experience of some honey that you could liquefy almost daily. There are three things which tend to keep honey from candying. Firstly, it must be

dense. If it contains more than a very small minimum of water, it will candy very readily. Secondly, it must not be disturbed much. These are two of the reasons that extracted honey candies more readily than that taken from trees and boxes in the pre-historic fashion, and run out through a sack or bran bag before the fire or out in the sun. That method raises the density by evaporating a large percentage of contained water, and the honey is not churned and agitated as by the extractor. Those who want honey to candy well—and many people in the United States run it into wooden or cardboard boxes which have been treated with mineral wax and make it candy, as they can market it best in that way, Doolittle being an instance—stir or churn this honey well before picking it. Thirdly, it must be kept from cold and light.

If you make it dense enough it will never candy, but the degree of density required to make a sure thing is higher than the beekeeper wants. It would almost stand alone.

Also, if you keep the temperature high enough it will not candy while the temperature is up.

But—honey of ordinary density, packed in the ordinary way, and put under the conditions of the ordinary grocers' or salesman's ordinary conditions, will generally candy.

If you want honey to candy properly, you must first choose a honey which candies with a good grain. If it is very dense you will require to alter it, when of the right density, something under 14 lbs. to the gallon; stir it well, and when it has started to granulate run it into tins or boxes and put it into the coldest place you can find, and "let nature do the rest."

The 1lb. tea tin, which is a cubical package, and holds a trifle over 4lbs. is a good package for candied tack. It is used very much on the Richmond River for liquid, and card or light timber boxes, rendered tight with a little mineral wax, run in very hot, is A1. In such pack-

ages a very good trade might be made as is suggested on page 245.

You speak on page 256 of the Cuban hive, and remark, "The bees generally build comb and store honey in the closed end, where it is better protected from outsiders." Now, the bees are as careful of their brood as of their stores, and are not more careful for the protection of one than the other.

I am surprised that I never meet with the right explanation of the fact that, in "Berlepsch," "Munday," "Long Idea," and other hives that have their frames across the entrance, that the brood is placed on the side towards the door, and honey is stored towards the back wall.

The real reason, I long ago concluded, is ventilation. Brood can only be raised where the air circulates, and in the style of hives I mentioned it is no easy matter for the bees to circulate air between the back frames; in hives with the entrance at end of frames the bees are quite ready to raise brood in any part of brood chamber, so long as the walls are thick.

It speaks volumes for the Cuban honey field that the box hive in any form can be run. I have seen very few places in Australia where bees in boxes can be got to yield with anything like certainty. In most cases, it is the *beekeeper* who produces the honey by the aid of his bees and skill; the box man does nothing, and the bees produce the crop, but the average under these conditions is very small usually.

Mr. Beuhne quotes the price of sugar in Victoria at 15s. per bag. The Sydney price is from 9s. upwards for good grades of white. I presume Mr. B. lives back a bit from the big smoke.

You may be right about honey candying again after being liquefied. We have come across such—mostly inferior honey. Our argument is that the first candying is best. We have had

Seen the latest ! What ? Those sample Labels from the *Bee Bulletin* Printing Works.

honey that, being liquefied, after a time became cloudy, not a proper candy. Therefore we advise beekeepers to tin for retail purposes themselves at the apiary before it candies at all.

A cubical tin is more expensive than a round one.

We have had nearly all honey in a long idea hive in front of the brood during a honey flow. After the flow was over the brood chamber worked towards the entrance.

SEASONABLE WORK.

Preparations for next spring should now begin. 1.—See that every hive has sufficiency of honey to last through the winter. 2.—That the bees are warm and snug. When we extract (we have not done so this year) we never take from a frame with larvae or eggs in it. Honey on such is a reserve that should never be interfered with. Besides it is not wise to revolve larvae, even if sealed, in the extractor. It is impossible but they must be injured to some extent.

Should feeding be needed, a comb of honey from a hive that can spare it; sugar and water blended, poured on an empty comb; an inverted pickle bottle, muslin tied tightly over the mouth, and sticks at side to raise it from the bottom board; a comb with boards at side to hold the syrup and thin floats. Any of these, given late in the evening to prevent robbing, are good plans.

See the bees are warm and snug. With humanity typhoid fever generates with suitable conditions. We believe foul brood also generates under suitable conditions. It is also infectious. The conditions for typhoid fever are hot weather and accumulations of filth. The conditions for foul brood are damp, cold, decaying dead bees. In Northern America bees are wintered in cellars, where the temperature averages 45 degrees with good space between bottom of frames and bottom boards for dead bees to accumulate on. Also in chaff hives out of doors—*i.e.* :—hives with space for several inches of chaff or sawdust all around.

Here in Australasia, except Tasmania and southern New Zealand, no such care

is needed. A hive with stout sides and warmth-retaining material under cover is all that is needed. Have nothing that will draw moisture into the hive under the cover. With flat covers we use a sheet of thick linoleum on top of frame. It gives a good warmth-retaining protection for the cluster underneath. With gable covers in addition to linoleum a filling up with newspapers is good. And if in the dead of winter the cluster should confine itself to the lower box, place the linoleum between the two. It might be as well now to look through your combs, pick out all faulty ones, and turn them into wax. If these conditions are well and properly attended to there need be no fear for success in the coming spring.

What to do with supers is another question with many. Our experience is they are as well left on.

Do not take weak hives into winter. Double them up, or even put three weak ones together. We get an empty hive, place between the two to be united. Pick out the poorest queen, either kill or give her to a queenless hive. Take the best queen and place her in either a Benton cage or West cell protector. Then take frame, bees and all, alternately from each hive and place them in the empty hive, dumping bees remaining in the front. Place protected queen on comb in same, and release her next day. One strong hive is equal to several weak ones in spring.

N.B.K.A.

A sub-committee meeting of the National Beekeepers' Association was held on 20th March at the committee rooms, 180 King street, Newtown, the following being present:—Mr. A. Gale, president, (in the chair): Messrs W. Abram, V.P., J. Carden, H. R. Roberts, W. T. Seabrook, J. J. Branch, and J. Trahair, hon. sec.

Messrs F. Lasseter and Co. gave a valuable trophy for a special prize, open to amateurs, to be competed for under the following conditions:—1. That an

amateur is one that does not depend sole or principally on beekeeping or manufacture of beekeepers' supplies for a livelihood. 2. That every competitor must own not more than 25 full colonies of bees. 3. That the exhibit must consist of not less than 25lbs. of extracted liquid honey, 25lbs. of candied extracted honey, 12 1lb. sections comb honey, and 5lbs. beeswax. 4. That the entry fee be 2/6, and that no award unless three bona fide exhibits. 5. Every exhibitor must be, or become a member of the National Beekeepers' Association before April 10.

The meeting passed a vote of thanks to Col. Lasseter for his generous gift.

With the intention of giving a more finished appearance to interior of building, it has been decided to ask some of the largest beekeepers to erect framed advertisements, with photos of their apiaries. The committee have room for about ten of these, and the hon. sec. would like to hear of any person wishing to have one of these spaces. Nominations for judges and stewards were sent to R. A. Society.

