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West Maitland, N.S.W.: E. Tipper, September 23, 1893

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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 2. No. XVIII. SEPTEMBER 23, 1893. PER COPY, 6d

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Contents.

CONSULT US.

SHOULD you have a doubt on any matter in your apiary, or wish for any information, do not hesitate to write us, enclosing a 2d stamp. We will reply to our best per return, and give questions and answers in the following numbers of the A.B.B.

THE BLUE PENCIL MARK.

KINDLY note if such is on the wrapper of your *A. Bee Bulletin*. It means YOUR SUBSCRIPTION IS DUE OR OVERDUE and stamps or a Post Office order will be gladly accepted at the office.

The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEE-KEEPING

WEST MAITLAND.—SEPTR. 23, 1893.

OUR HONEY MARKETS.

WE would call attention to two very valuable communications in this issue. One by Mr John Smith, of Mount Cotton, near Brisbane, which tells us that the editor of the *British Bee Journal* has pronounced Australian honey as "*not as good in all ways as British, on account of the Eucalyptus flavour!*" As Mr Smith vents the matter in a common sense way, we advise our readers to well ponder over what he says. We were always under the impression that the medicinal properties of the eucalyptus honey rendered it far more valuable than other honey. What object the editor in question can have by making such an assertion we cannot understand. We see by returns that in 1891 there were 23,544 cwt. of honey imported into Great Britain from other countries, but only 619 cwt. from Australia. This will not do. We want more of that trade and must get it.

The other communication is from Mr J. W. Pender, a vice-president of the H.R. Beekeepers' Association, now in England, who is trying to get our honey on the London market, in which effort he is receiving very valuable assistance from Mr B. W. Levy, late of Maitland, N.S. Wales, but now of London. Mr. Pender speaks of the influences at work against Australian products in general, and those who export honey should be careful to note them.

But while striving to get our share of the good things of the world outside ourselves, let us ever remember that the surest and most reliable market is ever OUR OWN. Let each beekeeper do his utmost to increase the consumption of honey in his own particular district. Let him do his best to educate the people around him to the fact that good wholesome honey is much better than many other things used as "sweets," and made of no-one-knows what, and lots of articles of food, if made with honey instead of such, would be much more healthy. The foreign market can be looked out for only by a comparative few, but our own home market every beekeeper can do something to increase it.

OUR CONTEMPORARIES.

We feel compelled to accord our thanks to the press of the colonies for the many kind and complimentary notices they are continually giving of ourselves. The country press give us the greatest cheer, and we believe we do not see half the kind words said about us. But we feel we are indeed honored when the compliments are contained in such excellent Agricultural periodicals as the *Home and Farm*, *Farmer and Grazier*, *Garden and Field*, *Rural Australian*, *New Zealand Farmer*, *Industrial Journal*, *Australian Agriculturist*, &c., &c. We will ever strive to keep up the good reputation we have so far gained.

ACROSS THE WATER.—We regularly get in exchange files of *Gleanings in Bee Culture*, *The Canadian Bee Journal*, *The American Beekeeper* and *American Bee Journal*. But "Brother Hutchison," as he is familiarly called by his brother journalists, has not favored us with his *Review*. The same with one or two other American bee journals, and also the *British Bee Jonrnal*, although we have sent them the A.B.B. regularly. We presume, however, it is only an oversight on their part.

THE SPECIAL SUBJECT

for next month—OCTOBER—

will be

"QUEEN REARING."

Send all communications by the 20th October.

MAILING QUEENS.

Last year you may remember I wrote re mailing queens from America, and the kind of cage I should recommend. Well to prove the matter I ordered of G. M. Doolittle two queens. One came in the style of cage I recommended, and one in a cage sent by a manufacturer. By this last mail I received the two queens, and strange to say the one in the cage I recommended came through in splendid order, and the other in the manufacturer's cage dead. Still one swallow does not make a summer, yet on the first trial of queens sent out from Italy in the cage I recommended eleven out of twelve came alive. Now this looks like a little horn blowing, but, friends, I only give to you freely, as I consider we want the best, and if we all hide our lights under a bushel, how are we going to know what is best.

Gordon. GEO. JAMES.

THE ENGLISH MARKET FOR HONEY.

Mr J. W. Pender, now in England, writing to a friend in New South Wales, says :—

Whilst talking of prejudice, I may as well inform you that it exists to a great extent against our Australian honey, and perhaps not without good grounds, as they have not yet had an opportunity of tasting the real product of Australian bees. When the influenza epidemic was prevalent two years ago, honey was considered advisable for the use of patients, when some enterprising American cousins "improved the occasion" by sending over a lot of glucose mixed with eucalyptus oil and passed it off as "Australian Eucalyptus Honey." It is no wonder that when I talk of Australian honey I am told it is "nasty tasted rubbish," and could not be used as an article of food. As you are well aware I am deeply interested in trying to have Australian honey introduced here, as our country is overflowing with it, and we can well afford to send them a delicious article of food at a price which should enable it to be placed in every household as a common article of diet, instead of at present a scarce and rare delicacy. I left in the hands of Mr. B. W. Levy a few 60lb. tins of honey, with instructions to have some samples sent to experts for them to pronounce as to its quality and value. Mr. Levy is doing everything in his power to assist me in introducing the article. I have not yet had any reports sent me, but on my return to Australia I shall be able to report to my fellow bee-keepers something about the prospects of Australian honey in the English market. At all events I hope to succeed in establishing the fact here—that Australian honey is good for food, and not the nasty medicine that was thrust upon them some two years ago.

AUSTRALIAN HONEY.

"UNFIT FOR TABLE USE."

Mr. John Smith, Montrose Park Apiary, Mount Cotton, Brisbane, writes :—

In the *British Bee Journal* for June 1st a working man asks the following question "Will you please tell me if Colonial Honey is as good in all ways as British?" to which the following reply is given—"We do no injustice to our colonies by saying "*NO*" to his query. Good colonial honey there is no doubt, but much of it is so rank and strong in flavour as to be wholly unfit for table use. This is especially the case in some parts of Australia and New Zealand where the "Titre" and the *various eucalyptus or gum trees grow so abundantly as to quite spoil the flavour of the better class honeys collected in such districts.*"

