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West Maitland, N.S.W.: E. Tipper, November 23, 1894

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A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

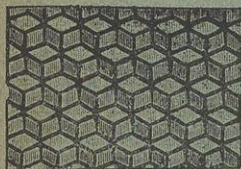
VOL. 3. No. 31.

NOVEMBER 23, 1894.

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HOW THEY GO.

"Queen came through in good order, and all were alive. Your experiment was a complete success."—E. R. Root, Editor of *Gleanings in Bee Culture*, America.

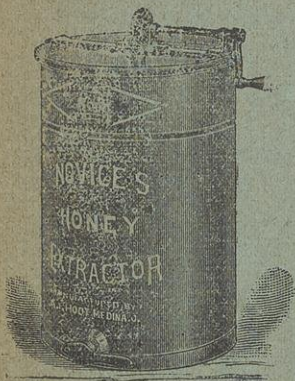
"Bees to hand with queen alive and in good order."—F. A. Lockhart, Lake George, America.

"Although the cage containing queen was in bad condition (large hole in it gnawed by mice) and so marked by P. M. at 'Frisco, the bees and queens reached me in fine shape, they were all lively, clean and nice, with only one dead worker."—W. H. Laws, Lavaca, America.

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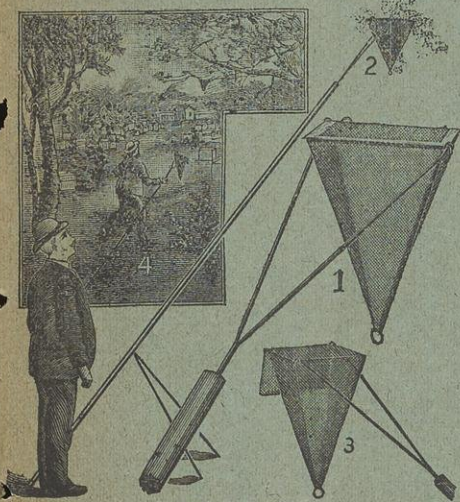


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The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.,—NOV. 23, 1894.

WARMING is still the order of the day, and constantly being on the watch for same is absolutely necessary. Much trouble, however, may be saved in several ways. Hives convenient, furnished with old comb, will often tempt the swarm to go in and settle there. Or, such perched up in a tree will also tempt the flying swarm. Swarms have been tempted to go from their own hive into adjoining empty hive, and some persons have placed decoy hives about with varying success. Hive swarmers are also very useful, and form handy adjuncts to apiaries.

During this month swarming for increase may be carried on, but if the apiarist has as many hives as he wishes he prefers to keep his stocks strong, and so also increase his production of honey. At the same time first natural swarms that issue now are the best of the year, and go to work with a great deal of energy. Small late swarms should be returned to the hives. It does not pay to coach them up, and their numbers are better added to the honey gatherers of the original swarm. Those who go in for sections should now have them in position, with separators. Some people have tried to dispense with separators, but in a late *American Bee Journal* that great bee man Doolittle says:—"I have given the non-separator business a fair trial, and was at last driven to the conclusion that for me, separators are an actual necessity, if I would secure the most comb honey in the best marketable shape." Honey now coming in, do not be in a great hurry to extract it till it is at least partially sealed. Unripe honey is in danger of fermenting.

and especially, with the foreign trade. calculated to do a great amount of injury. Be very careful to keep different kinds of honey separate.

Re the ripening of honey, in March last it was made our special subject, and we would recommend those who have copies of that issue to read it up, but we cannot do better now than quote from Mr. I. Hopkins' communication on that occasion:—

I have always believed that honey could be as well ripened out of the hive as in it. There are many, however, that think otherwise, and will only extract from sealed combs. I have arrived at my opinion not in any haphazard fashion, but from practical experience with many tons of honey. This being so, I have had no hesitation in extracting from unsealed combs when it suited me to do so, but I have taken every care to ripen it afterwards. My arrangements were—a very warm extracting house; large shallow wooden tanks, 6 ft. x 4 ft. and 18 in. deep, lined with tin; and good strainers. As the honey ran from the extractor, it fell into strainer or rather strainers, three arranged one above the other. The top one rather coarse, the middle one finer, and the lower one very fine. This lower one split up the honey into very fine silk-like threads as it dropped into the tank, and I believe a good deal of the surplus water evaporated during the operation. The honey was allowed to remain in the tank exposed to the atmosphere for a day or two until I considered it sufficiently ripe to tin. In the meantime a scum would rise to the top, which of course was skimmed off. A tap at the bottom of the tank allowed the honey off without disturbing the surface.

The secret of ripening honey rapidly and at little expense or inconvenience, is to expose as large a surface of it to a warm dry atmosphere as possible. Don't try to ripen honey in deep vessels, as it will result in failure. Honey is heavier than water, consequently the latter has to rise to the surface, and if the honey is thick and in deep vessels, the chances are it will ferment before it will ripen. The shallower the tanks the better.

Another great matter, as honey is now coming in great quantities do not hurry it into the market or that will be glutted and the price will go down. Those who can any way keep back should do so. They will gain by so doing.

If honey is coming in any way fast it is best to keep the extractor going, and give the bees plenty of room to store it, otherwise they become listless, and you

lose a great deal of honey you otherwise would have had.

* * * * *

The subject of the Foul Brood Act for New South Wales, our readers will see is fairly well thrashed out in this issue. The different writers not only speak of the great prevalence of the disease throughout the colony, but the almost criminal carelessness of many persons in regard to it. Surely all such cannot be the result of pure ignorance. Suggestions and criticisms are made respecting the proposed Act, and we think the time has now fully arrived when the worthy secretary of the National Beekeeper's Association (Mr. H. R. Whittell), should call the Committee together, to finally decide the form in which the Government should be asked to pass it. We would ask each member of that Committee to well study the different communications, and act up to the responsibility he has taken himself by becoming a member of that committee and attend that meeting when it is called. Then let us hope it is only a matter of a few weeks before New South Wales will have a real live, workable Foul Brood Act.

The *Agricultural Gazette* of New South Wales contains a very interesting article by J. H. Maiden, on the Blackbutt, (*Eucalyptus Pilularis* Sm.) As far as it relates to the honey industry, he says:—*Flowers*.—The flowers are white, and, as far as my experience goes, the Blackbutt usually flowers about every second year. Mr. Forester Rotton states that in his district the Blackbutt blooms about November and December, and is much sought after by bees. In the Bulli district it is supposed to be about the best of any of the hardwoods for honey purposes, the honey being thick, and of nice colour and flavour.

We would remind those who have not taken shares in the Honey Supply Co. that the meeting of the Provisional Shareholders makes place in Sydney during the month of December. Whatever steps are then taken will depend on the number of shares subscribed for.

We acknowledge receipt from Mr. Jas. M'Farlane, of St. John's Wood Apiary, Lyndhurst, Victoria, of his circular and price list of bees, queens, appliances, poultry, &c. The Victorians have in Mr. M'Farlane, a beekeeper that deserves all the success and patronage that can be bestowed on him.

We should imagine all who read the interesting account in another page of Mrs. May's demonstration of using honey in cookery, if they have not already, procured her admirable little work "The Economic Housewife and Beekeeper's Guide to Cookery," will not delay to do so. The price is only sixpence, per post 7d.

C.W. Dayton, in the *Beekeepers' Review*, describes a new Stampede Bee Escape. A gate of wire cloth, hinged at its upper edge, under which the bees pass to endeavor to reach a screen through which they see light, but immediately in front of which is a hole leading straight down into the brood nest. Put carbolised cloth over top of super frame, and the bees will (so Mr. Dayton's advt says) go down at the rate of 1000 per minute.

Dr Miller, according to the American bee papers, has advanced another step re the new percolating idea for sugar feeding. Equal parts of sugar and water are put into a tumbler, for a small quantity, or a gallon crock, if a larger quantity is required; cheese-cloth or flannel is folded several times and placed over the mouth; then a saucer or plate, inverted, is placed on that. The whole is then sharply turned over, the syrup percolates, and is, as Ernest R. Root describes it, "All that my fancy painted it," for a feeder, or a syrup that does not granulate.

Although we ourselves have been unfortunate in having queen after queen sent to us from America arriving dead, still it is some satisfaction and gives reason for hope, that others are receiving them alive. Several reports have reached us of such, from A. I. Root, G. M. Doolittle, and Mrs. Atchley. It would be hard indeed if from the experience being gradually gained, good did

not result, and as the Americans are adopting new ideas with both cages and candy, it would be very satisfactory to have to report an increased per centage of live queens to Australia.

The secretary of the National Horticultural and Pomological Society, Mr. H. Rawes Whittell, is in receipt of an interim report from Mr. J. S. Heron, a member of the society, who kindly undertook to take some samples of honey produced by Mr. J. E. Taylor, of Cowra. Mr. Heron, writing from Lucerne, states that the honey arrived in Plymouth in excellent condition. Although the temperature in the Red Sea had been as high as 95deg; the combs showed no signs of having suffered from the heat, and the honey in the jars presented the same appearance as when shipped in Sydney. In order to find whether the honey would be likely to take well in England, Mr. Heron had some placed in jars, and presented, with other honey, on the breakfast tables of the ships, hotels, etc. The highest opinion was expressed in every case, both as to the appearance and flavor of the honey. After the journey from Plymouth to Liverpool, the combs, in sections, were all more or less crushed and broken, so that better packing will be necessary.