The Annual Conference will be held at the Technical College, commencing on Tuesday, 17th April, at 7 p.m., and the following gentlemen have been asked to read papers on various subjects of interest: Mr J. J. Branch, Sydney; Mr E. Tipper, Willow Tree; Mr Guthrie, Agricultural Department; Mr J. Dick, Sydney; Mr A. Gale, Sydney; Mr W. Pender, Maitland; Mr A. A. Roberts, Muswellbrook; Mr J. E. Taylor, Cowra; Mr H. L. Jones, Goodna, Queensland; Mr Munday, Woodville; Mr Stevenson, Board of Exports; Rev. Hughes, Kogarah; Mr H. Nancarrow, Wellington; Mr R. Patten, Wellington, and Mr J. Bloxham, Peel.

Any country beekeeper wishing to enter in small sections, and not attending the Show, should advise the hon. sec. of the N.S.W.N.B.A., and he will look after such exhibits.

H. R. B. K. A.

The usual monthly meeting of above was held in the Technological Museum, on the 15th inst.

Present.—Mr. J. W. Pender, President (in the chair); Messrs W. S. Pender, M. Scobie, Harden, R. L. Pender, G. Pender, Watt, Paine, Blishen, and Mr. Turton, hon. sec.

Apologies were received from Mr. E. Tipper, and Mr. J. F. Munday.

Minutes of previous meeting were read and confirmed, also a letter from Mr. Monkley, stating that he had sent on one of the Bee-Martins, but the secretary said it had not yet come to hand.

The next business was a paper on Bee-Eaters by M. Scobie, but that gentleman said he had not prepared it, and also stated he was at a disadvantage in not receiving one of these birds from Mr. Monkley. In its place, he read an extract from a bee-journal some years ago, on this subject, which was very interesting.

A serious matter was brought before the meeting, in the form of a local grocer buying up honey tins with the Association's registered labels on, and filling them with inferior honey and selling it. Nothing definite was done in the matter.

Convention business was left in the hands of the sub-committee.

All present testified to the pooriness of the honey crop this season, one reported that he extracted only 15lbs, others none at all.

On the motion of Mr. Scobie, seconded by Mr. Blishen, it was decided to hold next meeting a week previous, so as not to clash with the Sydney Show. This concluded the business.

PHASES OF THE MOON.

APRIL.

First Quarter, 7th, 6.55 a.m.
Full Moon, 15th, 11.2 a.m.
Last Quarter, 23rd, 12.33 a.m.
New Moon, 29th, 3.23 p.m.
Apogee, 11th, 8 p.m.
Perigee, 27th, 3 p.m.

LARVÆ FOR QUEEN REARING.

For What Age do the Bees show a Preference?

DR. MILLER IN GLEANINGS.

On page 725 of *Gleanings in Bee-Culture* for 1898 I expressed the belief that the common notion that, when a queen was suddenly removed from a colony, the bees were in such haste to rear a successor that they would select larvæ too old, was a mistaken notion. Earnest protests came from those whose opinions were entitled to respect, and some views were attributed to me that I did not hold. On page 427 of this year, I defined my position more explicitly, and on page 494 said: "Please watch what bees do when the queen is taken away, and see if they make the mistake of choosing larvæ more than three days old, for queen rearing." I made the same request publicly and privately elsewhere. I don't know that any one paid any attention to it, and I don't know that I blame such; for, so far as I know, I stood alone in opposing a view in which all the rest were agreed.

Upon one point in dispute, however, I did not stand entirely alone. I said queenless bees start queen cells when first made queenless, and continue to start queen cells for several days. Mr Hutchinson said his bees started all their cells at nearly the same time, and so nearly of an age that the young queens emerged not more than two days apart. Henry Alley said his experience agreed with mine upon this point.

Having asked others to make fresh observations, it was only fair that I should not do so myself. It might be I had not been careful enough in previous observations. So I took the matter in dispute to the bees, and took careful notes of their testimony. The important thing was to know somewhat positively the age of the eggs or larvæ used, and the time at which the queen-cells were started.

To No 84 I gave successively frames of empty comb, noting the time at which a comb was given as well as the time it was taken away. I was not as successful

as I should have liked in getting the queen to lay promptly in the combs given.

In one case no eggs were laid in the prescribed comb after 24 hours' waiting.

The probability is, that in all cases the eggs were laid in the last rather than the first part of the time in which the queen had the comb. That is, if I gave the comb on one day at noon and took it away the next day at noon, very likely most or all the eggs were laid during the latter half of the 24 hours. The crowd of other work upon me will account for the irregular hours at which the work was done. Allow me to name the different combs by the first five letters of the alphabet. They were given to and taken from No. 84 as follows:

Comb *a*, given June 28, 10 a.m.; taken June 29, 12 m.

Comb *b*, given June 29, 12 m.; taken June 30, 2 p.m.

Comb *c*, given July 1, 4 p.m.; taken July 3, 10 a.m.

Comb *d*, given July 3, 10 a.m.; taken July 4, 10 a.m.

Comb *e*, given July 4, 10 a.m.; taken July 5, 10 a.m.

Each of these combs, when it was taken from No. 84, was put in an upper story of No. 54 over an excluder. No 54 was a tolerably strong colony with a laying queen. The combs were merely put in this upper story for safe keeping, the bees taking good care of the eggs and larvæ.

July 5, at 4 p. m., I took from No. 54 its queen and all its combs of brood except the five combs for experiment.

July 6, at 10:30 a.m., I examined to see if any progress had been made. The colony had now been queenless 18 hours 30 minutes, and I found queen-cells started, but not entirely where I expected.

Comb *a* had no queen-cells, neither were any started on it later. Counting that the egg hatches three days after it is laid, the youngest larva in comb *a* must have been at this time about 3 days 22½ hours old, or 22½ hours too old for a good queen, if the scientists are right in telling us that the worker-larvæ are

weaned at three days old.

Comb *b* had two queen-cells started on it. The oldest larva in this comb must have been not more than 3 days 22½ hours old, and the youngest not less than 2 days 20½ hours old.

Comb *c* had eight queen-cells. Two of them had hoods built over them, the rest only showed the cells enlarged and an extra amount of pap. No larvæ in this comb could have been more than one day 18½ hours old. The youngest were probably not more than 24½ hours old. On the other combs I found no queen cells.

I very much regret that nothing more precise can be said about the cells on comb *b*. I cannot prove positively that the two cells started on it may not have contained larvæ 3 days 22½ hours old. To make this possible, however, the queen must have commenced laying in this comb the minute it was put in hive 84, while the probability is that she did not begin laying there for some hours afterward. Moreover, the cells were started at least some little time *before* the observation was made, so something must be deducted from their age at starting, on that score. Besides, the fact that four times as many cells were started on comb *c* as on comb *b*, the larvæ in *c* being less than 2 days old, hardly looks as if they would *prefer* the oldest larvæ in *b* while at the same time they preferred anything so much younger as the larvæ in *c*. But I must leave others to form their own judgment.