That article I imagine will do a very great injury to the colonies it will in fact effectually "boycott" Australian honey. Were it true we might well sit down now,—hang our harps upon the willows, and weep. The question is—are we to be snuffed out—or stamped out? For you know the old proverb says "Give a dog a bad name and you might as well hang it." The greatest authority in England has now given Australian honey a bad name, and Colonial bee-keepers may therefore as well hang themselves. On second thoughts however they might just wait a bit, for it has struck us that possibly the Editors of the *B. B. J.* may know very little about "*pure* Eucalyptus honey" and it might be as well just to enlighten them. Anyhow you could tell them—that as a matter of fact—the Eucalyptus tree *improves* and does not injure the flavour of honey—but in addition to the flavour the active principle of the eucalyptus permeates the honey—and adds to it such valuable qualifications that not only is it nice and agreeable in flavour as an article of every day food but the medicinal virtues it possesses render it a very powerful remedial agent—and on these two points rest its claim to be classed *as the most valuable honey in the world.* We live on a mountain, and far as the eye can reach, stretch endless miles of forest with millions of eucalyptus trees. There are a few patches of Bananas, Orange and other fruit trees, and also sugar cane, but very little honey is obtained from these, so that our honey may be said to be almost entirely eucalyptus honey—*and therefore if that article in the British Bee Journal was correct—our honey would be wretched stuff indeed*—but how highly it has been spoken of in England you yourself know, and the fact that the people are now clamouring for it who laughed in our agent's face when he first tried to sell it, is convincing proof that to send a first class article is the best way to combat successfully the prejudice in the old country against Australian honey. English people know that eucalyptus oil or extract, although possessing very valuable qualities, is somewhat dis-

agreeable, and they naturally think therefore that eucalyptus honey *must have* a disagreeable taste also, and this notion has been strengthened, I am creditably informed, by unscrupulous persons offering honey for sale which has actually been mixed with some such extract—please don't laugh and think no one could be so silly as to do such a trick—when eucalyptus oil was found to be so valuable in case of influenza, &c.; all kinds of bogus stuff was flavoured up in this way, sold for a time, sickened everybody, and left an impression on the mind of the British public against everything eucalyptus that will not easily be contradicted. How strong that impression now is, is emphasised by such an article as I quote appearing in the principal *bee journal* in Great Britain, edited by such an able scientific man as Mr. Cowan.

HUNTER RIVER BEE-KEEPERS ASSOCIATION.

The usual monthly meeting of the above was held on Tuesday evening, August 29. Mr. F. Pullen in the chair.

The Secretary (Mr. M. Scobie), read the minutes of the two previous meetings, which were adopted.

Corespondence were received from Mr. W. G. Campbell, late of Sydney, but now of London, England, stating he had forwarded a gift of a number of *British Bee Journals*, to the Association, and offering to assist in opening up a market for New South Wales honey in London.

A hearty vote of thanks was accorded him.

Mr. Patten read a letter from Professor Riley, of the U.S. Agricultural Department, acknowledging receipt of Hunter River Beekeepers honey for the Chicago Exhibition, and thanking the Association for their liberality in placing the exhibits in the possession of the Department at the close of the Fair.

Mr. Harden placed on the table a bottle of honey, purchased in Morpeth at the rate of 7s per dozen. It was very dark, had been extracted from very old comb by heating even to the extent of burning, contained a great deal of pollen and possibly bee larvæ. As it was being tasted it was so unpleasant that it had to be spit out at once. The outer get-up was not bad; being an imitation of a German label.

The evening was filled up by very interesting and instructive conversation. Among other matters, it was stated about the best flavoured honey in the colony, was that of the tallow wood or white mahogany, the timber of which is very durable, and as heavy almost as lead.

Mr. W. Barnes, Cooranbung, writes :—Please find enclosed stamps for the A.B.B., for the coming year. I think the A.B.B., a valuable little journal. Wishing you every success.

SPECIMENS OF HONEY PLANTS.

We acknowledge receipt from Mr D. C. Teys, of Murruruudi, of three samples of plants to which bees pay great attention in that neighborhood. Mr J. H. Maiden, curator of the Technological Museum, Sydney, has very kindly supplied us with the scientific names. No. 1, a small white flower, *Phebalium squamulosum;* No. 2, a small orange colored flower, *Pultenara parviflora*; No. 3, without flowers, same as No. 1. We also sent him samples of a shrub now flowering profusely in the bush near Maitland, with an orange blossom, and a leaf over an inch long, half-inch wide, which he informs us is the *Oxylobium trilobatum.*

THOUGHTS CONCERNING BEES IN AUSTRALIA.

By Angus Mackay, F.C.S., Instructor in Agriculture, Technical College, N. S. Wales.

Writing for amusement is not much in my way; but while sending along subscription for the *Bee Bulletin* I thought I would add a few lines concerning bees and bee-keepers in Australia, in years now long past. It seems a mistake, as a rule, to overlook what others have done in the walks where we now find pleasure and profit. The first bee master I ever saw was James Carroll, now of "Sweet Home" Apiary. That was away back some 27 years ago. I was then located in the Ennoggera Ranges, in Queensland. A grand stretch of country it was for bees and honey. The vandal sapper of indiscriminate ringbarking had not then left the ugly streaks of ghostly dry, dead trees, and tannin infected grass which has since destroyed so much country. We had bees on the place with other live stock, and without any practical knowledge of the *modern* bar frame hives, I was trying to so improve the boxes in which our bees were so as to get out the honey without the unavoidable slaughter of "robbing" where there are no frames.

It was about that time that Jas. Carroll settled down some miles from my place. He brought some bar frame hives with him from England, or he made some. He soon had some scores of blacks. His fame as a munipulator of bees spread like wildfire, for bee-keeping was a favourite pursuit, even while we could get "honey bag" honey from the black fellow for a "tshillin" a bucketfull. In a very brief time the bee-keeping of Queensland was revolutionised, and let me add an impression that, for skill in manupulating and honey production, the men and women bee-keepers of the northern colony have kept well up to the front to the present day. The father of the younger generation of Cribbs, Mr. John G. Cribb, whose sons I am so glad to see in the very front in practical honey business, was one of the

early students of Carroll, who, I really do think is the veritable father of modern bee-keeping in the northern sections of Australia, if not of the whole continent. Carroll was the worker; he was practical. There was not much talk about him. Nor did he embellish the industry. He was a genuine expert. Charles Jollwood followed in the same line, and many others located at Pine River, 8-mile Plains, Mooloolah, Toowoomba, Ipswich, Maryborough, Rockhampton, whose names I am sorry I cannot add. The business grew rapidly and is still growing.

In 1877, it was my good fortune to bring from California the first lot of Ligurian bees, so far as I know, that had reached this section of Australia. I got them from Harbison, of the Santa Clara valley. That was a stock! They were in a Harbison hive, about 20 inches square at sides, and 3½ feet high. There were millions in it! The Pacific Mail Co., very considerately gave me the use of a cabin forward on deck of the fine ship City of New York. Captain Cobb, a grand old American salt, was in command. We had heavy, muggy, hot weather, after leaving the American coast. The bees suffered fearfully. During several days I took out fully a quart of dead daily, and fearing they would all perish, as three or four previous lots sent out as freight had done, I got up early in the morning—very early—before daybreak—and edged the big hive out on deck, to give the bees air. The sailors noted quietly what I was about, but said little. But the news spread, and it was noted by some of the passengers located where the bees were, and I was asked—If anything serious would happen to the ship if they got loose! If they would slaughter all hands! Captain Cobb somehow was interviewed, and with his first officer he came to see about it.

"It's a big, big job you've on hand," he said. "I hope it's all right, and there's no fear of a rampage from them insects, as you say. Its the first time, though, I've run such a live stock farm on this ship, and I do hope nobody 'll get hurt. Though some of the folks are mighty skeer'd. I tell you that's so!"

The poor bees were having a fearful time. It's really a cruel proceeding sending or taking them on a big journey. They suffer so badly from want of water and from their dead. It was then I learned how short is bee life, and how confinement kills them. I made a cage promenade for them by wiring in the top, and it was a sight to see the little maiden workers come up in the mornings and drink the water sprinkled upon them. The weather was hot as we approached the Sandwich Islands, and the bees able to come up, soon as drops of water were sprinkled on them, ran below with the God-given fluid to the suffering hosts. From another cage attached to the bottom board inlet of the hive, I took away the dead and dying several times daily, as the workers carried them out.