APIARIAN NOTES.

BY PERIPATETICUS.

Do lizards eat bees? I am not certain whether they do or not, though I have seen lizards at the entrance of hives at night-time. I rather think they have chosen this position in front of the hives in order to catch the bee moths. When at night time bees have flown into my sitting room attracted by the lights of the lamps, and have lighted on the walls, lizards have not attacked them. I have seen lizards make darts at the bees, but on coming to close quarters have retreated, though they wont do this in the case of flies or moths. I do not even remember having seen lizards running on the walls of Australian or New Zealand houses. Possibly in Queensland

the house lizard is common, being confined to the region of the tropics. Have any of our Queensland bee-keepers to complain of the lizard's depredation on their bees? These house lizards are pretty fearless little creatures, and if unmolested soon get quite accustomed to the presence of the residents.

Another question. Do dragon flies catch and devour bees? I have read somewhere that they do, though I have never come across an instance.

The only way to prevent bees from suffering from the ravages of the bee moth, is to keep the stocks strong.

However well fitting the hives are, moths will secure an entrance where the bees are weak and listless owing to their paucity of numbers. The wax moth varies in size and pugnacity in different regions of the earth. Here, for instance, he is very small, but fierce in his attacks, and prolific in his mischief. A small collection of wax scales near the entrance of a hive, or under the floor board, is always handy for him. It is surprising what a quantity of minute wax scales accumulate at hive entrances in this country. I think that it is often so brittle that it is easily broken or is rubbed off from the abdomen of the bees. The corners of the floor boards are sometimes quite covered with these small flakes.

At no future date the tropical islands of the Pacific will be a great field for apiculture. Some of these islands possess such an excellent bee flora, which produces lovely honey. Take an island where the orange and lime trees grow in large groves. What stores of nectar can be gathered from the fragrant blossoms of these trees, and the imagination can at once call up how delicate the flavour of the honey must be.

Bees to my knowledge have been introduced into the following groups, the Hawaiian, the Samoan, the Tongan, and the Tahitian. But I believe nothing so far has been done in the way of turning them to profit, save in the Hawaiian Islands.

How is it that centuries should have gone by, during which lovely flowers should have bloomed almost in vain, in some of these paradisaical group of islands, and yet no little honey bee to collect the abundant stores of nectar, remain a mystery?

Can any of your readers give us an account of the honey bee in China and Japan, and how the natives cultivate it in these countries?

The writer of these notes took a hive of hybrid Italians from Perth, W. A., to a northern township in that colony. Bees had never been introduced there. He has every reason to believe that they swarmed once or twice. If so they are probably spreading over that vast region. The original stock died. Its owner having tried to carry it by steamer to Singapore.

The honey bee is like the Anglo-Saxon in his ramifications into strange and out of the way places on the earth's surface. But I greatly doubt whether our little friend will ever be a success in the tropical regions of India and the Malayia. His enemies in these parts would be too much for him, what with birds, insects, and ants. But still in their regions a bee smaller than ours is kept by the natives and others in boxes, but with no apparent success. I have often wondered whether queens could be introduced successfully into these colonies, consisting as they do of bees half the size of ours, and cells proportionately. In habits, and colour, these bees show their close relationship to the honey bee of Europe and Palestine.

In all my rambles I never came across "*Apis dorsata*." But it has been proved that for domestic culture this bee is quite out of court. The introduction of the *Apis dorsata* into some of the tropical regions of Australasia might be of inestimable service as regards the production of bees' wax; and there is no reason to think that the rival interests of these bees and ours would clash. The *Apis dorsata* would aim for the mountains and rocks where any bee could not be cultivated. In Fiji for instance this bee

would be valuable, but of course only for wax production.

A year or so ago, a Dutch gentleman wrote to me re some bees which he brought out from Holland to Sumatra.

He says:— "In answer of your letter May 14 past, I can tell you that my bees are doing very well. I have now two cases before I had only one. One party with the old queen flew away otherwise I should have three ones. First I had some trouble with green birds; they were eating up the bees, but I shood them all dead. The bees I took with me out of Holland in October, they had 10 k. g. of honey in the case assembled for the winter. On ship, I have put them in the ice cave; I have given them air enough, luft genug, nothing else." He concluded with an apology for his "bad riding english'".

All honor to him as a pioneer, and as a friend to the honey bee.

A short time ago I had the pleasure of visiting one of the small islands of this group, 10 miles from here, devoted to sheep and cattle raising. On arriving there I had a ride of 10 miles up the mountains before I could reach my destination. After a steep ascent of about 6 miles, and a gradual descent of 4 miles I reached the dwelling house of the ranche, situated upon a table-land, sufficiently elevated to enjoy a bracing, and at nights cold atmosphere. Grassy plains stretched in front of me, while on the descending side of the mountain were splendid ravines, the sides and bottom of which were clothed with perennial vegetation, chiefly metro-sideros, polymorpha (lanhala), and guava. There was sufficient evidence in the rolling plains to see that in the season they would be one brilliant blaze of scarlet owing to the prevalence of salvia. I was told by the lady of the place that the red zennia covered acres in certain places with such a flora, on mountains and plains, I could not help thinking what a Paradise for bees this would be, and yet not a bee is on the island.

Someone has recently come from America to Molokai to start a bee ranche,

but whether he has met with success, I am not informed.

The mangoes are just commencing to flower, and they are great honey yielders. Would that my hives were multiplied 50 fold so that I could help in husbanding Nature's sweetest bounties.

Lahaina, Maui, Hawaiian Islands.

PORT ELIZABETH.

BEE KING.

Have just received two of your *Bee Bulletins*, dated 24th August and September, for which I thank you very much. I will send them to my bee friends in the country; hoping you will reap some benefit from them through it. I am looking forward for the honey harvest next month. I also see in your valuable A.B.B. "Marketing of Honey." Although Africa has so many bees, they are not so extensively looked after and farmed as in your country, therefore I think that in Johannesburg, also Pretoria, in the Transvaal, the Free States, and also the Cape Colony, would be a good market for your honey. Comb honey in sections sells readily at 1s per lb. section, also extracted honey in 1lb. and 2lb. tins. The wholesale price of our honey—I mean honey imported from England—which I do not believe is all pure honey, price 8s 6d per dozen 1lb. tins. One of our importers sent to America for a few crates of honey in 1lb sections, which were sold at once at 1s 6d per section for the sound ones. The honey was a rich brown colour, and very good flavour. Of course the honey we mostly get from the country is gathered by the natives, and not of the cleanest or best kind. I also see in the A.B.B. the different remedies used for bee ailments, to keep ants and other vermin from our hives. I use soot, strewn thickly under our hives. Have you tried burnt ground coffee in the hives? It is a good disinfectant, also a germ killer for working out old hives. To destroy any insect life we use a strong tobacco lotion, then finish with salt

water. Have also used for destroying bee ticks paraffine oil. I do not know if you are troubled with them in your country. I am fixing up a few hives for some of my country friends. Warm weather is setting in; country in want of rain. Business improving.

MR. PETERSEN'S YIELD.

Sweet Home Apiary, Eugowra,
13th. Nov. 1884.

To the Editor A.B.B.,

Dear Sir,— In the last issue of the A.B.B. there is an article from Mr. Petersen of Nuggetty Hill, Wattle Flat, making it appear that from my knowledge of bees in his district, I have no right to question his enormous yield of honey. I wish to state that in past years, Mr. Peterson and myself were neighbours and on terms of the best of friendship, and trust we will meet again someday as friends. In the *National Advocate*, appeared a report of the Nuggetty Hill Bee Farm, stating that for the season of 1891-92, 1200 lbs of honey had been taken from one hive and the average of the whole apiary being 750 lbs per hive. A copy of the report appeared in the *Sydney Mail* and other papers, and at the Beekeepers' Convention, held in Sydney, 1893, a paper was read from the Minister of Agriculture (Mr. Slattery), by Mr. W. S. Campbell, stating that Mr. Petersen, of Nuggetty Hill Bee Farm, had obtained an average of 750lbs of honey per hive, from the whole apiary, and he (Mr. Peterson) says he took 1200 lbs from his best colony and could have taken much more. Coming from the Minister of Agriculture, and accepted by the leading beekeepers of the colony if it is not true it would be misleading, and would be detrimental to the best interests of beekeeping. Feeling confident that there had been some great mistake made in the quantities of honey given I suggested to Mr. Gale and others, that while the Convention was sitting a wire be sent to Mr. Peterson asking the quantities of honey he had obtained. As

far as I know, there were no enquiries made in the matter at that time. At the Convention in 1894, during a discussion regarding hives, it was remarked the great quantities of honey Mr. Peterson had obtained with a hive called the Long Idea. I then stated that from my experience in the district where Mr. Peterson is located, I looked upon his great yield of honey as incorrect. I think it is well I did make the remark and that Mr. P. has taken it up, for I know there are many beekeepers, who, like myself, are sceptical as to the great quantities of honey given. As Mr. Peterson affirms that he has made the greatest record in the world, in the quantity of honey taken from 68 hives, I would suggest that he advance all the information he can, so that other beekeepers might know how he obtained such a phenomenal yield of honey, such as:—Preparation of stocks, sources from which the honey came, about the quantity of bees in each hive, dates when the greatest flows were taken, how he managed with the ripening of honey? What quantity of comb was capped over before extracting? Size of frames and how many each hive contained? Also if other beekeepers in Mr. Peterson's district would give the average yield of honey they obtained per hive during the season of 1891—92. It would assist in clearing up this difficulty.