If the bees had asked my advice in the matter they probably would have done somewhat differently. I should have said to them, "So long as a larva is only three days old, it's all right for a queen; and as you're in a hurry for another queen you'd better start all your cells on comb *b*." But they didn't ask my advice.

July 7, 4 p.m. Three more queen-cells on comb *b*. These were started from larva 2 days 20½ hours old, or older. No

cells were started on comb *b* at any later time.

Comb *c* has 16 cells, two of them being emptied of their contents. No larva in this comb could have been more than three days old at the time of this observation.

No queens-cells on combs *d* and *e*.

July 8, 4 p.m. Combs *b* and *c* have another cell, making 15 on it (not counting the two that were emptied).

Comb *d* has its first cell started over a larva that was less than 2 days 6 hours old.

July 10 11:30 a.m. No additional cells on comb *c*.

Comb *d* three additional cells, these having been started over larvæ less than 4 days 1½ hours old, and they might have been not more than 30 hours old.

July 11, 8 a.m. Comb *c* has 17 cells. If there is no mistake in previous observations, the two additional cells on this comb must have been built over larvæ at least 4 days 1½ hours old. That would surely be taking too old larvæ when younger were present. There is a bare possibility that these two cells were overlooked before, and were now more easily seen when sealed. But I give it just as I find it in the notes taken more than two months ago.

Comb *d* has six cells, the last two started over larvæ less than 4 days 22 hours old, and possibly not more than 3 days 1½ hours old.

July 12, 9 a.m. Comb *d* has 8 cells, the last two started over larvæ less than 5 days 23 hours old, and possibly not more than 3 days 22 hours old.

Comb *e* has three cells, the first it has had. These cells were started over larvæ less than 4 days 23 hours old, and possibly not more than 2 days 22 hours old.

July 13, 6 a.m. No additional cells on any but comb *e*, which has now 6 cells, the last three being started over larvæ less than 5 days 20 hours old, and possibly not more than 3 days 23 hours old.

This closes the testimony of the bees, no cells being started later. In some

respects it is not exactly what I desired and intended the bees should give, but they are to blame for that and not I. I know very well that this is only a single case, and that the next case might be different, for "bees never do anything invariably;" but let us see what conclusions may be reached from the testimony given.

In the first place, it certainly is *not* proven by the testimony given that bees made queenless are in such haste to rear a queen that they at once select larvæ too old for the purpose. Moreover, I have had the matter in mind throughout the season, and in every case the cells first started were over larvæ that were very small. If any one has accepted the challenge thrown out by me to prove that bees at once selected too old larvæ, I hope he will report at once.

It is certainly very clear that in this case, at least, the bees did not start all their cells within about 48 hours' time, as Mr. Hutchinson says his do. The first cells were started *before* July 6, 10.30 a.m. The last cells were started *after* July 12, 9 a.m. From that it is easily seen that the time from the first to the last cells started was six days lacking 1½ hours. It was that much at least, and it may have been more. Henry Alley's experience agrees in this.

While the bees at first select larvæ sufficiently young for good queens, they afterwards use some that are too old, continuing to start cells when larvæ of proper age are no longer present. Editor Hutchinson says his bees build cells that he calls "fool cells," because they are so insignificant and poor, and he does not know how to account for them. If he will observe with sufficient care, I think he will find that they are nothing more nor less than cells started over too old larvæ, probably after larvæ of proper age were no longer present.

I must not evade the observation that, something more than 5½ days after the removal of the queen, the bees started cells over too old larvæ when younger larvæ were present. I might say that

sometimes bees hold eggs without hatching for more than three days (Dzierzon says two weeks), but I will not press that.

Until some one brings forward some proof to the contrary, I feel safe in saying that when bees are made queenless they are *not* in such haste to rear a new queen that they select too old larvæ, and that there is no error in selecting during the first five days of queenlessness. If the combs with the cells be taken within the first five days, and put in the upper storey of a colony having a laying queen there will be no too old larvæ in the case. If left with the queenless bees till larvæ of proper age are no longer present, they will build cells over too old larvæ—what Mr. Hutchinson calls "fool cells."

NUCLEUS METHOD OF INCREASE.

On May 3 I set four colonies apart as those from which I would make my nuclei; the other two colonies I called into service later in a different way.

On May 3 I had but time to make two nuclei; on May 6 I made three more; May 13, 7; June 13, 6; Aug. 2, another; and Aug. 15, still another—making 20 nuclei from the four, and still leaving sufficient in each of the original four to recover, gather and breed.

In making the nuclei I would have the new hives all prepared before I would open the parent colony, thus: I first nailed the body with two long nails just tight enough on the side to hold to the bottom board temporarily; plug the entrance with fresh grass as tight as possible, and nail a strip of wood across so that not a bee could get out; and place a division board and two frames with ½ sheet of foundation in the hive. The hives being thus ready, and having the enamel cloth and cover ready, I proceed.

Smoke the parent hive, and after a few minutes lift the cover, and remove the division board; look for the queen, and remove the frame with her on it, and place it in an empty hive for the time

being; then proceed to look for material for a nuclei.

I take a frame containing at least $\frac{1}{2}$ frame of honey with adhering bees, and place it in the hive I wish the nucleus to occupy; then look at other frames until I find eggs that are under three days old—in other words, eggs that are standing straight up on end. This frame and clinging bees are put into the same hive alongside of the one with honey; then draw the two empty frames with foundation up to the bees, put on a cloth and cover, and locate it where I wish the hive to remain.

These operations must be done as rapidly as can be, so as to keep all bees that are possible on the frames before the effect of the smoke has worn off.

In this way I proceed until I secure all I want at that time. In some cases, where I found sufficient honey and eggs in one frame, and had sufficient clinging bees, I used that alone, or shook a few bees from another frame.

I replaced the frame with the queen in the old hive, and gave it several frames with foundation, replaced the cover, and let it alone for about a week or ten days, when I again went through the same process.

There are three cardinal points to make this a success, I find, viz.: First, that the eggs must be under three days old; second, the bees must not be released until after nightfall of the fifth day after dividing, and then only allow an entrance of about one or two inches; and third, that the cover must not be removed, or frames disturbed, until the eighth day after dividing.

On the eighth day I draw the two side nails so I can raise the body from the bottom board, and clear out the dead bees and examine the frames to see the number of queen cells the bees have started and capped while closed up. In every case I have found at least six, and have had them in numbers varying up to 30 on a single frame. When I found quite a few, I would cut out some, and make more nuclei, and insert a couple

of cells between the frames, and these queens would hatch about the same time.

The queens I reared in this way I found to be large and prolific, and have yet to find the first one that I can say is "no good."

Every week or ten days I would go to the nucleus hives, go over them, and give them a gentle smoking to inform them I would prefer they would load up; raise the hive from the bottom board, brush off any dead bees, and watch closely for any indications of moth or refuse; replace the board, examine the frames, and as soon as I see the queen is mated and laying nicely, I close down and mark the hive.

Then I go to the other two hives that I had reserved at the beginning, and take from them all the frames that contain any quantity of sealed brood; brush all the bees off, put them in an empty hive temporarily, and put frames with foundation in their place, putting them in alternately, as far as possible. There being all the bees and queen left behind, they take a hold of the foundation immediately, and in a few days they have a perfectly full frame of comb filled with eggs.