Interest soon began to be taken by the ship's company in the bees, and some days before reaching Honolulu ring-bolts were fixed in various parts of the deck for fastening the hive in favourable places for air and shade, and the live stock had become the biggest attraction in the ship. Even the chief engineer, who for a time had doubts on the subject, became convinced that, should a lot of the bees get loose at any time, they would not make for the engine room and machinery first thing!

Captain Cobb was a man; his first officer, engineers, carpenter and boatswain were men also. To this day I believe it was arranged amongst them to reach Honolulu at daybreak, and leave after nightfall, to give the bees a chance. Perhaps the ship might have been got in during the night, and left next day. But the City of New York was tied up to the wharf about 4.30 a.m. The bees were then located upon the promenade deck. I knew the ship would not leave till after nightfall. The bees were let loose! Poor things! Thousands of them had been born at sea, and they fell sprawling on the deck in masses, ejecting matter with which their bodies were gorged, for want of exercise. But, within half an hour after arrival, they were streaming back to the hive loaded with pollen and honey! Very few were picked up dead. After a struggle for a few minutes, they got wing and were off.

The town and vicinity of Honolulu was a garden then; it may be so still. How the bees worked that day! I tried to keep the proceedings as quiet as possible, and comparatively few knew of the live stock farm on the upper deck. I was asked seriously, "Now are these bees likely to come off from such a glorious shore, and enter that box again at night? They look as though they had more sense." Well, by the time the word "let go!" was given—it was dark then—I do not think there was an absent bee that was able to fly back. The good old City got all her passengers that trip.

The remainder of the voyage was easier upon the live stock. They had a spell in Sydney of a week, and were landed safely in Brisbane. What a delighted man was Jas. Carroll to get the first lot of Ligurian bees, and the hive was then as full, to all appearance, as when bee-master Harbison put them up.

SOMETHING NEW.

Mr. W. S. Goard of Murrurundi, writes the following to Mr. Mansfield:—

"Was your son in Murrurundi a week or two back selling queens? A young fellow called on Mr. Stuart, a local beekeeper, with queens for sale, and represented himself as your son. If so he did not call on me, a fact which has made me think that perhaps he was an impositor, and it would be well to let you know."

Mr. Mansfield's eldest son is about twelve years old, and has not been away from his home except in company with either of his parents. Who is the fellow?

NEW ZEALAND.

To the Editor A. B. B.

Auckland, N. Z., August 16th 1893.

Sir,—Allow me to congratulate the bee-keepers of N. S. W. on the success of the late Convention, which must have proved a source of much gratification and enlightenment to those who were fortunate enough to be able to attend. The meeting of those who, hitherto personally unknown to each other, have become—through probably the medium of your journal in the first instance—steadfast friends, is a pleasure worth living for. Then again the exchange of ideas between those who have given the various subjects connected with the honey industry their best study, and the pleasurable excitement experienced when one learns a wrinkle in this way on a matter that has probably been puzzling him for a long time. The comparing of notes on a particular subject, and the long "bee chats" with kindred souls. All these pleasures are to be obtained at such meetings, and only those who have attended them can realize the lift that one gets out of the work-a-day plodding inseparable from our every day life. More power to those who were instrumental in initiating and carrying out the idea, and I sincerely hope the late convention will have been the forerunner of many others, not only in New South Wales but in all the Australian colonies.

I think your colony holds the honour of being the first in these colonies to hold a bee-keepers convention. We in New Zealand would undoubtedly have been before you by nearly five years but for a breakdown in the writer's health, everything had been arranged for a convention but no one cared to take the secretaryship after the writer had given it up, consequently the thing had to be abandoned. Owing to failing health I have never been able to take up the matter since. However, I am very pleased indeed to see such progress made in at least one of the Australian colonies and I hope the time may come when an "United Australian Convention" will be held, with delegates attending from all the colonies.

By the way I noticed on page 68 of your June number, that Mr. W. Shaw, when speaking on foul brood at the convention, "contended that no cure had yet been found to do away with foul brood, notwithstanding all that had been written by Mr. Isaac Hopkins, &c." I apprehend that if the words "to the contrary" had been added after my name the sentence would have better conveyed the meaning of Mr. Shaw. I grant in the first place that I have frequently written on foul brood with the full conviction that one or more of the familiar remedies tried would cure, and have cured the disease, and although with further experience I feel convinced that we can never under our present conditions eradicate it with any of the known remedies. still believe that cures can and have been made. We cannot ignore the many reports of cures we have had from well known and reliable persons in different parts of the world. The fact is, I believe, the undertaking requires such close attention and scientific treatment that probably not more than one bee-keeper in several thousands can be found able or willing to devote the necessary time and trouble to effect a cure. What is really wanted before we can make much headway is some effective remedy that can be very easily applied, not in food, but in the hive itself. Something for instance, that can be either poured or dropped in the hive, and cure by evaporation. Although legislation is necessary to assist in preventing the spread of disease, if stringent measures are taken in that direction, I think in most instances so far it has proved a dead letter. I look more now to assistance from experiments carried out under the direction of expert chemists connected with agriculture to find some easy and effective method of cure than is at present known. Wishing success to the bee-keepers of N.S.W. and to your excellent journal.

I am, &c.,
J. HOPKINS.

[We have no doubt Mr. Hopkins will read with great interest Mr McEvoy's remedy on another page.—ED.]

COONABARABRAN.

Mrs. Edward Conn, Timor View, writes—I am in receipt of my first A.B.B. I often wished for something colonial, and I think it just the paper we beekeepers were in need of. I got the "A.B.C. Book on Bee Culture." I think by all the trouble they seem to have to keep the life in their bees through cold, that we can carry on the business under more favorable circumstances. I wonder more do not take the business up in real earnest. Almost anyone who happens to get a passing swarm puts it in a box, and the majority of them rob the poor little bees in the autumn, and then give them the honey bag to suck; then they wonder why the bees don't winter well. My neighbours think I am very extravagant to go in for high-priced hives, when any clean box would do as well, but if I don't convince them—I conclude with, Time will tell.

I think Mr Schumack's idea of the netting may do very well in warm, settled weather, but we have very sudden changes, the days extremely hot and the nights very cold. Think you would not the brood suffer from the chill? I have my boxes made with no bottoms in them, but put them on a neat board the right size, and that rests on four bricks stood on end in the ground, half in and half out. Then on this board I place a clean paper, and when that looks dirty it is easily drawn away, and a clean one replaced. I have no moths in my hives, strange

to say, for the swarms I bought and those I transferred from hollow trees were very mothy. I believe the hens and chickens, and the little bird called willy-willy-wagtail, have something to do with clearing them out, for I have seen the moths flying around, and the little birds build in the fruit trees; if the old hen can't catch them on the wing the birds will. Up to date I have no moths. The ants are all that trouble me and the bees, and the smell of a little tar and grease keeps them from going up the bricks.

I am only a beginner, and have all to learn. To read about the management is a help, but we must have the practical experience. It is like my gardening—what suits somewhere else won't suit here. I have all double boxes, strong frames; the covers are like in pitch to the roof of a house; they answer hot or cold weather, for I don't put feed in the frame; I slip a tiny trough of syrup under cover at night, and they sup like so many little pigs.