I have heard it said that Mr P. has a system of manipulating his bees from which he considers he achieved his great success, and which he keeps a secret, not allowing it to be made public. If such is the case, that is not the spirit that should animate any beekeeper. We have all learned from others what we know we should freely give so that others may benefit also. Mr. Peterson wants to know where I kept bees near him for 25 years? I do not say I kept bees near him for 25 years, but I do say that, from 1853 to 1878 I had something to do with bees every season, either with bush bees or with bees in boxes. The greatest number in boxes at any time was 9 hives. In taking the honey, the system adopted

caused very few bees to be destroyed. Beekeepers know it does not matter where a strong colony of bees are located, either in an *old soap box* or hollow tree; if they have room and are protected from heat and cold, they will store comb honey equally as well as in the best constructed hives. During those 25 years I kept bees in various parts of the district, the last 5 years on Nuggety Hill, within a few hundred yards of where Mr. Peterson's Bee Farm is now situated. Since 1878 up to the present time I have been working with bees, the last few years with the modern system of beekeeping. Looking back on all those years, I cannot remember where such a great yield of honey could have been obtained with the system of beekeeping I practice and see others. Being well acquainted with the location of the Nuggety Hill Bee Farm, I consider the site ill chosen being on a high range upwards of 1000 feet above the level of the Saron River, which is distance about 2 miles and being exposed to cold winds from all parts of the compass, and subject to one or two heavy falls of snow each winter. I look upon Mr. Peterson's proposition for me to send my cheque for £5 to assist him in clearing up his difficulty as rather a ridiculous thing; he should rather feel gratified at having an opportunity of making known how he obtained so much honey. I do not say that he did not obtain so much honey as I have no means of proving it, but, as I have shown from my past experience in beekeeping, I consider I am quite justified in having the matter ventilated, and am of opinion that if a vote of the subscribers of the A. B. B. were taken, it would be found that there are others of the same opinion as myself. Hoping that Mr. Peterson will be able to prove to all his figures are correct, I will then be most happy to congratulate him on his success in obtaining the worlds record for Australia. Thanking you in anticipation, Mr Editor. that the above will appear in your valuable paper.

I am, yours truly,
WILLIAM NIVEN.

DO BEES TRANSPORT EGGS.

Mr Major Shallard writes:—I came across an interesting account on p. 574, July 15th, 1894, *Gleanings*, which will have some weight with regard to the above heading, a discussion on which was going on recently in the A.B.B.:—

Mr J. A. Golden, of Ohio, U.S.A., states:—"Three years ago I had two colonies of black bees. I was introducing Italian queens, having at the same time a queenless Italian colony badly infested with fertile workers, which killed two queens as soon as they liberated them from the cages. So I concluded that I would cage one of the black queens taken from one that I was introducing an Italian queen to, and hang it in the hive two or three days, and then see if I could introduce her to the fertile-worker colony. Having made a hole in the wire cloth over the cage, so a worker could get in, I suspended the cage between two frames and covered the hive up. Some ten or twelve days afterwards Mr C. C. Eddy called on me, and we went into the bee house. The thought suddenly occurred to me to look at the queen. We then opened the hive, and what do you suppose we found? Well, we found two patches of brood and eggs nearly as large as one's hand, and two queen cells nearly capped over, and on examination *lots of eggs were observed around the inside of the cage*. The queen was killed and an Italian introduced. In due time the brood hatched that was thus reared, and were the regular native or German bee, the same as the queen. Then, when the eggs from the queen introduced hatched, they proved to be satisfactorily three-banded." This, I take it, is pretty strong evidence, and is more satisfactory than mere theoretical reasoning.

Mr. J. Dumigan, Killarney, writes:—Our season is quite eight weeks behind that of last year. I hived a new swarm yesterday, which is the first this year. Honey is coming in fairly from the Red Gum and other scrub trees.

Mr John Smith, Eugowra, writes:—"I am a native of the midland counties of England, and am sure, if we could put our honey on the market as cheap as they sell the golden syrup and treacle, we would soon get a large trade. Where I came from honey is looked upon as a luxury. I am sure, if it could be properly put upon the market there would be a great trade in the future for Australian beekeepers. My bees are doing well at present. Hives full of bees and honey.

Mr. E. C. Russell, Baerami, writes: Does the heat ever make the bees come out? I have had three swarms come out and leave queen cells only just capped. They had top stories on. I don't think there were too many bees. I have no shade over the hives. I have been putting young trees in lately, but it will be a good while before they make much shade. I have the hives all painted. I have got two Italian queens and three more coming.

[Bees often swarm through being dissatisfied with their hive. One cause of dissatisfaction is often want of shade; another, small hive. It is not usual for swarms to issue before a queen cell is capped. We should put shade over the hives, either in the way of bark or boards. There are a few very hot days every summer when bees will be driven by the heat to cluster outside, but that is not swarming.]

Mr R. H. Jervis, Moss Vale, writes—I think we are going to have a splendid season up this way, almost all the trees being in bud. Beekeepers are getting very numerous, more appear to go into it every year. I am starting an out apiary of eighty colonies about sixteen miles away, in some of the best bee country in the district, having the following kinds of timber, so you can guess.—Box, iron-bark, stringy bark, appletree, mountain ash, leather jacket, turpentine, lilly pilly, and lots of other kinds. The country is very rough and broken. I never miss a chance of getting a subscriber to the *A.B.B.* when I have one.—[We wish there were thousands like you friend Jervis. The honey industry would indeed boom then and the *A.B.B.*, as well.]

SPECIAL SUBJECT NEXT MONTH.

Size and Shape of Hives and Frames.

QUESTION FOR NEXT MONTH.

30.—Do you use shade over your hives and what?

QUESTIONS.

27.—Give size, description, and probable cost of the most suitable Honey House required for an apiary of 150 colonies, in a good honey producing district—(Bloxham Bros.)

28.—Have any of your correspondents given the same care and attention to black bees as to the Italians, and with what result?—(A. Moore, Seone).

MAJOR SHALLARD.

28. Yes, I have tested blacks and Italians side by side, and given same attention to each, and I had to take frames of honey from the latter to keep the former from starving.

ELLIOT J. REEN.

28. I tried to give the black bees the same care and attention as the Italians, but it would not work, as the bee moth is so bad in this district, that to save my swarms at all I had to Italianise. An odd swarm would do well, especially if honey was coming in freely, but in the end they would succumb to King Moth.

J. D. G. CADDAN.

27. Both in Root's A.B.C. and *Gleanings* good suggestions for honey houses are given, and might be adopted or improved according to ideas and pocket.

28. No blacks for me at any price. Do not take care of themselves in gin cases, and will not pay cost of a good hive.

A. AXLING.

27. Have not worked many hives, but I think that honey house on pages 155 to 157 "Australian Bee Manual" would be very suitable.

28. I have not tried breeding black queens, and as I have found that one hive of Italians is worth twice as much as the best black swarm I have handled I do not intend to yet.

J. DUMIGAN.

27. I will send a description of honey-house in next month's issue, if not too late; as my time is limited just at present.

28. No, I keep Italians only, which I believe are the most profitable.

W. S. PENDER.

27. Size. Make out a list of everything to be kept in honey house, with due consideration

for the quantity of extracted and comb honey to be stored; for the size of a house will depend on what is intended to be kept in it. If hives, frames, bottles, tins, &c., are to be kept, more room will be required. When the list is complete draw the plan of a house to suit the ground it is to be built on, allowing the necessary space for all items to be stored therein. If the plan is drawn to a scale, you will soon see what size house is required. It can be built of slabs, and lined with bags on the inside for cheapness, or built ornamentally of wood, brick or stone, for durability and appearance.

28. I have given the same care to black bees as I have to Italians. The result, Blacks were nowhere in honey results, and everywhere in swarms, during a season in which the honey comes in dribbles. The Italians storing their surplus instead of converting it into useless bees. I have worked the hives side by side and the Italians were always ahead.

J. F. MUNDAY.

28. According to my experience Italian bees (Ligurian) are more easily managed than black bees. They are better workers, more docile, take better care of their goods, and are hardier. They are not so much given to swarming, they will gather honey where black bees fail to do so, they cap their honey *better*, leaving no air space between the honey and the cap (this, however, causes the comb to have a greasy appearance, and detracts from its whiteness.) Black bees will breed faster in early spring, but the Italian bees will surpass them before the summer sets in. Black bees will rear more queens and drones than Italian bees. For pleasure and profit the Ligurian bees surpass the black bees.

HENRY NANCARROW.

27. I have not reached that number (150) yet, but hope to do so. I am at present working about 85 hives at my two apiaries, but having them over a mile apart I have to provide two sets of appliances and houses. The honey house at my own residence is about 16 x 12 x 9 feet high, rusticated weatherboards and iron roof, floor about two feet from ground, and I have a place cut out of this floor, under my honey tank (which holds a ton of honey) so that I can place my cans or vessels under it and fill at my leisure. This arrangement is easier than having to raise the tank, as it is not so high to the top to lift your honey; the cost was £12.