The frames of sealed brood I give to every nucleus that I think would be better by a little encouragement, and in a few days it has a great quantity of young bees, which is very stimulating to the health of each young colony.

This process I practised several times during the season. Every time I gave a frame of sealed brood, if I thought the colony was growing well in population, I would give one or two frames of $\frac{1}{4}$ sheet of foundation, but being careful in every case to see that I did not scatter the bees over too many combs, and always keeping the combs on the east side of the hive, to warm up as early in the day as possible.

From one of the four original colonies used I made 12 nuclei the past season; and later, at three different times during the summer, I took two frames of sealed brood (without bees)—that is, six frames

in all—and in September I also took six frames of honey and gave to nuclei. On Oct. 15, when I packed this hive, it had eight frames exceedingly full of honey, bees and brood. This queen is a leather coloured one, very long, and pure in color clear to the tip, but is mated with a hybrid drone; her bees have five bands, very plainly marked, but are somewhat cross in disposition, though great gatherers and unexcelled breeders.

In every case each colony of bees gathered sufficient stores for winter, and when I packed them, the middle of October, all had a great deal of brood and bees, and all had eight frames.

Next year I shall change my method a little by rearing and using virgin queens, inserting each in a nucleus. I do not intend to limit myself in number, as I believe nobody knows until tried how great a number one can create from a single colony.—F. L. Kehn in *A. B. Journal*.

SIZE OF BROOD CHAMBERS

When I first began to keep bees the old beekeepers about me kept them in hives containing from 2000 to 2500 cubic inches, so I started out with a hive which gave nearly 2600 cubic inches in the body of the hive, or about 2150 cubic inches inside the brood frames, which were 12 in number, of the Gallup size of the Langstroth frame, the size of which was $11\frac{1}{4} \times 11\frac{1}{4}$ outside measure. I soon found, however, that, as a rule, three of the 12 frames would be filled with nice white honey early in the season, and generally nearly all of these three frames of nice white honey would remain in the hives all during the next spring, often till the honey harvest arrived, very little if any of it being consumed, unless we chanced to have a poor season. After a little thought on the subject I concluded to place three blanks or division-boards in the place of three frames, two on one end of the hive and one on the other. To this end I nailed top-bars to frames on pieces of one-inch boards, which were

cut so as to be $\frac{3}{8}$ inch short at the bottom, and $\frac{1}{8}$ at either side, and simply hung these on the rabbets the same as the frames always hung. I had previously found that my average queens would occupy only about 800 square inches of comb with brood, which left about 600 square inches of comb to be filled with honey and pollen, as my hive of about 2150 cubic inches gave me about 1400 square inches of comb, surface measure. Thus each year I was losing the use of from 20 to 30 lbs. of the choicest honey for the sake of insuring the bees with an abundance of honey should a poor season occur. This honey, when placed in sections, was worth not far from \$5.00 at that time, while, if necessary to feed to secure sufficient stores during an occasional poor year, on account of a smaller brood chamber, \$2.00 worth of sugar, properly made into a syrup, would provide them with the necessary feed to carry them through. I tried about ten colonies with the three boards in place of the three combs, the first year, thinking it best not to go contrary to the veterans, on a large scale at first, fearing that they might be right after all. However, I was more than gratified to find that I had not only obtained the 25 lbs. in the sections, but that these ten colonies averaged over 40 pounds more comb honey than those which had their usual 12 combs. I began casting about to know why this should be so, for I had no expectation that I should receive more in the boxes than what was naturally placed in the frames whose places were taken by the boards. The reason soon became obvious why this was so. As the queen kept the nine frames nearly filled with brood, when the honey harvest came, the bees had nowhere to put the honey which they gathered, except in the section boxes, so they immediately commenced work in them. With the 12 frames of comb they had more or less empty comb, which was already built, in which to store their honey; and as bees always store honey in any empty comb

available about the brood nest before they commence to build new comb, they were loath to enter the sections after a start at storing had been commenced in the empty comb below.—*Gleanings.*

CAPPINGS.

From American and other Bee Journals.

At a meeting of the council of the Victorian Silk Culture and Rural Industries Association, held Feb. 6th., Mr. Davey, of the National Beekeepers' Committee, reported that a deputation had waited on the Minister of Lands, and had been very favorably received. With reference to concessions being made to beekeepers for the right of entry with their apiaries on pastoral leases, the Minister promised to give the interests of the industry every consideration. Letters containing valuable information and suggestions were read from Mr. Beuhne, Tooborac; Mr. Bolton, Dunkeld; and Mr. Smith, Bailieston, and were handed to the committee for action. Reference was also made to the incorrect method in force at present of collecting beekeepers' statistics, and the committee is to take steps to endeavor to have this rectified.—*Leader.*

A writer in "How to Grow Flowers" says that he noticed last spring that bees worked very busily in his beds of crocus, sometimes two or three in one flower at the same time, but that all scrambled for the white flowers and the purple and white striped, while none went to the yellow ones. At another time, while he was watching, one bee went to the yellow flowers alone, while others went to the white and pale purple and the blue scilla, but did not visit the dark purple much. He advises those who have bees to plant these early-blooming bulbs in the lawn on purpose for them. They are cheap; they can be set anywhere in grass land by making a small hole and putting the bulb a few inches below the surface. They are ornamental when in blossom, and are gone before it is

time to mow the lawn, as well as furnishing bee-food. They will live and spread for many years without injuring the grass. He proposes to set them by hundreds this year for the bees.—*Australasian.*

We notice that where individual beekeepers have sent honey to English markets (probably through some trustworthy friend) it has paid them. One man exported honey and, even though it cost him the ridiculous sum of 20/- a tin, yet (in spite of that) he cleared 20/- a tin or fourpence a lb., that is it was sold or retailed at eightpence a lb. on the English market. But where large exportations have been made through the Government they have failed. Why? Because Californian or other interests (or cute agents) were on the wait and made arrangements against it, and we have heard it said that some agents bought it in at the lowest figure they could bring it to, and then resold it out as Australian honey—and made a good profit. Therefore it seems that either you must cut through this opposition of first agents or go past them to retail establishments that are known and trustworthy; those that have gone past them have succeeded. English consumers like it and want it; they know no difference between it and that from other countries.—*Austral Cultivist.*

We are sorry to read the following in the *Southland Queen*:—"In the early part of December last Ye Editor came very near losing his life, and may be a cripple for a long time yet. As I was

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driving out of a lumber yard with a heavy load of long timbers, and just as I entered one of the main thoroughfares of Beeville, Washington Street, a runaway team struck my wagon, and the force was so great that they knocked my wagon and load of about 600 feet of lumber fifteen or twenty feet. As the street leading out from the lumber yard is a cross street, and the buildings, most of which are two stories high, cut off the view, I could not see the runaway team till they were within a few feet of me, and I did not even have time to jump. The collision was so great that it knocked me about 20 feet. I went head first, catching on my hands, and the weight of my whole body, about 145 pounds, fractured both arms from the elbows to the wrists, and for two weeks I could not use my hands, not even to feed myself. My right arm has recovered so much that I can write, and the left one is better than it was, but fractured pieces of bone work out at the wrist, and it is much swollen yet, so I suppose it will be some time before it is well.