I have only four swarms; one I divided from an old gin case, and am rejoiced to-day to see my first queen in the nucleus; they came at us like bulldogs. We fixed the combs in with fine copper wire, our smoker was old moleskins rolled and tied tightly—a good substitute, only mind the cinders don't fall off on the frames. The same day we transferred from a hollow tree, and I carried them all home on horseback. The next day we did not see a single bee at the old nest, then for five days after that it was nothing but severe cold and mist and rain. I just moistened best sugar and filled their combs. They came through splendidly, and just for this one fine week have built comb, and have half filled old and new comb with honey. The nucleus has all their brood hatched out, and a great ornamented queen cell capped. The others have brood in all stages, and plenty honey for the next rainy week. I think I am lucky so far for a new chum. I have made a swarm catcher. I ought to have it patented, but if I were to tell you what I made it out of you would laugh, and the girls would never forgive me. I can shake off the largest swarms that ever hung, hang them over my shoulder on a stick, ride with them for miles, and never hurt one. They will neither smother nor get crushed. Now I wish to ask your advice about the queens. I would like to have the pure Italian bees. How am I to do that when there are so many swarms around. I suppose I will have to patronise some queen rearer very much. I mean to get all the swarms I can, and have all in good boxes. I have a lot of rooted vines coming on for shade. I have introduced the white clover; it seems to do well, and for miles the hills are alive with flowers and shrubs. The timber is chiefly gum, ironbark, apple tree, stringy bark, some box, and bloodwood, many kinds of wattle. I ought to get honey in abundance, if I could keep the Italians. Let me have your opinion. I will have no objection to join the Union. Success to the A.B.B. [Write to any queen breeder advertising in our columns for a supply of queens. Getting a quantity you get them cheaper. See all their wings are clipped, so that you won't lose them when they swarm. Even hybrids are better than blacks, and by getting new queens occasionally you will find a great improvement in your bees.—ED.]

CANLEY VALE.

Mr J. Bailey, St. John's Park, Canley Vale, writes—We have had a very severe winter in this neighborhood, as nearly everyone has lost a large number of bees. In my last letter I stated I had nine left out of thirty; now I am safe with four, which are doing well, with plenty of brood and honey. Two have a large number of drones out. I lost my best queen on Monday. I had been strengthening, and left the hive open too long, and she was stung to death by robbers I find the pure fertilised Italian queens and workers went through the winter far superior to cross-breds with same crossed. Could you oblige me by telling me the reason why black bees with not a vestige of yellow, and three-striped bees should come out of the same comb from adjoining cells from a pure fertilised mother (Italian)? The wattle has done flowering. Fruit trees are coming in bloom, while there is a large quantity of scrub still blooming, but no sign of forest trees yet. There will be a good flow of honey this season all over the colony. [Re bees of different shade out of adjoining cells from the same purely fertilised mother, there must have been a black ancestor somewhere, possibly the second or third generation back. We have a beautiful 4-banded queen that throws splendid light equal-colored workers, but her queens are very diverse. There are those who maintain that a queen to be pure must throw not only equal-coloured workers, but equal-coloured drones and queens.—ED.]

BOGGABRI.

Mr R. L. Studdert writes—Just a few lines to let you know how things in the bee line are doing up this way. Until last year only gin cases were used and Italians never heard of. I started last year with four hives of black bees, in frames of my own make, and ended the season with 30, having purchased two Italian queens, and italianised two more. Up till February we had a splendid season for honey, but after that the bees did not gather a pound until the middle of August, when fruit blossoms came in, consequently bees that had not a good store left them, all perished. Fortunately I was running for bees, and did not extract from brood chamber at all, and came through winter without losing a hive,

although several got very low, and had to feed on beer and sugar for some weeks. The main beekeeper in this district, who had only gin cases and black bees, was not so fortunate. He robbed his bees about January, of course taking everything from them. He robbed 104 hives, and through the extremely bad season came out of the winter with only 14 left, and they are as weak as can be now, and will have a struggle to pull through. Re question "How to prevent swarming," I have not studied the question, as up to the present I have been trying to induce them to swarm as often as they liked. But there is a question I would like to see ventilated—Foul Brood, and how to detect it. From what I can make out it might easily be in your hives, and you not know anything about it. What is the difference between chilled brood and foul brood, or rather, how could a new chum tell the difference? Do you think it likely that using old combs so long that they become foul and cause disease? It seems a provision of nature for bees to build new combs, for in very old nests in bush trees you invariably find the bees have left the old combs to rot. The *Bee Bulletin* is thought very highly of here.

CHILLED BROOD.	FOUL BROOD.
Larvæ dead in all stages from eggs to matured bee.	Larvæ nearly and quite full grown.
Larvæ retain their shape more perfectly.	Larvæ do not retain their shape, and sink into base of cell of a brown appearance.
Pricked with a sharp instrument—	
The larvæ will usually be found to contain a watery substance.	The larvæ will be of a thick, glutinous substance, and will adhere to instrument until it flies back like india-rubber.

In foul brood the capping sinks, and some here and there become broken, i.e., with small holes in it. The smell of foul brood is peculiar to itself. I cannot describe it, but it has not that smell that decayed animal matter usually has.—ED.]

Mr R. A. Taylor, of Minmi, informs us he had a swarm issued out on September 10th. This is 10 days later than the first swarm of last year, which was on the 31st of August.

Mr. John A. Ayre, Mel Bonum Apiary, Perth, Western Australia, writes :—I came over here to manage the largest apiary in Western Australia, for a Mr. C. Fachs. I have got 135 colonies now, and am extracting, and every prospect of a good season.

BODILESS BEES.

Some two issues back we inserted a paragraph stating that Mr Tenant Donaldson had captured a lot of bodyless bees, and asking for information on the matter. That veteran beekeeper, Mr Vogele, of the Paterson, has sent us the following—

Bodyless bees are the result of accident, such as a heavy fall from a tree or bush, the bees being struck in their descent by the branches of the same or neighbouring tree branches. Brushing them off with a stiff broom or brush, such as ti-tree, in fact any severe handling, will do it, at the time they swarm, for at that time they are full of honey, and in consequence heavy, a mere fall from a good height to the ground will do it. I have known them to live after for full 24 hours. Bees are said to breathe through the body, but how they manage to live so long without their wind I can't tell, though I should like to know.

NEW BLOOD.

Mr. C. Mansfield has handed us the following for publication—

British Consulate General, Florence,
August 8th. 1893.

Sir,—In answer to your communication of the 1st June last, to the British Consulate, Brindisi, which was referred by that gentleman to this office. I beg to inform you, that rational bee culture does not appear to be extensively carried out in this province. I have, however, been able to obtain the names of two Tuscan Bee Breeders, and of one who is carrying out his industry on a large scale at Varallo, (Novara), which I have noted on the other side for your information.

G. PLOIN.

C. Mansfield, Esq.,
Maitland, N.S. Wales.

KIND OF HIVE.

Reply to query of R. J. Cribb in May issue of the *A.B.B.*, page 37.

(1.) *a* Simplicity 17⅝in. x 9⅛ in. outside measure.
b 19⅛in.