28. I have only one Italian swarm yet. I hived that last April, but though they worked well and raised plenty of brood, they did not start in upper story until October; they then filled ten shallow frames in about three weeks, which I extracted last week. It was beautifully white and tender looking comb, and nicely capped, but I have plenty of black colonies that can run rings round them as honey gatherers. Certainly I have not had much experience in Italians yet, but hope to soon have a few more colonies. I introduced a beautiful queen yesterday into an observation hive.

SPECIAL SUBJECT.**THE N.S.W. FOUL BROOD ACT.****W. E. BAGOT.**

So far we have yet to hear of the first case of foul brood in these northern districts. But still we are ever in danger, and all beekeepers should do their best to keep it in subjection. The five proposed clauses are very good, if they were carried out properly, but there are one or two things that seem to have been quite overlooked, viz., thousands of bees' nests in numerous trees. Whose business will it be to find out and report any bad nests? Now don't jump at a conclusion and call this a mare's nest, for it is not. It is far worse, viz., a foul brood nest, and just as contagious as the neglected hive. It will make no difference how fast that bogey man, the foul brood inspector, tramps round, tearing off hive covers, in season and out of season, worrying the skilful apiarian with some cracked up cure of his own. Even if he is successful there will still be these breeding places left, and if informed of them will he sally forth with gangs of men to fall and destroy or cure. Oh, what a nice tax we would have to pay for all this—perhaps it would pay better to have no bees then. But after all it might not be as bad as it looks.

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

I think, to make the Act effective, some penalty might be made for not reporting foul brood. It might be argued that persons who are ignorant of the disease would suffer injustice, but any man with common sense using frame hives could see when things are not right, and should report the same. My experience among novices is that foul brood is the first disease they get, or they think so, if they have a bit of chilled brood or dead bees about. Only the other day a man reported foul brood to me, so I asked for a sample of the brood, which turned out to be chilled brood. Persons who have common boxes might be exempted from fines, owing to the difficulty of examining them, and then persons so keeping bees are in most cases ignorant of their life history and diseases, except the fact that bees get honey. All persons keeping bees, whether in common boxes or in frame hives, should be compelled to register them each year, as is done with vines, so that they could be examined by the inspector. A word about this individual. I think he should be elected by the beekeepers—a majority vote—so that a thorough expert be appointed, and a man in whom the beekeepers have confidence. The election might be carried out by the National B.K. Association.

JOHN D. G. CADDAN.

The communication from D. G. Grant in A.B.B. for October touches several subjects of great importance. Referring to foul brood and the proposed Act, I trust we may be able to get

an Act passed early next year at latest, and then should foul brood exist anywhere, some hope of keeping it under is held out. The proposed Act is short, and may with advantage be added to, but I prefer brevity to inactivity. The greatest trouble may be to get really competent experts as inspectors, and not persons only who may want a billet and a salary, but persons who can spot the disease at once if present, and help to stamp it out.

Re D. G. G.'s remarks of lectures on bees—a short time ago I read of a lecture on bee farming given not 100 miles from Mudgee, and the impression given was that beekeeping was just the occupation for the sick, for delicate females, the dude, the country belle, or the poor parson with slender income, and that with about ten colonies, in one season one might almost start a national bank from the proceeds. Of course numbers rushed into the business, not heeding what Eugene Secor said in A.B.J. not long ago. I only give his concluding remarks. He says—"Now you may say to any of these 'sweet hum' men, who are anxious to embark in light profitable business adapted to gentlemen in poor health or sickly women, that I'll sell 100 colonies cheap, poetry and all. But the poetry would be something like this—

'Tis the bees' delight to buzz and bite—
They're always spoiling for a fight,
And always sure to win it.
They'll knock the music out of a poet,
They'll make a rheumy subject go it,
Though he couldn't stir a peg he'd shin it

If two or three good healthy hybrids struck a bee line for some prominent bare spot of his physiognomy.

D. G. GRANT.

I do not think I can say much on the above subject that I have not said in my previous letters to you. I am of opinion that if the Foul Brood Act, as drafted by the committee of the National B.K.A., becomes law, it will prove quite unworkable, or what is worse, will be liable to make a bad case worse, if, as is bound to occur, the bee-keeper has to undertake the curing of foul brood himself and by himself. What I mean is this. Suppose a man in a distant district, with a limited knowledge in these matters, or who (like men I know and could name) cannot understand or grasp the peculiar nature of the disease and the ease with which the infection spreads, writes to the Department that there is something wrong with his bees, perhaps sends a sample of combs, and the case is identified as foul brood. The experts or inspectors are away somewhere else, and he, after the usual delay of government processes, receives instructions for the eradication of the disease. Don't lose sight of the fact that this disease, like anthrax, cholera and many others, is spread and caused by germs, perfectly invisible and infinitely small, and that nothing but *absolute* cleanliness in the work to be done will give him

the slightest chance of succeeding in the cure. One drop of honey from an infected hive, one scrap of dross from the wax extractor, one bee from a diseased colony making its way into a healthy one, may cause a fresh outbreak, while if through a little carelessness, robbing is allowed to start, it will probably mean total destruction of the bees for miles around, and unfitting the district for apiculture for all time. The danger lies in the fact that a novice or ignorant beekeeper, may be called upon at any time to cure foul brood in his apiary, and in nine cases out of ten he will do it himself and make a mess of it, to the loss not only of his own stock, but that of beekeeping neighbours. Is it likely that he will follow to the letter instructions telling him to burn or destroy frames, honey or comb, or is it probable that he will do as thoroughly as the nature of the disease demands? If a neighbouring beekeeper comes over and offers to help, he is quite likely to be told to mind his own business, and can do nothing more than sit down and trust to Providence. Now, with the N.Z. Foul Brood Act, the neighbouring beekeeper can legally come and see that the work is properly done. He may be an educated and capable man, and may have a large stake at issue, and he *will see that proper measures are taken*, and if not will *compel* the owners of the foul-broody bees (who may have but one or two stocks, to carry out the curing in a safe and satisfactory manner, so as to minimise the risk of the disease spreading. If the neighbour does not feel equal to the responsibility, and does not hold the skill of the "affected" apiarist in sufficient esteem to leave the work in his hands, he will obtain expert opinion, and see that the instructions sent are scrupulously carried out, and he has a legal right to do so. A law of this kind should give the conscientious producer, the man who has the welfare of his industry at heart, protection against possible injury to it by ignorant, careless, or unscrupulous individuals. It should place it within his power to protect *himself*, while putting a check on his actions at the same time. It should be so worded as to leave no loophole, and allow no doubt as to the meaning. In this respect the proposed Act falls woefully short. And (a most important proviso in these days of retrenchment) should be capable of being cheaply administered.

I leave it to your readers to judge which of the two acts, the proposed one or the N.Z. one, fills most of the above conditions. It goes beyond my limited understanding how the South Australian Act can be chosen at all for a pattern. I do not approve of the medicinal treatment given in the N.Z. Act, but I maintain that its principle, and the fact that it enables beekeepers to deal with the question locally, places it far ahead of the S.A. Act or any possible modification of it. I would be rather in favour of local inspectors being appointed, from the ranks of the beekeepers (local associations could

be asked to suggest suitable individuals)—these inspectors' duties to consist of looking round the various apiaries occasionally and identifying (or getting identified) doubtful cases, but to have no authority in ordering or undertaking cures beyond that given by the law to any other beekeeper. These local inspectors to receive no salary or fees, but only a certain mileage when called beyond a radius of say two miles from their home. In this manner, a close and constant watch would be kept all over the colony over the beekeeping interest, which would not be possible were the inspection made by an expert on a flying visit twice or three times a year. I know that arguments can be brought forward against any act or law that was ever passed, but I still insist that the N.Z. Act is open to less objections than any other that has come under my notice.

A gentleman on the New South Wales Southern line, writes us—Enclosed are two letters I send you privately, from which you will see the state it is in with foul brood, right from Albury to Sydney. I myself have always been pestered with one neighbour or another having foul brood, but I believe the last foul brood bees in the town died this week. These same bees have been affected about two years, and they are situated within 150 yards of my apiary, so you may know I have not got off scot free. I had a letter some time ago from a man in Goulburn saying all his bees were dead with foul brood. Four miles from where this letter is written a bee slayer had over 60 in frame hives, now he has 22, all affected. So I think it is high time we had a Foul Brood Act. —One of the accompanying letters says:—"If you want a dose of foul brood I can fix you up splendid. I am destroying most of my bees. I got it first with some black bees. I am going to treat some this next week, and if they show signs again I shall destroy them." The other, from Queanbeyan, says—"Great mortality in some parts of district among box hives and some of the frame hives. One man went into winter with twenty-four colonies, and now has only five. Foul brood killed his bees I believe, but he says his bees never had it. I fancy he does not understand anything about F.B."