About getting cells accepted in colonies having a laying queen, I have had them accepted in upper stories, but it is very uncertain about the number they accept—generally very few; sometimes only one; so to make sure of getting enough I have them started in queenless hives. I can do this and still not have any queenless hives in the apiary. A few hours to half a day before giving the cells I remove the upper story from my cell-building colony, and place it on a bottom board, then put a cover on the brood chamber, and set it aside with entrance turned around; then the upper story is placed on the stand. Thus you see I have a colony made queenless ready to start the cells; then when the cells are well started, which will be in a few hours, the brood chamber is put back on the stand, and the upper story, having the cells, is lifted off its bottom board and placed back on the brood chamber, having, of course a queen ex-

cluder between.—W. C. Gathright, in *Gleanings*.

WET EARTH A BEE-STING CURE.—Although wet earth has long been known as a cure for bee and wasp stings, very few persons seem to be aware of its value as such. The following example (says a writer in the "British Bee Journal") may interest some of our readers:—"Four summers, ago, at a picnic in the country, one of my boys found a wasp's nest, and must need amuse himself pelt-ing it with stones, resulting in his getting very badly stung in the face. Fortunately, I remembered having heard of the wet earth cure and at once daubed his face with some mud from the road, with the happy result that in about fifteen or twenty minutes all the painful effects had ceased and very little swelling remained. I have since then used the remedy when stung whilst manipulating my bees, and find it infinitely better than spirits of ammonia or other popular remedies, and the best of it is that it is always ready at hand.

SAVAGE BEES.—It is well to remember that smoke will often prevent a battle. It will answer a good service before the bees become enraged; they will fill themselves with honey, and this will soften their tempers. But smoke does not avail after the bees become enraged, and many of them are in the air. Extreme cases of this kind will sometimes occur, and unless something is promptly done, the bees will be victors. From a densely crowded colony, I once removed the case of honey in which the queen had deposited a small amount of brood to which the bees clung with the greatest tenacity. In brushing them off they became more and more enraged, until I found that the air was full of angry bees, venting their spite on me. I was stung in many places, and as the battle grew fiercer, I was alarmed for the safety of my neighbours. I knew not what to do, but in my extremity an idea came to me and I was not slow to put it into execution. I hurriedly put about a pound of comb honey at the entrance of the hive of enraged colony, and it

acted like a charm. The pickets were called in, the army was ordered home, and in five minutes not a warrior was seen on the field of battle. Their work was now to secure the honey before intruders might steal it away. I had never heard of this method, but I have since tried it several times, and it has never failed to bring the desired results.—*The Country Gentleman*.

If you want to find out whether the so-called travel-stain is due to the dirty feet of the bees, try the following experiment: Take a board of any convenient size, not less than ten or twelve inches square, and, after thoroughly washing your hands, tack a piece of clean white paper on this board, and place it, paper side up, in front of a strong colony. Do this when plenty of honey is coming in, and the bees are working in the sections. Place this paper close to the entrance of the hive, so that the bees will use it as an alighting board, and be compelled to travel over it with their dirty little feet. If you are sure that your fingers are clean, handling the board by the edges, and will put the board out late enough in the morning, and take it up at night before any dew falls, you will find this paper, so far as the bees are concerned, as clean and white at the end of a long honey-flow as when you first placed it before the entrance. If the beekeeper wishes to have nice white sections of honey, he must, at the time of putting on sections, remove the old bottom-board and put a new one in its place. The stained appearance of cappings is due almost entirely to the admixture of foreign substances, and these are obtained to a great extent from the dirt and litter of the bottom board. Keep everything in and about the apiary neat and clean and you will have no cause to complain about stained cappings.—A. J. Wright in *Gleanings*.

In answer to a request to give my opinions in the *Canadian Bee Journal* as to the advisability of the Ontario Beekeepers' Association taking over the Bee

Journal, I may say I know nothing of the financial aspect of the question, but I think it would be very desirable to have at least one journal on continent devoted exclusively to the interest of Beekeepers. I mean those Bee-keepers now in the business, for I take no interest in the Beekeepers that may be induced to take up that occupation through the advice of Beekeepers or Bee Journals. I know of no journal published entirely in our interests. If the publishers of Bee papers are not induced to boom the profession in order to have more customers to whom they may sell supplies or from whom they may buy cheap honey, the desire for a larger field from which they may secure subscribers produces the same result, but would we be any better if the Bee Journal came under control of the O. B. K. A.? I am afraid not. I doubt whether we could agree as to what should be inserted therein. There is a danger of its falling under the control of some "goody goody" blatherskite, whose chief aim in life is to induce every man and his sisters and his cousins and his aunts to keep bees. Perhaps few of the members of the O. B. K. A. would agree with me, but here are my ideas of what a good bee paper should be.—J. D. EVANS, in *Canadian Bee Journal*.

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* VICTORIA. *

We are exceedingly sorry to hear of the death of Mr. A. M. Hind. His beekeeping interests are being looked after by his brother, Mr. D. S. Hind.

W. C., Yackandandah, Victoria:—I have now received three copies of the *Bee Bulletin* and I must say that I think a great deal of it. I have been making enquiries from beekeepers in different places, about the Mc Evoy treatment for foul brood, but could not get the desired information, when to my agreeable surprise the information appears in the last issue of the B. B. I am pleased to say that I have no foul brood now, but about four years ago I had to destroy several colonies by burning to get rid of it. I notice in the B. B. that the present season is a bad one for beekeepers in many places. I may tell you that this is the worst I have known here for eight years.

J. B., Wodonga, Vic., March 18—We, or I, have nothing to do, and a long time to do it in; the worst season I have known—no honey, and you can't work amongst them for robbing. It will be hard work to get them in good trim for winter, for there is very little honey in the bottom boxes, and to leave a big box on top would be a bit airy, and then you would have to take off the queen excluder, or risk your queen and larvae below. If I have a half box on top it is alright if full of honey, but would sooner have about 20lbs. in the bottom without any top box, snug and cosy. I have not increased my stock of bees of 150 swarms—it is nearly enough for this little place, but may start beekeeping on a larger scale if I find it pay. It is a risky game, and the worst of it is you can't get out of it if you tried, there are so few beekeepers, but many that keep

bees. I have kept some honey from last year; two tons to go away next week to Ballarat at 3½d per lb. The first large order I have had. I sold about eight tons, sending it to all parts of the colonies, from one tin upwards, so you can see I never glutted the market. I have just come back from a month's trip. I have been to Melbourne, Geelong and Ballarat, and it would do some of our brother beekeepers good to see the reserve put on some of the honey at Geelong and other places, 3½d per lb. I thought 3d. was good enough before I saw the above reserve. I never tried to sell any at any of those places where I saw a man that kept up the prices. I would like to have visited his apiary and shook hands with him. I left my address, and told them that when they had sold all of the above honey they could send to me, but not before. I never saw honey but once on a table in all my travels. If the people of the colonies would only eat honey we could not half supply them. We would not want to go begging the Government to take our honey to England and elsewhere. I think I have done some good in educating the people of my district to take a tin of honey or a case. I never sell one tin under 3d; 15s per tin, two tins 14s. When it was only 2½d per lb., in this way I sold over eight tons. I had a very strange experience with my bees this season. One very hot day about 12 o'clock nearly every swarm got the staggers, laying helpless in hundreds in front of the boxes; could not fly. They seemed alright the next day, but I think shade helped. Bees crawled away and died. I had an experience similar to that mentioned in your last month's issue re the larva dying in one day, but only in one swarm. I sprayed it with carbolic; it seemed to get alright, but had foul brood next year.