(2.) *a* The eight frame dove-tailed hives. I have also 10 frame hives, but I prefer the above.
b ⅞in.

With regard to the frame, I prefer the Root-Hoffman (self-spacing) frame.

ELLIOT J. RIEN,
Apiarist,
Hawkesbury Agricultural College,
Richmond.

GOOD THINGS IN STORE FOR NEXT.

A recommendation to Waste Paper Basket, by G. Colbourne, junr.

The Benighted Beekeepers of the Lower Richmond.

THE SINGLETON SHOW.

The following are the prizes won at the above, which took place on Aug. 30 31, and Sept. 1.

491 Beehive of modern construction made in the colony, showing bees at work, 10s—J. W. Pender, prize. Only entry.

492 Beehive, &c., imported—J. W. Pender, prize. Only entry.

493 Honey in comb. not less than 6 lbs, 10s Peter Krams, prize. Four entries.

494 Clear honey, not less than 6 lbs, 10s—Peter Krams, prize. Six entries.

495 Beeswax, not less than 6lbs, 10s—J. W. Pender, prize. Four entries.

Robert L. Pender, bee tent, exhibiting bees at work, commended.

RAISING QUEENS.

In *Gleanings* of Aug. 1st is a biographical sketch of Willie Atchley, now aged about 17, and said by that journal to be the most extensive queen-breeding boy apiarist in the world. At five years of age he used to drive a delivery wagon to any part of the city of Dallas. The most interesting part of the sketch is his latest improvement in queen rearing. Those who are acquainted with Doolittle's plan of queen-rearing will remember, after making the artificial queen cells, he takes the royal jelly and the larvæ from other cells by means of a fine quill tooth-pick. Willie Atchley makes his cells by means of a piece of wood so shaped that the cell has a cup at the bottom one-eighth of an inch deep. When the cells are completed he gets working brood, and by means of a sharp razor shaves it down as close as possible to the larvæ without injuring it. Then, with a very fine pincers, lifts the larvæ and jelly in its natural cup and places same in the artificial cells. He says he gets the finest queens by this process, and the queens take care of them better than by the other methods.

M. W., Mount Meryla, Moss Vale, writes :—I was very pleased to see that the Bee Conference was a success. I was very sorry I was not able to attend it, as I am sure it is a matter all beekeepers should try and assist as much as possible, as well as help the *Bee Bu lletin* in every way possible.

Mr G. Streatfield, Forest Reefs, Beneree, writes—We have promise of an early spring in this district, the weather being very mild. I hope we may have a better honey season than last. It has been a hard time for bees, and many people have lost many stocks, and there are only a few garden flowers yet.

Mr. James F. O'Connell, Coopers Island, Bodalla, writes :—There is a place about ten miles from here, called Wagonga,, where the bees have all died this winter I will try and get some of the combs, and send you a sample. The people about here say that poverty killed them, but it is brush land, and the scrub was in bloom all winter. One man had seven colonies in boxes, but they all died. I was talking to a man the other day, he robbed 16 boxes last April ; they are all dead or gone, but four I had a look at, the empty boxes I found riddled with worms, the bottom boards were also covered with them. So much for gin cases.

BEES AND RHEUMATISM.—Two years ago, an Austrian physician advanced the remarkable theory, that persons who have been stung by bees, enjoy an immunity from the effect of bee sting for varying periods, and that moreover, the virus of the bee-sting is infallable remedy for acute rheumatism. The latter part of the theory, according to the Mediterranean naturalist, has received most unquestionable confirmation from a custom of the country people in Malta. Bees are plentiful in the islands, and bee stings are in such repute as a cure for rheumatism, that resort to this primitive method of inoculation has been a common practice in severe cases for generations, the results having been most satisfactory to the patient.—*Christian Leader, Glasgow.*

Mr. F. G. Crawford, Tatham, Richmond River, writes :—I write to tell you of a case of early swarming, that some of my bee-keeping friends sort 'o' doubt. They were black bees, and had plenty of stores, and honey coming in from the brush, ti tree, stringy bark, pollen off wattle and bastard myall. So starvation did not do it. They came out on the 9th of August, at a quarter to five in the afternoon. The box had ten frames (Simpiicity). Both queens were impregnated, and only two drones out of one in all. Odd drones flying from other hives. Queen was not taken away to force raising same, but it came quite natural.

HEREDITY IN BEES.

[BY ALBERT GALE.]

From the N. S. Wales Agricultural Gazette.

In the *British Bee-keepers' Journal* of the 11th May, 1893, there is an article on "Heredity in Bees," based on a paper read before the British Beekeepers' Association, by Mr. Grimshaw, who asserts that the external organs and mental characteristics in worker bees are produced "by means of brood food."

The line of demarcation between the mother bee and the worker is so distinct that were we not so intimately acquainted with their domestic economy and natural history we should feel disposed to place such insects as members of the same genus, but separate species.

The subject of the difference of the constituents of the hive has occupied my attention for years past; and long since I have come to the conclusion that the food theory is wholly untenable. I was led to this conclusion by noticing that the efforts of nature to mature a queen bee are almost the opposite to those required to mature a working bee, and that the aids nature uses in the one case are almost entirely changed in the other. The same mother lays the eggs for both the queen and worker bee, yet the one egg produces an insect whose constructive intelligence and foraging instinct completely obscures that of the other; the other insect has a reproductive instinct that is so dormant in the worker bee that when it is roused into activity, it is too weak and useless to perpetuate the existence of the species. The one is an outdoor worker, and her life is terminated in two or three months, the other is an indoor worker, and her life is extended into years.

What produces these, and a score of other differences? were the questions I asked myself, and nature gave me the following answers:— The queen cell is not made wholly of wax, but a large portion is built with a mixture of wax and pollen. The capping of the brood comb, both drone and worker is built of the same material. It would appear, from the porous nature of queen cells and brood cappings, that a greater quantity of air is required to develop a drone than a worker, and a queen bee whilst developing must have all the air obtainable by both abdominal and thoracic spiracles. Abdominal respiration appears to be one of the chief agents in the development of the ovarium of a queen, while the contracted air space and the air-tight wax walls of the workers' cells are the cause of the non-development of the same organs in working bees. In a larval state respiration in insect life is performed equally by all the spiracles, but chiefly by the abdominal. On account of the air-tight cells of working bees, these abdominal cells are almost, if not wholly, prevented from working; but the thoracic spiracles come fully into play. The abdomen of an embryo queen bee is free from the encasement of the cocoon, and undoubtedly this is one of nature's reasons why the larval queen has only her head so shrouded. This absence of cocoon from the larval queen's abdomen; the extra size of the cell; the porous nature of the materials of which the cell is formed—its shape an inverted cone; the cavities in its exterior surface—the convexities being given to add strength to its tissue-like walls; the position of the young queen within —the abdomen being higher than the head, so that the heated air within the cell which has been imparted by the incubating bees clustering around the semi-detached and pendulous royal cell, have all more to do with the development of the generative organs of queen bees than feeding with larger quantities of food.