Mr Donald G. Grant writes—A young fellow who has just started beekeeping in Denman, a little township some 15 miles west, brought me a couple of pieces of comb yesterday to examine. They were from a couple of his hives, bees he had got out of trees in the bush. One, a piece of dark brood comb, had several cells rotten with foul brood. The other, a piece about two inches square of new comb, did not have three healthy cells on each side. It was simply a mass of corruption. He told me he had burned another colony, rump and stump, as it smelt like rotten glue, and he was sure of what that meant. I advised him to treat them by McEvoy's plan, and to lose no time about it either. Rather hard lines for a beginner to have to tackle a thankless job of that description, but this bears out my contention that lectures should be given now to educate the people in the treatment of these diseases and drawbacks of bee-culture, so as to give the crowds who have rushed into it a chance of holding their ground, and save them from a general collapse.

A writer from Braidwood says—I wish that the Special Subject for this month had included foul brood and its treatment. We want the Act badly enough, but while we are waiting for it we want to know all about the disease and how to treat it. I think that nearly the whole of the bees in this district are rotten with it. I think the proposed bill is a very good one. I think the difficulty will be in carrying out, and that the penalty for the first offence should not be less than 20s. However it is not possible to be any worse off with the bill, so by all means let us have a trial, and see if something can be done to get rid of the scourge. Do you think that if a clean worker comb from an affected hive were to be exposed to the air for several days that the germs of foul brood would be destroyed? If a larva from a worker cell be transferred to a drone cell from which the drone larva has been taken out, will it produce a queen if given to a queenless hive, or is there any difference in the food sup-

plied to workers and drones that would make any difference?

(According to Dr Howard we take it a frame from a foul-broody colony, not containing honey, or from which the honey had been extracted, if exposed for 36 hours in the open air, ought to be perfectly free from disease. Re the larve, it will produce a queen if egg laid in a worker cell, transferred to a drone cell, and placed in a queenless colony. The matter is decided as to its being a drone or a worker when the queen lays the egg, not in the after feeding.)

A private letter to us runs as follows: Just to give you an idea of what some people think of foul brood. A man I bought bees from, has at this present moment, in a back room of his premises, a large can (uncapping can) in the lower part of which is about $\frac{1}{2}$ wt. of honey, and in the strainer about 20lbs. or so of wax, dross and half-melted comb. This collection of stuff is the honey and comb from the five colonies of bees we destroyed, and that I told you of, over two months ago. This has been heated a little in two or three kerosene tins, not enough to melt the comb even! Do you know what that man (who has had bees for some four years or so—at one time over 50 colonies) intended to do with that honey? Only bottle it and retail it about the town!!! When he told me that, over a month ago, I reasoned with him, and even offered him pound for pound of good extracted honey for the muck. He said then he did not believe one half this talk about foul brood, that these germs could not live in the honey, *because they would smother in it*, and that the bee books only said these things to frighten people; and a lot more talk of the same elevated kind. I lost my patience and he his temper, and he said he would keep his honey and do as he liked with it. He has kept it so far, and the next thing I expect to see is the honey bottled up, and the can put out for the bees to clean! That's how matters stand here. Do you consider that a fine would meet this case? I don't. I am waiting patiently, and hoping for a Foul Brood Act to be passed soon, and if I don't have an inspector or expert or something down on him within 24 hours my name is not ———.

M'EVOY'S FOUL BROOD CURE.

Some time since we published the above. We however do so again, for the benefit of those who do not possess a copy of same:— "In the honey season remove all the foul combs in the evening, and put in frames with comb foundation starters. At the end of four days the bees have drawn out the starters and stored most of the diseased honey taken with them from the old combs. On the fourth evening he removes these starters, and gives full sheets of comb foundation, and by the time the full sheets of foundation are drawn out all the diseased honey is used for comb building. These starters and contents are either melted at a high temperature or burnt, as they contain infected honey. The frames of comb containing the rotten comb which were at first removed are burnt, thus destroying all infected material to begin with. Hives are not destroyed or disinfected, but used at once, the disease being treated, leaving the bees all the time in their own hive."

THE NEW BEE-DISEASE INVESTIGATED.

By Wm. R. Howard, M.D. in *American Bee Journal*.

Having noticed on page 344, in the report of the Los Angeles County convention, by Dr. G. A. Millard, under the caption "A New Bee Disease," that they are having some trouble in California from this new infection (?), I wish to call the attention of those interested to page 14 (my work on "Foul Brood") commencing at the last paragraph on the page, where the condition is treated of in full.

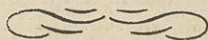
We have been troubled with this condition in this county, and have lost several colonies of bees from it. The treatment mentioned in connection with this condition, where rigidly carried out, has not failed to cure it. During the profuse honey flow it frequently disappears, from the fact that the bees clean out the dead

brood and fill the infected cells with honey. Later in the season, or perhaps the next spring, when the honey has been removed, and the cells have been used again for brood, the disease reappears. In all the cases which I have examined, I have found that most of the dead brood was sealed. Many putrefactive bacteria increase rapidly when exposed to the air, and when the air is shut out, as by sealing the brood cells, they are deprived of the oxygen necessary to their growth, and fermentation obtains, thus destroying the sealed pupa.

A familiar illustration is noticed in the souring of milk, or cream; while the cream is exposed to the air, or frequently stirred to admit the oxygen from the atmosphere, souring is hindered. The chemical change is the result of the growth of a microscopic organism of the same origin as yeast, and like common yeast, requires oxygen for its development—this it gathers from the air, if the latter have access; but in the absence of air, as when growing in milk, or in the "yeast batter" of the baker, decomposition of the milk (its sugar) and lactic acid obtains. When the "batter" of the baker is made into dough, the oxygen is excluded, decomposition takes place, and fermentation is the result, and the bread is said to "rise;" stirring or agitation causes it to "fall."

I mention this familiar illustration so that it may be made plain how fermentation is produced, and to show how this process may be destructive to animal life.

I have had this "new disease" (?) under consideration during the present season, and out of several careful examinations I have not found a single specimen of *bacillus alvei*; I have still in my laboratory, under culture and investigation, and may arrive at something definite, which may be of interest to bee-keepers. This is possibly Mc Evoy's "foul brood" from rotten brood. A careful reading of proposition II, in my work on "Foul Brood" will give a clear understanding of this disease.



THE USE OF HONEY IN COOKERY.

We have utilised the columns of the *Maitland Mercury* for the following, being so occupied at the meeting ourselves we could not take the necessary notes:—

Under the auspices of the Hunter River Beekeepers' Association, Mrs Walter May, of Singleton, gave a practical demonstration on Friday evening, Oct. 26, in the cookery room of the West Maitland Technical College, of the uses and advantages of honey as a substitute for sugar in cooking. There was a very large attendance of ladies, while the gentleman included Mr. Isaac Hopkins, of Auckland, New Zealand, author of the well-known publication, "The Australasian Bee Manual" Messrs. E. Tipper, M. Scobie, E. P. Capper, J. W. Pender, R. L. Pender, and G. T. Pender.

Great interest was manifested in the proceedings, which began shortly before eight o'clock and terminated at ten. Mrs. May was introduced to those present by Mr. Tipper, who said she had come to Maitland at the request of the Hunter River Beekeepers' Association, the members of which were doing their best to make people believe in honey, which ought to be used a great deal more than it was in the household, for it was one of the best and most nutritious foods God had given them. They believed that by having demonstrations of that kind they would be the means of making honey more largely used. Mrs. May had made a study of cooking, especially cooking with honey, and it was an encouragement to her to see so many present.

Mrs May then set to work to prepare the ingredients of a steamed plum pudding, which she made first because it would occupy an hour and a quarter in boiling. Having placed this on a gas stove alongside to steam, she proceeded to prepare dishes of compote of oranges, apples, and pine apples, and explained that as time would not permit in one lesson of her making everything she would wish, she had brought with her a

quantity of cakes, jams, jellies, marmalade, etc., which she intended to ask those present to partake of before they left the room. Everything she exhibited was cooked with honey, with the exception of the icing on a cake, and she had not yet been able to dispense with the use of sugar for that purpose. In the making of cakes, she explained the honey made them keep moist longer than sugar, besides which its use was beneficial to the throat and medicinally had much to recommend it. It was in many ways far superior to sugar. She exhibited some quince jelly, tomato and passion fruit jam, pine apple jelly, candied peel, and French jellies, and explained how almost any fruit can be saved, and at slight expense, made into preserves of various kinds. She found from experience that in using honey for jam making there was an absence of fermentation or blue mould—two essential qualities the value of which will be readily understood by all housewives. Fruit preserved with honey she has known to keep for twelve months, and if it would keep that long the presumption was it would keep longer. Home-made ginger-beer and lemon syrup were drinks in the making of which honey might be used with advantage. She showed a bottle of lemon syrup made by herself, which was very clear indeed. The several dishes made up and cooked by Mrs. May were explained as she went along, and when the demonstration had concluded those present had cakes and tea and pudding passed around to them, while a table was neatly laid out with compotes and various dishes which the audience was invited to try. They did so, and the verdict was one of unanimous praise for the excellence of the cooking and the pleasant and agreeable flavour produced by the substitution of honey for sugar. In reply to a question as to the relative cost of honey and sugar, Mrs. May stated her belief that honey was quite as cheap as sugar. At any rate many people have large supplies of honey, and if these understood its use for cooking purposes

it would be found an advantage, and then there was its value to be taken into consideration from a medicinal point of view.