W. G., Gympie, Q., March 5th.—The bees are doing very well since Xmas. Up to that there was no honey to speak of owing to the heavy frost we had in October last.



This view represents part of Messrs. W. L. and V. R. Davey's apiary of over 100 colonies, which may be reached by tram from Spencer St. and thence by coach. The back ground of timber is composed mainly of red gum and yellow box, whilst about 100 yards to the left is the farm house of their farmer friend.

In the Wimmera district Mr. W. L. Davey was unfortunate enough to lose about 100 colonies, and at the Grampians another 50, the first instance being foul brood and the second starvation during the drought and heat waves of 1898, the result of his two years labour being a loss of over £200.

After this experience he intended giving up beekeeping, and made his way to Melbourne, managing to secure enough clerical work to keep him going: He

was soon thinking of the bees again, with 12 colonies transferred from box hives, he joined company with his brother (Mr. V. R. Davey) with eight established hives, making 20 colonies, from which they secured $1\frac{1}{2}$ tons last season, and are gradually establishing things on a larger scale, always being careful that the bees pay their way.

Their stock is composed mainly of sturdy Italians and the queens just in their prime. They have decided strongly to use only ten frame hives. Their increase has been artificially done, but they intend having no increase next season, but running a third story instead for a heavy honey crop which is promising well, as yellow box, red gum and stringy bark are budding vigorously.

Of course it is really an out apiary, the tent is only put up when they are ex-

tracting, and measures 10 ft.x10ft.x10 ft. to point at top, and is supplied with three wire gauze windows, one on the East, one on the West, with one at the top to let out smoke, bees etc. For an out apiary you cannot get anything better and what is more it can be used for every branch apiary, and thus save the trouble and expense of putting up an extracting room.

An idea of Mr. W. L. Davey's combining solar wax extractor, uncapping can and a strainer for extracted honey will be described later on as a most useful idea for out apiary work.

VICTORIAN SILK CULTURE AND RURAL INDUSTRIES ASS'N.

M. W. BURKE.

At a meeting of the Council of the Victorian Silk Culture and Rural Industries Association held on the 6th instant it was proposed by Mr. W. L. Davey, seconded by Mr. Buehne and carried that a beekeeper's conference be held, and called for 24th May next in Melbourne.

It was resolved to leave five vacancies on the Council to allow of beekeepers nominating representatives at the above conference for election thereto.

N. B. K. A. OF VICTORIA.

The National Beekeepers' Committee of Victoria waited on the Minister of Lands on the 20th inst. re a beekeepers' right to place apiaries on pastoral lease (section 21) and grazing areas (section 23 Land Act 1890). Mr Brake, M L A., introduced the deputation. Several beekeepers spoke on the value to beekeeping of these apparently waste lands, and how that many beekeepers make a good living off similar forest timbers as are contained in these areas; and that where some had failed through bad location or diseased districts yet others had gathered from twelve to thirty tons of good honey in a season, valued it about £20 to £25 per ton wholesale, and this from 200 to 300 modern frame hives worked scientifically and without apiaries upon, say, an area

of four square miles. It was pointed out how two profits could be obtained from the same area at the same time, viz., by sheep and bees, and that these areas are more suitable for the bee than the sheep, and the two could be very well combined. In a fair season some of these areas were worth 2s. 6d. an acre at a low estimate for the honey gathered from the blossoms of the forest trees. It was also pointed out that as settlement spread the natural resources of the colony were becoming depleted, and that it was necessary to the beekeeper's existence that he should have a right or licence to place apiaries upon these areas, for the beekeeper's object was not to destroy valuable timber, but to see that it was conserved. Mr. McColl thanked the deputation and said that it had his hearty sympathy and support. He had not known that the industry was so valuable to the State; it was quite a revelation to him. He thought an acre to so many sections might be set aside for the purpose, but the matter would be enquired into and the best and most practical method chosen. The department would probably confer with the National Beekeepers' Committee on the matter.—*Australian Cultivist*.

A. B., Nurrabeil:—A note to let you know I am still in existence, still living with the little wonders the bees. This season is our off one here and do not expect more than what will pay expenses, in fact, not many will get any honey at all. There are, of course, a lot of beekeepers here, especially when a few tins of honey are in sight, or a few get together where there are a few hives of bees and get the bee fever, which seems natural; then there is a fuss for bees, and if honey is not coming in in a few days, their bees are no good, not worth bothering with, but a beekeeper must not go to buy, oh no, not unless he is prepared to give £1 a hive with a handful of bees in it and dry comb, but to another person who has no bees, oh you can have two or three of my hives, glad to get them,

takes them home to die and generally to spread foul brood. There are a good deal of complaints about foul brood. Some of our beekeepers have lost all, while others are so disgusted as to say let them rip. A pity that people stand in their own light; no need of such a loss as is with foul brood. I have had as much as any one, but have had no trouble with it the last few years. If it appears I put them under the McEvoy cure as given in one of your papers, and that is the end of it.

My success this season so far is fair, or I might say excellent for the off year. I have worked up from 70 hives to 90 good strong colonies with another 45 or so coming on with young queens. Most of them will give a little yield by middle of April should the weather keep favourable. The 90 colonies have returned me just upon 100 tins. I have not heard of any one taking honey, except my brother who bids well to become a bee farmer. He is running some 50 hives, some are with mine and have totted up some 30 or 40 tins. At present I have a lot of shifting to do through timber being rung on leased land. I have one batch of 22 another 20, 19, 17, 12, 12, 12, 14 and 7. I have had to do this to get my honey, and cart water to them, but if I did not shift I would have no honey yet, so a bee farmer's life is not a settled one by any means. There is a little grey box coming out will last out April I think, then we are going to have a winter sprinkling of white gum well into next spring, so our bees should come through winter well to meet our heavy honey flow, which is yellow box with me, red gum with others.

I shifted over 80 miles on to a red gum flow once, but two hot days killed it outright. All well I must have another try for red gum next year. Better luck next time. I regret very much to have to record the sudden death of a batch of queens that I and Mr. Freeman, of Melbourne, imported from Italy. Mr. Freeman and I were determined to have good pure blood, so we sent for 8 or 10

real top queens. Well, sir, we received them alright (i.e., the cage) but every bee was dead, almost beyond recognition. Inquiries made traced the damage to have been done in transit on ship board. I often wonder why our postal department do not try and help us in this matter of carrying our queens safe. It can be done with so little expense, that they should do it, and must do it before long, or there will be a row in the upper story. We want good queens changed, and must have them to keep a change of blood. We are claiming another lot of queens in their place. I don't know if we will succeed. What will you give, sir, for the chance of 8?