Newport has shown that the development of heat in insects depends on the quality and activity of respiration and the volume of velocity of the circulation. "Bees possess the voluntary power of generating heat by breathing faster." Huber observed in an article on insect incubation: "The manner in which the bee performs her incubatory office is by placing herself upon the cell of a nymph (pupa) that is soon to be developed, and then beginning to respire at first very gradually, and in a short time the respirations become more frequent, until at length they are increased to 120 or 130 per minute; the fluff on the bees aiding in retaining the heat. The bodies of the incubating bees soon become of a high temperature, and on close inspection are often seen to be bathed with perspiration. When this is the case the temperature of the insects soon become reduced, and they leave the cells, and others almost immediately take their place. When respiration is performed less violently, less heat is evolved, and the same bees will often continue on the cells for many hours in succession." This extreme amount of heat is evolved entirely by an act of the will of the bee. All observant bee-keepers know that the colder the weather the more restless are the incubating bees on the brood comb. The heated air produced by these bees clustering on the brood comb cannot effect the abdomen of worker larvæ to the extent it does their head and thorax, whilst, as before mentioned, the position of the royal cell, and the porous material from which it is formed; the position of the royal inmate, and its freedom from an entire cocoon covering; and the constantly changing position of the incubating bees that cluster around these royal chambers, are the agencies employed by nature to fully develop the ovarium at the sacrifice of the honey sac, and produce that most interesting inmate of the hive, a queen bee. The absence of these agencies from the cells of the worker larvæ causes the development of the honey sac the wax pockets and the pollen baskets with which the working bees are provided, at the sacrifice of the ovarium. From the foregoing it will be seen that the conditions exacted by nature for the production of the all-important

mother bee are not confined to extra food, but embrace extra air, extra heat, extra space, and another position to that of the worker larvæ. These extra conditions produce female bees capable of fertility. Their absence produces female bees incapable of fertility. All bee-keepers know that a bee capable of fertility is perfected from the laying of the egg to the time it emerges from the chrysalis in sixteen days. But if all the conditions I have named be witheld the same insect would have taken twenty one days to mature, or five days longer than is required for the development of a queen bee.

The conditions and agencies are hereditary, not the constructive and mental characteristics. These conditions and agencies transmit and produce the motherly instincts in the mother bee, the sexual love in the father bee. and the intellectual faculties in the worker bee that have placed her on the very apex of industry in the insect world.

M. De Candolle says, "We know that a variation in the quantity and quality of the nourishment (accompanied by another condition of minor importance—the size of the cell) results in the most marvellous differentiation of structure." Is the size of the cell of such minor importance? If this be correct, then why all the differences between the queen and worker cells and their inmates that I have mentioned above?

That there is a difference in the food fed to the larva of the queen and worker bee in the various stages of their development is unquestionable; but, that that fed to the embryo worker causes the honey bee to possess those admirable faculties that have placed her in such a high place in the scale of animated nature is neither impossible, illogical, nor unreasonable. Parallel cases are to be met with in other animated beings, although perhaps not to the extent of differential organs of the insects under discussion. Let one such case suffice—the aphides, where winged oviparous parents produce wingless viviparous descendants, and after several generations of these, the last generation of wingless aphides produce a generation of winged oviparous aphides, and the circle from winged to wingless, oviparous to viviparous, again revolves. The difference between the winged and the wingless aphides—both those of locomotion and reproduction—is as great or greater than the instincts between the queen and worker bee, and these differences are not brought about by a change of food in any degree whatever.

The food fed to the queen, the drone, and the worker for the first three days of their larval life is the same, and that the queen is not weaned, as is the case with the two latter, is well known, she being supplied with the semi-digested food up to the time her chrysalid metamorphosis takes place.

(*To be concluded in our next.*)

THE APIS TRIGONA.

In our last we published what little information we could gather in our own neighbourhood, re this branch of the Apis family. Mr. D. G. Grant, of Silver Oak Apiary, Musclebrook, has kindly sent us some further items, which we gladly publish.

He says—"In the last issue of the A.B.B., I notice a short article on that most interesting insect, our Native Bee. I beg you will give me space for a little additional information on the subject, as well as for a few corrections on the article mentioned.

The native bee (Apis Trigona), is smaller than the common house fly, and resembles nothing so much as the well known "green head" ant, in size and color, though the bee is rather stouter than the ant about the thorax, and has a broader head. To say that their brood combs lie horizontally, one above the other, is very misleading as in the first place, they do not build comb in the usual sense of the word, and secondly, the shapeless mass of tiny cup shaped cells which constitutes their brood comb, is not divided into layers in any way, but simply tunnelled with passages in all directions. When they wish to enlarge their brood chamber, they simply build a bunch of cells any where against the mass already built; in them the queen lays, and when the young brood is a certain age, they seal, not each individual cell, but the whole bunch, by covering it over with papery material very similar to the brood capping of the ordinary bee.

The young bee hatches under this covering, but it is easily recognised, as it is quite white, and remains so for some days, gradually growing darker till it reaches the bronzed green shade of the matured insect.

The brood cells would just hold one grain of No. 1 shot,

The queen (or would it be more correct to say one of the queens), is as totally unlike the worker as it is impossible for two insects of the same species to be. She is about $\frac{5}{8}$ inch long, light brown in color, the abdomen being nearly $\frac{1}{4}$ inch long and without wings (she must lose them after fertilization I think). She is withall very active, and trots around quite as much as her Italian or Black cousins.

The honey (which is so sweet that it nauseates some people,) is stored in cups something like a queen cup, anywhere near the brood, the cups being built of some black material similar to propolis, but not sticky, and covered over when full. They also often line any small cavity in the wood round the nest with the black substance, and use it as a honey cell. They bring in enormous quantities of pollen, always of a yellowish or light brown color, which they pack into cells, like the honey cells,

but built of yellow material, and finished off in shape of a ball or egg.

The amount of honey obtained from one nest would be on an average about a table spoon full though I have heard of one case when a pickle bottle full was obtained; this however is a very notable exception.

I would like to be able to give precise data regarding time of hatching, swarming, queen rearing etc, but, as the swarm of *apis trigona* I had died during winter, I shall have to wait till I can get another to experiment with. I almost forgot to say that, as far as my experience of them goes, they *do not* bite, and though they certainly would cause inconvenience if they crawled into one's nose, ears or mouth, it would be no worse than and not half as objectionable as the attentions of the common house fly on a hot summer's day, and not to be compared with the red hot spike of our friend the honey bee.

In conclusion I might remark that the thing that strikes one on seeing the inside of a native bees nest for the first time is the utter absence of regularity as compared with the mathematically correct comb of the honey bee; everything seems in hopeless confusion, but they dont appear to enjoy life one whit the less for that.

Of course the native bee will never be anything but a "toy" bee, to be kept solely for amusement, as it is not possible to supply them with comb foundation or any artificial aid, and further that it would take an apiary of 12 or 15 hives to secure an average yearly crop of one pickle bottle of honey."