Mr. Tipper, as Chairman of the meeting, called upon Mr. Hopkins to propose a vote of thanks to Mrs. May. The Beekeepers Association felt honoured to have Mr. Hopkins' presence at that demonstration. Mr. Hopkins was the Editor of the first Australian Bee Journal published in the colonies, was author of the *Australasian Bee Manual*, and was one of the largest beekeepers in the colonies at the present time. He was now on a visit to New South Wales for the benefit of his health.

Mr. Hopkins said he had very much pleasure in proposing a vote of thanks to Mrs. May for her lecture, but he would rather that Mr. Tipper had done so. He was sure that everyone present must have been highly gratified with the demonstration and lecture Mrs. May had given. He was more pleased to hear her on account of being connected with the honey industry himself. He had lectured some years ago on honey as a food and medicine. It was not only that they could make good articles from it in the way of flavouring, but it was highly beneficial to people suffering from weak stomach. The use of honey strengthened the whole system, and it was a splendid thing in connection with the digestive organs. He was very pleased he had come to West Maitland, as he had fallen in with several beekeepers whom he had known previously only by repute, and was sorry his limited stay in the district would not give him an opportunity of visiting the whole of the apiaries in their midst. He proposed the vote of thanks to Mrs. May.

Mr. J. W. Pender, in seconding the motion, expressed his pleasure at seeing Mr. Hopkins present, whom he looked upon as a distinguished visitor. In name Mr. Hopkins was known to almost every beekeeper in the colony. His work—the *Australasian Bee Manual*—was a work that everyone studied with advantage. He hoped when Mr.

Hopkins returned to New Zealand he would carry back with him pleasant memories of his trip to New South Wales. As a member of the Beekeepers' Association he was pleased to be present to hear Mrs. May's lecture. He felt deeply interested in beekeeping, and from what the audience had heard that night they knew now the advantages of honey in culinary purposes. They would all agree that Mrs. May had done well indeed in showing what could be done with honey, and they all appreciated what she had shown them. The Beekeepers' Association felt deeply grateful to Mrs. May for her efforts to advance the interests of beekeepers. They wanted the honey industry to advance. It was an important industry, and the people of New South Wales would be very large exporters of honey in time to come. The existing prejudice in London against Australian honey would soon be overcome, and then they would be able to show what luscious honey they could raise in Australia.

Mr. Tipper in putting the vote said he could endorse everything that had been said, and asked the audience to carry the vote with acclamation.

After the applause had subsided,

Mrs. May said she had much pleasure in accepting the vote they had been pleased to pass. It had been a great pleasure to her to have come to Maitland to give that demonstration, and if she had in any way been instrumental in forwarding the interests of the Beekeepers Association, she would be very gratified.

H.R.B.K.A.

The usual monthly meeting of the above took place on Tuesday evening, November 13th, at the Technical Museum, West Maitland, Mr J. W. Pender, vice-president, in the chair. The minutes of previous meetings were read and confirmed.

Mr Tipper reported the sub-committee re the Foul Brood Act had met and adopted the following recommendations, co-

pies of which had been forwarded to Mr Whittell, secretary of the National Beekeepers' Association:—

That all beekeepers be compelled under penalty to register their hives, and if any objection is raised by the Department to the expense of registration, the same be partly met by a small tax of say 2d per hive on all hives kept by a beekeeper beyond 10. The registration and the levying of the tax, if enforced, to take place on or before August 30th in each year.

That power to enforce the penalties be provided for in some way, possibly levy and distress, in clause 2.

Mr W. S. Pender moved and Mr Munday seconded that in future circulars be sent out to members a few days before nights of meeting. Carried.

Mr Munday opened the question—"Does the position of the frame in a hive make any difference?" He did not agree with Mr Patten that as far as the bees are concerned it made very little difference, but it did make a difference to the beekeeper. When arranged parallel to the front of the hives it was better for the beekeeper and for the bees too. When operating on a hive when the frames are moved backwards the frames in front are seldom touched at all. The first frame contains honey and pollen, the second frame brood, and the last two frames honey—all honey in the back frames. Again, when the apiarist is taking frames out of the back of the hive the bees go to the front out of the way of the beekeeper. When arranged at right angles they stored honey at both sides and the brood in the middle so there was a little more trouble in taking honey from the two sides than from the back. He noticed when the bees were arranged parallel to the front they build in the front frames and worked backward, both in bottom and top story. When the beekeeper was working at the side of the hive he was more in the way of the bees.

Mr Noad preferred combs parallel to the entrance.

Mr W. S. Pender agreed with Mr Munday that it made little difference. If he had them either way he would not alter. He however preferred them at right angles, as the bees could go more freely on entering to either frame. The

pollen was generally stored in the comb next the brood. Bees stored the pollen in the most convenient position for feeding the brood. With the eight frames he found the whole of the brood frames filled with brood. Brood would be started in the upper story, and when honey came in it would be crowded on to the brood and the queen be forced below. Another advantage is the bottom board should have a tilt forward to enable the bees to more easily remove rubbish, and it also sheds the water from the roof forward. With this tilt and the hives parallel with the entrance the combs would not be built straight down in the frames.

Mr Tipper knew of several large beekeepers who were great believers in frames parallel with the entrance. For himself he had them both ways, but preferred to work with those at right angles to the entrance.

Conversation now took place on the honey prospects of the district.

Mr Munday said the martins were playing great havoc with his worker bees, leaving scarcely enough to cover the brood. In his district there would be little honey this year. In consequence of the flood the farmers lost their lucerne, and the young lucerne now growing did not yield much honey.

Mr W. S. Pender said at his out apiary prospects were pretty good. Iron bark and mahogany were both coming out. He was however somewhat afraid of the bush fires. About town, at Drumfin, there had been a slight flow lately.

Mr Tipper said honey was beginning to come in about West Maitland. At his out apiary the clover had been good, mangrove was in bloom, and mahogany and iron bark were coming out.

For discussion at next night of meeting "Size and shape of frame," and "Is shade of any kind advisable," and what would you recommend for the Hunter River District?" was agreed to.

Communication from local agricultural association and some matters of finance were left to be dealt with by the committee at the *A. Bee Bulletin* office on the following Saturday.

ENGLISH MARKET AND SCHOOL-TEACHERS.

Sunnyside Apiary, Appin,
18th October, 1894.

Dear Sir,—Mr. Russell of Fyan's Creek, Victoria, deals with two very important questions in your last issue, viz., the matter of schoolmasters being allowed to keep bees, and the advisability of some beekeeper going to England to dispose of our surplus honey. In regard to the latter subject, I may state that I have been in communication with a well known beekeeper, urging him to go home next April to dispose of his own surplus honey and that of others who may be willing to contribute towards paying expenses. Should I succeed in my efforts to get him to go, and accept agencies from others, I will communicate further. Anent the matter of schoolmasters keeping bees, it has been urged, and justly too, that they should if they think proper, and the Department of Education has, correctly in my opinion, acknowledged their claims in this respect, and granted them permission to do so. Rule 94 of their regulations, however, prohibits them from trading, and the question yet to be settled, is, whether the gentlemen have not taken an undue advantage of the permission to keep bees, and have become bee-farmers in the most extended sense of the word. Many of them carry on the most extensive operations, not only produce tons of honey, but import, breed, advertise for sale and sell queens, make comb foundation and undersell in the market, regular supply dealers. At the last convention, the question was broached, and it was urged by some of the schoolmasters then present that they should be allowed to keep bees for educational purposes. Is it necessary, Mr. Editor, that they should keep more colonies of bees than they have students of all ages and sexes attending their schools? Would the permission to keep a horse or a cow, say for educational purposes, be allowed to extend itself, so far, as to mean keeping a livery stable in one case and a

dairy farm of the largest dimensions in the other? Schoolmasters are allowed to keep vegetable gardens, and to sell their surplus vegetables, but would it be permitted of them to produce vegetables in such large quantities as to find a market in the metropolis only, and to flood that market as they have the honey market, in Sydney, this last winter?

As schoolmasters advocate being allowed to keep bees for educational purposes, and as I am not prepared to question either their integrity or philanthropy, I propose that they be allowed to keep as many colonies of bees as they think proper, that after taking as much honey, wax, &c., as they require for their own use, the remainder be sent to some duly acknowledged salesman, to be by him, sold at public auction; that 10 per cent of the sale proceeds be returned to the schoolmaster and the balance forwarded to the Minister for Education to be used by him for educational purposes only. Now, Messrs. Schoolmasters, what do you say to this? If you agree to my proposal, you will have peace of mind and a splendid opportunity of proving your patriotism and philanthropy, two noble attributes of which all good citizens, like yourselves, are proud,

I am, &c., T. H. BRADLEY.

Mr A. Ayling, Dubbo, writes—Bees are breeding well here, but no surplus honey yet; have promise of a good season.

Mr Thos. E. Walter, Moruya, writes—I need hardly tell you, after a year's trial, that I am very pleased indeed with your paper. During all that time not a single instance occurred rendering it necessary to write and ask what had become of it. Every number came duly to hand. Am sorry to hear you are not supported—financially—so well as you ought to be; am quite satisfied you give full value for the money. Every prospect so far of a good honey yield. It is a long time since there was such an abundance of white clover about as there is at the present time.