I say, Mr. Editor, draw it mild on our editor of A.C. and the amateur enthusiast—give them a show. I am afraid castles are in the air; try and get them to settle on a better foundation, if only on comb foundation.

I have just received an account for honey—good candied honey, 3d per lb., liquid, not so good honey, 3½d. When will we be able to cultivate people's tastes, and what are we to do with our hard honey. They say heat honey and it will not candy. I did so, but it got hard again—result, lost nearly £6 in the lot. Have I more knowledge to buy yet?

There seems to be a talk what Federation is going to do with beekeepers. I have ideas about it, but I am going to plod along, and when bees don't pay turn to something else. That will be a good while yet—if you people can live at 2d per lb. we can, but the amateur will have an up-hill fight. Mr. Editor, I purchased an organ from Cornish & Co., America, under £20, a most beautiful instrument. If any beekeeper wants one he should certainly get it there. I am not advertising, mind, but I got a good organ, and other people should have one too, and that is where they will get one.

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GEORGE COLES.

262.—Do you consider a large number of bee stings likely to affect the general health? Suppose you receive a number every day?

263.—Suppose you are extracting from a frame containing unsealed brood, and the force causes it to move from bottom of cell, away from food, does it die? and if so is it likely to turn to foul brood?

J. J. BRANCH.

262.—In my opinion, emphatically *no*. My personal experience is that a large number of stings in one day or at one time may communicate a distinct nervous shock, and consequent prostration, followed by the usual local swelling and subsidence, and no traceable after ill effects.

263.—I object on general lines to extracting from the brood room, and most positively to extracting from frames "containing unsealed brood." As the result of my observation so far, is that what larvae is left after the extractor, is cast out by the bees, resulting in the loss of so much brood and the defilement of the honey. Since this seems to be the gist of the question, I am of the opinion that foul brood may be caused by dead brood from any cause being allowed to remain in the hive a length of time, to which result perhaps dampness or any other insanitary conditions may be a probable aid.

T. J. BARNETT.

262.—I am of opinion that a large number of bee stings daily would have a bad effect on the health, more especially on persons who swell very much. I would say, avoid being stung as much as possible, and protect your ears and point of nose altogether if possible.

263.—I extracted honey from one hive last summer where the frames had a lot of uncapped brood, and I noticed the bees carrying a number of the little white young ones out that afternoon. I decided I would not again extract from frames in that condition, as I believe it does harm, destroying a number of the young bees.

T. J. BARNETT.

262.—I might say I have had a very wide experience among the bees through the colony for the last 30 years. For although I have only started with the frame hive just three years, I have all my life been very much among the bush bees, which were till of late all black bees. Now I have noticed that the stings of different colonies vary very much in severity. I have had every place where stung on hands fester and form a very small sore for some weeks or so from some bees, while from others the pain

would pass off in a few minutes and leave no indication of the sting. I went with a friend the summer before last, to fall a number of bee trees. It was a wild place, unfrequented by any person, and being box country the trees were packed full of honey. During the space of three hours I counted 37 stings on my face and hands, and they were the very severest stingers I had met for a long time. Now, I do not swell from bee stings, no matter what kind, but some half hour after I had been stung, I felt slightly giddy, and felt as if I should vomit, but it only lasted about an hour when I was as well as ever. I also, in taking a swarm off a tree in shirt sleeves, by accident knocked them on to my left forearm; they were very savage, and I found on counting that I had 16 stings on the thick of the arm. I was slightly alarmed at seeing so many and at once, however I felt no bad results. Some time ago a friend of mine was stung on the side of the neck. In a few minutes he was swelled very much and began to vomit, and was dangerously ill for about four hours, but was alright in the course of 24 hours after. I am of opinion that persons who swell to any extent should avoid being stung as much as possible.

E. J. RIEN, M.H.A.C.

262.—No. At times I have received an immense number, my hands literally black with bees. At such times I would get a terrible headache for five minutes, beyond that, they have no worse effect, but it takes a great number to do this. The number received in the ordinary work of an apiary of 60 colonies, many hybrids at that, has no appreciable effect, being forgotten as soon as received.

263.—If you return to hive, you will find the bees remove any brood injured in this way. Of course if you leave frame out of hive for some time, they become chilled. Do not produce foul brood, only a fair field for its cultivation should the germs be in the air around.

T. BRADLEY.

262.—I am of opinion that a large number of bee stings would be very likely to affect the health, as there was one case in this district where a doctor had to be called in to a grown person on that account. But from my personal experience, since being among the bees, I have been benefited by a sting. As before working among them I was troubled with rheumatics in the arms, but since working among them, and of course, receiving my share of stings, I have been completely cured of the pains. Do not as a rule receive a great number every day, but my son who does the most with the bees, receives a good number, and I have been wondering whether the bee stings have been the cause of his taking fits last season. This season, as the flow has been nil, he has not been bad.

263.—Never care to extract from unsealed brood, but have done and never noticed any bad effects after it. We are not at all troubled with

foul brood in this district, but do not think that it (the dead brood) would cause foul brood as the bees would soon clean the combs.

H. V. MCGEE.

262.—Rather a hard matter to fix on. It must not be forgotten that all constitutions are not alike, what would seriously affect one person would have little or no effect on another. As regards myself, I have never felt any ill effects, other than the slight swelling, and in most instances have not had any swelling. I have found that the bees vary very much in the strength of their stings during a honey flow.

263.—Have rarely extracted from frames containing unsealed brood, but when I have done so, I find that should the brood be moved from its place in the cell, the bees carry said brood outside the hive.

J. BASSETT.

262.—I think some people if stung very much would affect them very much indeed, others it would be like a blister to a wooden leg. It has been known that an individual has died from the sting of a single bee.

265.—I have done it, but it is unwise so to do. The force will remove some of the larva and cause it to die. If the colony is strong the bees would remove it, if weak, it would stay there and rot. I don't think it would turn to foul brood, but I would sooner not have it. And again, I can seldom get enough honey in the brood chamber to keep my bees for the winter, for when the bees start to store honey above they will continue to do so, leaving themselves without honey in the brood chamber. It is only on very rare occasions that you would want to extract from below. A very old queen or a young queen that has not started to lay with a heavy flow on, perhaps would shut her out for room.

A. F. BUREANK.

262.—I have been severely stung by bees (and hornets as well) several times, but have yet to find that my general health has been affected in any way.

263.—You should not extract from combs containing larvae. If the larvae are very young, and get thrown far from the bottom of the cells, the bees generally throw them out, but if the grubs are nearly ready for sealing up and they get moved, they will put themselves right after a while. I don't think foul brood would start from such a cause.

T. YOUNG.

262.—No. What need is there to receive stings every day? It must be either bad management to do so, or it may be you could do so for fun. When you once get well inoculated the sharp pain for a minute is all you feel.