The following was among a lot of newspaper scraps a beekeeping friend kindly sent us. We are sorry he did not give us the name of the journal from which it is taken:—

CURIOUS BEES.—Some two years ago we directed attention to the apparent similarity between our small native bee and the Guadaloupe bees. We now find, in several exchanges, a paragraph "Curious bees." It is said that the Guadaloupe bees lay their honey in bladders of wax, about as large as a pigeon's egg, and not in comb. The bees are stingless, small, and of a black color. The honey is of an oily substance, and never hardens. We have never seen the Guadalope bee; but there could be scarcely a more accurate description given of one variety of the Australian native bee and its method of storing its honey. There are two kinds of native bees in this district. Both are small and stingless. But one—that which produces the better kind of honey—is of a lighter color than the other; and what is more, the bags in which it stores its honey are also of a light color, while those of the other kind are a dark brown. Another difference is to be found in the places chosen for establishing their hives. The lighter kind generally chooses a small hollow limb. The other usually build in the hollow trunk, or large branch of a tree. The introduced bee has, by their greater number and greater activity and vivacity, almost succeeded in exterminating the little native. This we may look upon as the natural result of advancing civilisation, and the survival of the fittest. We see a similar result as regards the European and the aboriginal man; as it may also be seen in many other instances, both in respect to animal and vegetable life. Returning to the native bee. The black variety deposits its honey just as described of its Guadaloupe cousin—in bladders of wax, in many cases as large as a pigeons' egg. The honey is of an oily nature, with somewhat of an acid flavour peculiar to itself: and when gathered from the blossom of the eucalypts, is said to have valuable qualities medicinally. Where it appears to differ from the Guadaloupe honey is that, when extracted and placed in bottles, it will harden during the winter to the extent of crystalising. The matter is an interesting one. Strange if it should be proved that the bee of Guadaloupe, distant from Australia, is indentical to the bee of Australia.

HOW TO CURE FOUL BROOD DISEASE AMONG BEES.

Written for the American Bee Journal,
BY WM. M'EVOY.

This disease has destroyed hundreds of apiaries at all times, in almost every land where bees have been kept, and it is to-day making its deadly march unchecked through the bee-yards of the world. For 17 years I have warned the bee-keepers to keep all dead and putrid matter out of their colonies, so as not to cause foul brood, and while I have been warning and holding up Death's head and the cross-bones, the professional guessers, who were not practical beekeepers, have been encouraging the wholesale spread of the disease by saying that rotten brood in hives of bees would not cause foul brood. Such teaching as that has caused thousands of bee-keepers to be very careless, and when the disease has broken out in their bee-yards, it was left to run its course to the ruin of their apiaries and all others in the same localities. It is only the very few among many thousands of bee-keepers that have succeeded in curing their apiaries of foul brood after it got a good start in their bee-yards, and the owners left to themselves to manage the curing.

I will now give my methods of curing foul brood, which cannot fail when followed exactly as I order.

In the honey season, when the bees are gathering honey freely, remove the combs, and shake the bees back into their own hives in the evening; give comb foundation starters, and let them build comb for four days. In the evening

of the fourth day, remove the comb, and give foundation to work out, and then the cure will be complete. Fill an empty two-storey hive with the combs of foul brood that have been removed from two or more diseased colonies, close them up for two days, and shade them from the sun; after that open the entrance, and when most of the brood is hatched, remove those combs and give the bees starters of foundation in a single hive, and let them build combs for four days. Then in the evening of the fourth day, take out these new combs, and give them foundation to work out.

Let it be remembered that all of these operations should be done in the evening, so that the bees will become settled down nicely before morning.

Before extracting from the diseased combs, all the combs that were not sealed *must be cut out* of the frame or some of the decayed brood will be thrown out with the honey. Then after cutting out the unsealed comb, uncap the sealed honey, extract it, and bring it to a boil.

All the foul combs, and the new combs that were built in the four days, must be made into wax, and the dross from the wax extractor *must be buried*, because what runs with the wax would not be heated enough to kill the spores, and if it was thrown out where the bees could get at it it would start the disease again.

When the diseased brood that was placed in the two-storey hive is hatched, and the bees are given full sheets of foundation, then they should at once be given a queen-cell ready to hatch out or a young queen; then everything will be all right.

The empty hives need no boiling, scalding or disinfecting in any way, and are perfectly safe to use, no matter how bad the disease may have been in them; and I have always got the curing done in the same hives. But as the frames get more or less daubed with the diseased honey when the combs are cut out of them, I always order the frames burned as soon as the combs are cut out, because it doesn't pay to waste valuable time fussing and cleaning old frames when nice new ones are so cheap.

Where an apiary is diseased so badly that the colonies have become weak, then all the combs, both in and out of the hives, should be made into wax at once, and all the colonies doubled up at the same time, as it won't pay any person to waste time with weak colonies.

In some bee-yards I have put three and four colonies in one, to get fair-sized colonies to start on.

When the curing is to be done before or after the honey season, the greatest caution is to be used so as not to start robbing. The curing can be done just as well before and after the honey season by feeding plenty of sugar syrup in the evenings, so the bees will work out the starters of foundation, and store the diseased honey in them, that they took from the old, diseased combs; and when the new combs are removed the fourth evening, and the foundation given, the feeding must be continued to get foundation worked out and filled with plenty of good stores for winter.

When I find apiaries of foul brood at the close of the honey season, I get the queens caged in all the weakest colonies for about ten days, so that no brood can be started to become foul. I then get the owners to take the brood out of the strong colonies, and tier it up on the weak colonies with the caged queens. Then give the colonies starters as soon as the combs are removed, and feed sugar syrup in the *evenings* for four days; then remove the starters for foundation. Then at the end of ten days I get all the comb taken from the weak colonies that have the caged queens, and shake the bees into a single hive, give starters of foundation, let the queens out of the cages, and feed sugar syrup in the *evenings*, and remove the new comb the fourth evening for full sheets of foundation, and continue the feeding until all is in good condition. The colonies that were weak when the brood of other colonies was tiered up on them, will be very strong from the quantity of bees hatched out during the ten days.

I have to use considerable judgment in curing many foul-broody apiaries, so as to make the cure as profitable as possible, and have every colony a good, strong one when the season closes.

It is a very easy thing for one to cure a foul-broody apiary, and soon put it in good order, no matter how bad it was when I started to fix it up in good shape to cure it. But I have found it a very hard thing to handle all sorts of men so that they would cure, and do as I ordered them.

When a few colonies in an apiary are found with foul brood at the close of the season, the owner can very easily fix them up all right by removing the combs in an *evening* in October, when the queens *have done laying*, and giving *sealed* combs from *sound colonies*. If the owner has no sealed combs, he must feed until the bees in the sound colonies seal them for that purpose, and then when given to the foul colony the bees won't have any place to store the foul honey they took from the diseased combs, and then they will have to keep it until they consume it; and with no place to start brood, the queen stopped laying, and cold weather coming on, the bees will have gotten rid of the diseased honey long before brood is started again. Every bee-keeper should have, every fall, plenty of combs sealed over like the best of section honey. I have hundreds of them every fall.

I know of many failures in Ontario where the drug system has been tried, and I have many private letters from several localities in the United States where it has been a complete failure. I never knew one cure made by the drug system, and why any man should speak of it as a cure when it is always a failure, is something I can't understand.

I will here warn all men not to waste their

time in tinkering with any kind of drugs in a bee-yard; the best place for such drugs would be in the sea—only it might be a sorry time for the fishes.

The D. A. Jones' starvation plan will cure every time, but it is too hard on the bees, and completely unfits them for comb-building for a time, by making the bees very thin, lean and poor; and the starving sometimes almost ruins some of the queens for life.