MOVING BEES IN HOT WEATHER.

MRS. JENNIE ATCHLEY.

I notice lately where bees have suffered, and several good colonies killed outright by moving in hot weather. After my many years experience and successful attempt in moving bees in hot weather both by wagon and by car I feel that it may assist some beekeepers in Australia. I will give what I have learned along this line. First, I have learned that it is the confining of the bees in their hives that does the mischief. Just so soon as bees are disturbed they at once begin to fill themselves with honey. Eating honey creates great activity—and heat begins to accumulate, and if the bees cannot get out from among their brood and combs, they will suffocate very soon. I transport bees by wagon when the thermometer registers above 100 deg. safely, I have a bee tight wagon, made so with wire cloth, place my hives in, remove the covers and allow the bees to come out from between their combs and get fresh air, and it astonished me to note how quiet they would remain clustered on top and around on their own hives. Willie drove home, about 40 miles, with about 20 colonies in our hottest weather this year, and not 50 bees were flying about the wagon when he arrived; and he kept them quiet by spraying the whole contents of the wagon with water just as soon as he discovered they were getting uneasy, and soon all was quiet. The bees that cluster about on top of the hives seem to keep up a low hum that drives fresh air down through their combs, and all keep cool and no damage is done. Of course we have a spring wagon, and the easiest springs we can get. If you wish to move bees in box or other hives, and have no wire top wagon, you can move them a long way successfully by cutting wire cloth a little larger than the top of hives, tack around on top edge of hives by using little cloths and small tacks, and have the wire large enough to bow up and give space for the bees to cluster

out on top of the hive under the wire; and occasionally sprinkle with water and all will be well. *It will not do* to depend upon a wire over the entrance in hot weather for ventilation as the bees soon close the entrance entirely and ventilation ceases. I wish to impress upon your minds that *it will not do* to confine bees to their hives in warm weather, and I trust no one will ever try it as loss will be the result.

Beeville, Texas, U.S.A.

TRANSFERRING.

Mr. D. G. Grant, Silver Oak Apiary writes: —Dear Editor,—I hardly agree. with “Binni” in his comments on Mr Colbourne’s article on transferring. The difficulty he mentions, is just as great whether the hive is to be fitted above or under, the box hives. In fact it is no difficulty at all, as the board with excluding zinc tacked over the hole would or should suggest itself at once. I would tack fillets on the same side of the board as the zinc, for the hive to rest on and use it as a *bottom board*, placing it *above the inverted box hive*, zinc side up.

It does not seem to matter much, at first sight, but I tried both plans, and can assure you, it makes a lot of difference in many ways. First if the box-hive is placed over the frame hive it is much warmer, and the bees will nearly all go to it at night, leaving only a few below with the queen and as the lower hive is cold, comb building and brood rearing will progress very slowly indeed. Secondly, the bees will, as the brood hatches out, use the combs in the box hive above as storage room, so that the box will be filled with honey in a very unprofitable form. Thirdly, the bees will almost invariably build queen-cells in the upper hive, because, being cut off from the queen and making their home in the upper box, the nurse bees thinking themselves queenless and as the queen has to almost stop laying for a few days for want of comb, warmth, and bees in the lower hive, she is very often killed.

On the other hand, if the new hive is placed above the old box, First, the heat rises to it from below, the bees follow the heat, and comb building and brood rearing can be started at once, while just enough bees will go or remain below to care for the brood in the old box. Secondly, the bees will not store honey below the excluder, but will, especially in a poor or medium honey flow, *remove* the honey from their old combs and put it in their new ones from which it can be extracted. This promotes brood-rearing. Thirdly, there are so few bees below, that, as far, at anyrate, as my experience has gone, they do not think it worth while building queen-cells, probably because the young bees get into the warm upper hive as fast as they hatch, and the lower apartment is too cool to induce queen rearing. The above points are not merely guesswork, they are the result of observing and comparing the state of affairs in a number of cases, worked on each plan, side by side, and under identical conditions.

THE DIVISIBLE BROOD CHAMBER.

W. S. PENDER,

Friend Bolton expects that I may write up the "divisible brood chamber hive a success" next year, when he will welcome me to his side. You need not wait so long friend B., you could have done so at least two years ago, and I think my article in the September number, page 152, proves it. The divisible brood chamber is a complete success, but when it comes to using closed end *standing* frames in these hives I must withdraw. I have used the Heddon hive experimentally and found that the frames were not capable of being rapidly handled. Too much care (loss of time) being required when removing and replacing through bees getting on both the ends of the hives and frames. You may say smoke them down. Here again is loss of time, not only of the apiarist but of the bees, for when a colony receives so much smoke as to drive the bees from

different parts of the hive there is little progress made in that hive for some hours. You may also say why handle the frames? Handle the chambers! That is all very well when honey is being rapidly stored, but there are many operations that require the handling of the frames more or less, and it is then so much time, &c., is required. I also found the ants a nuisance, nesting between the ends of frame and hive. I do not like having two sizes of bodies, one for comb and the other for extracting. It is often convenient to run both sections and extracting frames in the one super when both are alike. As for inversion I have never found it necessary in shallow frames. The Divisible hive I prefer is the half depth bodies of the 8-frame hive fitted with Root-Hoffman shallow frames and follower. This season I tried a few (200 I think) closed-end hanging frames, interchangeable with the above, but so far I do not like them as well as those *partly* closed like the Root Hoffman, and I think when the top bar is altered to $1\frac{1}{2} \times \frac{3}{8}$, and the bottom bar from $\frac{1}{2}$ to $\frac{3}{4} \times \frac{3}{16}$ and worked with follower and wedge in 8 frame half stories, we will have a hive considerably superior to the Heddon. These shallow frames can be very rapidly handled, and the shallow bodies, being only $4\frac{1}{2}$ in deep, during a honey flow can be rapidly handled without shifting a frame until the combs are to go into the extractor. As friend Bolton seems to have had a considerable experience with the Heddon hive I would like to see him write up its many advantages, for without a doubt it is an excellent hive, especially for one who intends to make honey production, either comb or extracted, his sole business; but I would prefer it for my own use modified as above. Now then friend B, let us know all the advantages of a divisible hive? How to handle hives instead of frames, and make honey production pay in spite of low prices.

Now, I am not advising those who have hives to change for another kind. Bees will store as much honey in one hive as another, if worked to the same end.

But, when one depends on the production of honey for a living, he strives to produce the greatest amount with the least expenditure of labour, and the kind of fixtures he uses must be adapted to his plans.

Mr. Gordon tries to show that the Gallup hive is superior to the 8-frame hive, and thinks that "every line I wrote was in favour of the Gallup hive." If he will look at the first four lines of my article he will see that what I wrote was intended to hear on all kinds of hives, though I selected the 8-frame to simplify description. I have tried the Gallup hive as I have most hives, and gave it up in preference to the Simplicity size of frame. Almost every operation that can be worked with the Gallup can be worked with the Simplicity size frame. The reasons I would adopt the Simplicity size frame are:—There are in N.S.W. from 10 to 20 hives at least used of that size to one of the Gallup, and if all beekeepers adopted one standard our hives and frames would cost less because more of the one kind would be manufactured. If I want any fixture to suit that frame or the hives it is used in, I can always buy it as a stocked article, without having to wait for it to be made, as you would with the Gallup. Bees will build combs from starters in the one frame as well as the other, under the same conditions, as frames hanging plumb and being properly spaced. Contraction with a division board to one side of the hive, with the entrance contracted, and placed in any position on the front, overcomes the same as friend Gordon describes. Or if it is thought advisable to have the entrances at the side of frames, instead of the end, just contract the same, as he describes for the Gallup. When using the Gallup frame I found too much honey put in the brood combs, especially, in the upper corners, and when extracting, the centre of the comb would break. If I were using the Gallup frame I should work it on the long idea plan and would not need either half-depth frames or supers.

I have used the word "Simplicity" for describing the size of frame, which I may here mention is $17\frac{3}{8}$ in. long by $9\frac{1}{8}$ in. deep, the Root-Hoffman frame is that size. The Gallup frame is $11\frac{1}{4} \times 11\frac{1}{4}$.

Drumfin Apiary, West Maitland.

OBSERVATIONS ON SWARMING.

Western Stockman thus writes in the "Sydney Mail."

One of the plainest manifestations of swarm fever is in causing the second swarms to come out later than schedule time. A novice would expect the opposite result—earlier time if the bees felt in a hurry. The explanation is, that the mania causes the first swarms to come out with less preparation than usual, or none at all. Then, as there must be a queen of some sort before the second can get away in condition to set up in house-keeping, there must be a longer period of waiting for the young queens to emerge. I have for the present very swarmy year of 1893 the full records of 22 second swarms. Of course, if either the first or second swarm gets out without my seeing it, or without my seeing where it came from, the record is likely to be a blank, so far as that hive is concerned. Also the cases of superseding queens at swarming time, put out the colonies in which they occur. These 22 second swarms were timed as follows: At 8 days, 5; at 9 days, 2; at 10 days, 5; at 11 days, 4; at 12 days, 2; at 13 days, 2; at 14 days, 1; at 17 days, 1.