263.—He must be a greedy beekeeper who would put unsealed brood in the extractor. If it don't get out into the honey it must be injured.

E. HANNAFORD.

262.—I have been stung frequently, and sometimes very badly, but have never felt injured in any way, beyond the temporary pain.

263.—I have extracted a good deal from combs with both sealed and unsealed brood, but have always been very careful while extracting, not to drive extractor too fast, but have reason to believe they have suffered nothing in consequence. I don't think in any case, it would develop foul brood should the brood die.

QUESTIONS NEXT MONTH.

264.—Your opinion of Cynic's letter in this issue?

T. PIKE.

265.—What do you do with your foul brood honey?

266.—Do pine trees yield honey?

G. SMITH.

267.—When bees are about to supersede a queen, do they select a larva in a worker cell, or do they induce the old queen to lay in an embryo queen cell?

CANDIED HONEY.

1. HOPKINS, NEW ZEALAND.

From your remarks on candied honey in your last issue, I take it that the general public of New South Wales do not like honey in the granulated form. Now, mark the difference in public taste: here in Auckland, it is almost only in that form that it can be sold, and the same applies generally throughout the colony. As an instance, I happen to have a line of very fine honey come in, and although showing signs of granulation it is still in liquid form, but my customers are disinclined to purchase because it is not "hard" like the honey they have been used to. All the best New Zealand honeys granulate, and the public have become so accustomed to see and use it in that state, that they are a bit suspicious of any in the liquid form. If you raise honey in your colony that naturally remains liquid, and another that granulates, you will have some difficulty in getting consumers to purchase the latter if they have previously got used to the former. Once get them used to granulated honey however, and they won't go back to the liquid form again.

THAT EUCALYPTUS FLAVOR

R. HELMS.

It would be a hopeless task for anyone to attempt the emendation of the many errors circulated almost daily by superficial newspaper writers, who mostly depend upon scissors and paste for the hotch-potch of news they treat their readers to. I do not mean to undertake such cyclopean work as this, but now and again I cannot help raising my voice against some particularly glaring nonsense, especially when this affects the welfare of the honey industry of Australia. One should have thought that the eucalyptus honey incubus had long since been delegated into deserving oblivion, where such like falsehoods justly belong. Not so, and it is but too true that a lie takes a lot of killing, for the eucalyptus-flavour-in-honey spectre is now making its appearance in South Africa, just as if the Boer war hadn't brought this land sufficiently in prominence through the ordinary newspaper fabulist.

As far as I know there are only very few limited plantations of eucalyptus in South Africa sufficiently advanced to produce flowers, and certainly not numerous enough to affect the honey production of that country. From the extract of the *Rheinische Beizenzeitung* (p. 248 A.B.B.) however, one would expect that the Australian gum trees were of frequent occurrence in South Africa, a welcome blessing to the beekeepers of that country were it so, and which in the course of time may eventuate as the State encourages the planting of these trees. But the editor of the *Rh. Bzt.*, or whoever the scribbler may be, has composed a paragraph out of two non-existing facts, to use a mild term, and probably takes the credit of having discovered a new eucalyptus-flavour-tainted-honey-producing country. It is strange that we have heard nothing of Algeria and California yet, both good honey countries, and where eucalypts are extensively planted. In Algeria the Austra-

lian eucalypts were introduced more than 40 years ago through the agency of the late Baron v. Mueller, and have been flowering there for a number of years. In fact the profuse growth of these trees in that country astonished the botanic world, and directed general attention to them, and caused the blue gum to be extensively planted in southern Europe.

It is a pity that bee journals do not better guard against disseminating deliberate falsehoods, for such and nothing less is the slippery assertion that eucalyptus flowers impart a flavour like eucalyptus oil to the honey. I have quite recently examined in Western Australia several honeys taken entirely and from distinct gums, and in none of which a trace of the objectionable flavour could be detected, either by myself or by a number of other people who at various times were requested to give their opinions.

Unless the flavour is purposely or accidentally imparted there exists no such taint as eucalyptus odour or taste in honey gathered from the Australian gum trees. Purposely the flavour has been imparted by some nostrum-mongers, who speculated on the gullibility of suffering mankind by pretending to having discovered a new natural remedy for all kinds of ailments. This is the origin of the bugbear, and has done all the mischief. Accidentally the flavour may be imparted to some degree when in cutting a bees' nest from a hollow tree chips of wood enter the honey. But in the latter case the flavour is rarely very pregnant unless the operation is carelessly done, and the chips allowed to remain in the honey a considerable time.

An error that may lead to very wrong impressions is committed by Mr Abram in connection with the heat resistance of foul brood spores. It is evident that the writer has no faith in the scientific researches made with the view of ascertaining the vitality of these spores, and from his sarcasm he must consider the experimentalists greatly at variance regarding the results attained.

Nevertheless this is not so. Foul brood will resist boiling heat, or 100 C. for three hours. If, however, the spores are subjected to a lower heat it will take a longer time to kill them, and if the heat is raised above 100 their vitality is destroyed in less time. Thus at 90 C. it takes over $3\frac{1}{2}$ hours before they succumb, but at 115 it requires only $2\frac{1}{2}$ hours to prevent their germination. *En passant*, I may mention that there are many other spores of micro-organisms besides those of foul brood that possess an equally great resisting power to high temperatures, and many resist still greater.

It happens that 115 C. is equal to 239 F., or 124 F. above the highest temperature experienced during the past summer.

There are three different arrangements of scales by which heat is measured, namely, that of Reamur, that of Fahrenheit, and that of Celsius. They are indicated by R., F., and C. respectively when temperatures are under discussion. Reamur divided his scale from 0 at freezing point to 80 when water boils at sea level. Fahrenheit's freezing point is at 32 above zero, and his boilwater point scales at 212. And lastly, Celsius divided his scale by 100 between freezing and boilwater point.

For upwards of 50 years the Centigrade thermometer has been adopted by scientific writers on the continent, and has been universally adopted by the general public at present, replacing Reamur's instrument which was formerly used. Scientific writers of England and America mostly quote Celsius' scale, but for ordinary use and in public institutions the Fahrenheit thermometer is still in vogue in the last mentioned countries and their dependencies.

The decimal system has been adopted by every people except the English speaking, which still adhere to the cumbersome old style. When once this conservatism is shaken off, the simpler and more sensible way of calculating things will greatly help to avoid the confusion of ideas.

H. B., Wilmington, S. A., Feb. 9th :—
In the North we are fixing up the bees ready for the harvest of box honey. The trees are yellow with buds this year. We will get a lot of honey if rain comes. We have got up to 56 swarms again.

VICTORIA.

TO THE BEEKEEPING FRATERNITY,—Friends, I am still breeding and selling choice Italian queens. In fact I am devoting most of my time to this branch now. Having sold my dairy herd I intend making queen breeding a specialty. I import fresh breeding queens every season and from different places, so as not to inbreed (a great factor, I think, in preventing foul brood.) My bees have averaged me over a cwt. surplus honey each colony past 12 seasons (summer count.)

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