The 17-day colony gave a third swarm at 19 days from the prime. On the previous day I examined the hive and found things as they should be during after-swarming. So, it was not a case of the old queen returning and coming out with another swarm later. Once or twice before, I have had the last swarm 17 days from the prime. It seems to me that Mr. Alley's assertion, in his new serial, that if no swarm comes out by the twelfth day none need be expected, is misleading and bad, except as to

locations where swarm fever never prevails. Mr. Doolittle remarks that cutting queen cells on the sixth day will result in swarms on the sixteenth, seventeenth, and eighteenth; but in the above case no cells were cut; and I should be afraid to trust even Mr. D.'s sure plan (cutting on the eighth day), lest a considerable per centage should swarm anyhow and leave the colonies queenless. Another manifestation of swarm fever is the great number of swarms that go back to their hives again. June 14 I had eight swarms in succession come out and go back and not a clipped queen in the yard. Fourteen of the 22 swarms in the table above, went back; so one day should be added, if the time when the second swarm is ready to be hived is wanted. A fifteenth one came out three times the same day, clustering the third time. A novice would suppose going back into the hive indicates attachment to it, and reluctance to go away. The fact seems to be, that a few hotheads gets so impatient to be away, that they start a rush prematurely, before the queen is ready, or, at least before all things are ready; and the result is a fiasco. Three of the five eight-day swarms clustered the first time. The fourteenth day swarm went back, and came out the next day.

The table of my this year's experience as you see, makes the average time between 10 and 11 days. There being more than twice as many on the eighth day as on the ninth day may be a slight indication that eight days is the true normal. It is very well to have experiment stations and pay experimenters; but there is much work yet to be done which almost any intelligent and enthusiastic young student could do. For instance, bees have 20 different styles of swarming. Who will take eyes in his head, and watch and notebook in his hand, and describe each style accurately, as a scientific work would require? Occasionally a swarm comes out riding on each other's shoulders, and hurls itself in ragged

heaps upon the ground in front of the hive, sizzling and fuming. Perchance, after a long time spent thus, they get back on the front of the hive, and gradually cool down—like an over-heated cooking stove slowly simmering itself into quiet. Occasionally a swarm comes out rather slowly, and half the bees quickly alight, scattered everywhere, on the leaves of vegetation, on surrounding hives, and on the ground as if there were going to be a ball game, and they wanted to get into position to see. Thus, they alternately fly to rest, keeping some show in the air all the time, until a regular cluster may develop somewhere later on. Occasionally each bee seems to come out almost, as if shot from a popgun, and goes directly high up in the air; and before the rear end of the swarm is out the advance guard is gone, nobody knows where; and part of the company have to return for want of anything else to do with themselves. Thus the swarm is like one of those great swift comets that almost touch the sun, a piece of the tail gets pulled off in passing. So many reliable apairists find the fountain pump of some use in controlling swarms, while the same is absurdly useless with me, that I think the dense, just-like-a-picture style of swarming is common in some yards. Otherwise, I should be tempted to say that bees never swarm that way. Who will collect all these facts, and get them salted down somewhere where they can be referred to?

Mr G. P. Lambert, Berrima, writes— I have a large swarm of bees in a Langstroth hive. A few days ago I put on a full size super with starters. I examined the hive to-day, and find no work done in the super, but the lower ends of the frames stuck down with comb, and in a few cases comb with honey in, so reversing the usual order of things. Can you advise me what to do.

[Take several frames with adhering bees from the bottom and put in top story. We have always found bees build burr combs when starters only are put in the upper storey.

Those notes from the Hawaiian Islands by "Peripateticus" are real breezy and interesting reading. As we read we almost fancy ourselves on a visit to those lovely paradises.

Mr W. Abram, Beecroft, writes:—Bees now work on redgum, but not much of surplus. A bush fire burnt for about a week in the district between here and Gordon, and destroyed many miles of scrub.

Mr J. McFarlane, Lyndhurst, Victoria, writes Nov. 12:—The weather so far this spring has not been favourable for the bees, too cold and wet, consequently have stored little or no surplus. But red gums are just opening out and promise well. At out apiary (Caldermeade) clover is abundant, and if weather gets warmer no doubt will yield well. Swarming is over for the present, about 40 per cent. having swarmed. Wishing *A.B.B.* success, &c.

Mr D. G. Grant, Muscleebrook, writes:—Things apicultural are rather backward up here owing to dry weather, but there is abundance of buds on the gums, box and ironbark, and if we only get a fair share of rain, and decent weather when the blossoms open, we might make up for lost time. I have been trying the half-depth frame (Root-Hoffman), and I can only say that I consider them the frame of the future, especially as a brood frame, to work on the tiering and divisible brood chamber plan. I cannot say I should care much for them as extracting frames, though I may change my opinion in that respect when I get better acquainted with them. I have one queen, a first-cross hybrid, who has been keeping four sets (of 8) of these frames full of brood for the last three weeks. The hive is now four stories high (two full depth supers), and I do not think you could make one half-frame of all the honey in the brood chamber. This could not be managed with the full frames. If I were starting again to-morrow I should start in Heddon hives, which are *reversible*, in addition to all other advantages.

Mr. A. Moodie, Harden, writes us there is every prospect of a good honey flow in that district.

Mr F. J. Foster, Wattle Flat, writes:—Re Mr Petersen's yields of honey which I see mentioned in your last, being an eye witness of the ten tanks of honey I can vouch for every word of Mr Petersen's report as being correct. I feel sorry that Mr Niven should have made such uncalled-for remarks in regard to a bee-keeper of Mr Petersen's standing, for the latter is one of those genial and generous men who, when they have found a good thing, hasten to publish it for the benefit of their fellow men.

Mr Cecil Pennefather, Casino, writes—In the last issue of the *A.B.B.*, I noticed a letter from a correspondent asking where good bee farms could be procured, and if the Lismore-Tweed districts were suitable for that purpose. I may state that parts of this district (Casino) are unsurpassed for bee farming, there being thousands of acres open to conditional purchasers within twenty miles of Casino, comprising some of the best scrub land probably in Australia; to these natural apiaries the nature of the roads vary from good to bad. Though I don't know the value of scrub honey, there is no doubt as to the quantity, as the bees in the vicinity of scrubs appear to gather honey all the year round, one kind or another of tree being almost constantly in blossom, and as the winters here are so mild the queens do not stop laying for any length of time; moreover on account of the number of wild swarms a large apiary can be built up in a very short time. As I am a licensed surveyor in charge of this district I have of course, special facilities for knowing what lands are open for C.P., and I should have much pleasure in giving your correspondent any information he may require in the matter gratis; or, what would be better, point out the localities to which I refer personally. I may state I am very pleased with the *A.B.B.*, it is a credit to West Maitland. I wish you every success.

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It prevents Swarming, Burr Combs, besides producing larger quantities
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	Nailed up.	In the flat.	
Single Storey Hive ..	6/9	3 in crate. 18 in crate.	5/-
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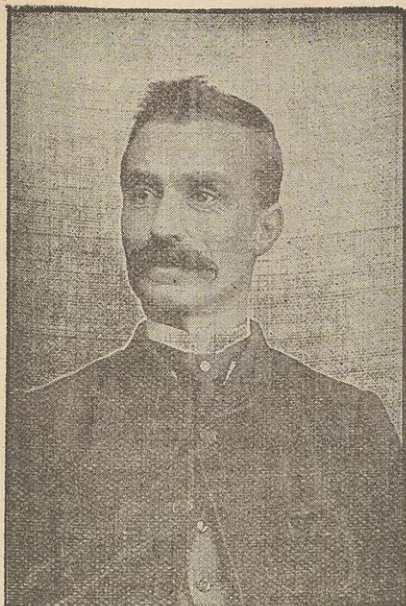
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Six sheets to lb.	per lb.	Eighteen half sheets to lb.	per lb.
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Mr —, a large apiarist in an adjoining colony says—"Last season I bought over a dozen from a man at one time, untested, but they all proved to be *mismatched*, and every one small."

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For queen breeding my location is unequalled, as far as the eye can reach may be seen waving fields of lucerne, maize, &c., &c., and no bush bees to interfere. My apiary contains nothing but pure Italians, bred from imported mothers.

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Ligurians or leather-coloured Italians will be bred in one yard and the American or five-banded in another three miles away, all from Imported Mothers.

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Choice Breeders, 15/- each, 2 for 24/- either breed.
Hives with Combs, Bees, &c., complete, 15/- extra.

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I attribute my success to the fact that I have obtained the past seven or eight years fresh breeding queens every season from different places and most noted breeders in Italy and America, and have just landed two very select breeding queens from A. E. Manum, Bristol, Vermont, who gives them a very great character, and adds that they are descended from a queen that filled 312 1lb. sections in the one season, besides drawing largely from her for eggs.

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JAMES McFARLANE, LYNDHURST, VIC.

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Mr J. T. ADAMS, Shady Bank Apiary, Mooroopna, writes:—Any Beekeeper dissatisfied with such a Queen as you sent me would be a hard case. She not only did all I expected, but a great deal more, for although she was a fortnight behind the others at start she led in honey until last," and he sums up by saying "her bees are good honey gatherers, like flies to handle, and as handsome as any lover of beauty could wish."

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Should you get one of my tested queens that does not give you satisfaction, let me hear from you.

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