Woodburn, Ont., June 19, 1893.

SPECIAL SUBJECT.

Mr G. Spencer, Brushgrove, Clarence River.

Blacks are more inclined to swarm than other races. I have often noticed the Italians are not so quick to take the fever. I believe in plenty of room in the hive, and keeping them in a shady place with good ventilation on hot days. I have controlled swarming in the height of honey flow by caging the queen in the hive, making sure first that all the frames have brood. Sometimes the queen cells are started, which have to be removed for the first few days; I generally confine her for four weeks, when all goes swimmingly, after being released at end of that time.

Mr W. Niven, Sweet Home Apiary, Eugowra.

To prevent bees swarming, the manner in which I have succeeded successfully for the past two seasons is as follows:—

"In the spring as the bees increased in number I enlarged the hives to their requirements, which is easily done with hives on the Langstroth principle.

It must be understood that it is not by merely placing one story on top of another that will prevent swarming. The beekeeper must use his own judgment in many ways. As an instance, we will take a colony of bees in a one story hive. As the season advances the hives become crowded with bees, and they would swarm if left alone; but by placing a second story on and by lifting two or three of the frames containiug the most honey out of the lower story into the top storey, and returning empty frames for the queen to lay eggs in, the bees having room and empty combs, swarming would be delayed for a time. By extracting all surplus honey as soon as sealed, bees can sometimes be carried through the swarming season, gathering honey and increasing in number at the same time in a two-storey hive, but if the queen be a prolific one, and as the two stories become crowded, it will be necessary to add a third storey. I have always been able to control swarming with the third storey. In preventing swarming it is often an advantage to take a frame of sealed brood from a strong colony and add to a weak one. In this manner by the end of the swarming season which generally lasts about six weeks, we have all our stocks strong for gathering honey.

Mr. J. R. D. Gaggin, Lismore.

The measures I would adopt in endeavouring to limit swarming to a small percentage of my colonies are as follows:—

(1.) Keep no queens over a year old, of course with the exception of any imported queens or other valuable queen-breeders.

(2.) Use full sheets of foundation and so practically exclude drone comb from the hive.

(3.) Give sufficient room in the supers as the colonies increase in strength, so that there may be no overcrowding, clustering in front of hives or idling.

(4.) In the case of specially strong colonies raise the hives by wedges, so that the bees may have an entrance about a full inch wide in front and nearly as much along sides of hives.

(5.) Shade the hives if necessary, but this will not be often needed if they have received a double coat of white paint, if the entrances are enlarged and the bees are not overcrowded.

(6.) Extract every week or ten days in a good honey flow. This besides being a preventive of swarming and wonderfully increasing the honey yield, saves a great deal of the time and labour of uncapping the comb. The honey, even if taken more frequently from the hives than above, will readily ripen if stored in shallow tanks (about the depth of an ordinary 6lb. honey tin) covered with mosquito netting and placed in a thoroughly warm room.

"BINNI."

Dear Editor,—The subject for your Special this month is I notice on the almost threadbare topic "Swarming." Beekeepers on this very point appear to be divided into two camps. The beginners who believe in swarming to increase their stocks, and the old apiarians who desire to curtail within reasonable bounds. There is a kind of swarming very undesirable, and which can be overcome. This may be divided into two classes—1st, the swarming of discontent, which usually takes place in spring, and after swarming, which causes even the experienced considerable annoyance. The former kind can be dismissed with the words "Keep your stocks strong," either by stimulation or by doubling up the weak ones. The latter kind can, in my opinion, only be got over by having a laying queen ready to put into a hive that has just swarmed. With regard to the general desire to obtain a race that will not swarm at all, I have very grave doubts whether such a state of things, if ever attained, would be desirable. Nature has ordained this process as her method by which bees shall increase, and while admitting that many short cuts may be arrived at, are we sure by wrenching the order of things out of their natural groove we shall not have to sacri-

fice other desirable attributes at the same time? I remember some two or three years ago I had a hive of Italian bees, who very early in the season made the usual preparations for swarming. I was indignant. I was not ready, and did not want them to swarm. I was determined to prevent them somehow, so, as often as they built queen cells I cut them out. The game was long and tedious. The efforts of those bees to attain their end were untiring. At last, and after I had cut out 140 queen cells altogether, I succeeded, but at what cost! My other hives averaged 210 lbs. of surplus honey per colony, —this one gave me but 10lbs. I concluded that it did not pay to thus fuss with bees. Let me admit right here that occasionally one will meet with a stock that does not seem disposed to swarm, and in fact may not send out a swarm at all, and yet keep the hive full of bees and the extractor busy, but before it can be concluded "the bee has been found at last," are we sure locality has not something to do with the peculiarity? Would they act so in other places? Looking at the subject in the light of experience I have arrived at these conclusions—Get the bees to swarm *once* and that before the honey flow commences if possible. I admit a difficulty here, but if the beekeeper is wide awake he will know whence his chief source and when it will open and can by stimulation effect his desire. Where the honey flow is small but constant I can see no way of treating the matter *satisfactorily* other than returning the swarm or doubling up with regard such devices as moving the hive and putting an empty one in its place or placing a weak colony there. I view these as only methods of returning swarms or doubling up. The Langdon and Fray James devices promise great things but until many have experimented with them it will be premature to pass an opinion. Theoretically, I have only one fear with regard to them and that is that after their use hives will turn up queenless.

C. Mansfield, Hunter River Apiary, Largs.

The prevention of swarming. My experience with bees is, that with certain sorts, it is much easier to talk about preventing swarming than to do it. I think the subject should have been "swarming," of which prevention would form a part. For bees will swarm even if we "prevent" them. Swarms are of two kinds, viz., prime swarms and after swarms. The first is accompanied with the laying queen of the hive, and the second or after swarms by virgin queens. I am an advocate for the clipping of the laying queens' wings, a proceeding I need not now explain. Let us see then what should be done in case of a prime swarm issuing with a clipped queen. The swarm comes forth in the usual way and the queen runs out from the hive rather excitedly, and tries to accompany the swarm, but cannot do so being clipped. A swarming cage is put down before her, and when she has entered it, it is corked up and placed in the shade. The swarm alights somewhere near, and during their absence, the full hive they have just left is removed to a distance, and an empty one put in its place. In about ten minutes, the swarm, having discovered the loss of their queen, return to the old spot and collect in front of the new hive. The queen is now liberated among them near the entrance. Drive her in with a twig or something, and the swarm will follow, and so they are hived. To make them stop in the new hive, give them a frame of young larvae from their old hive or some other, and if starters only are used and the hive is fixed level, it is from these new swarms that nice frames of worker combs will be obtained. The old hive can now be removed to a new location and examined. If it contained a choice queen the cells can be given to nuclei or queenless colonies. If not the cells could be cut out and a laying queen could be given to it from a nucleus. By this means after-swarming would be prevented and time saved by the hive that has cast the swarm. There will be but few after-swarms if the bee-keeper is careful to keep the hive supplied with brood till the young queen is fertilized; but not more than one queen cell should be left in the hive after the swarm leaves.

After swarms are most troublsome on account of the greater liveliness of the young unimpregnated queen. They will settle in inaccessible places, and frequently clear away altogether. Such a swarm may be stopped and brought down by throwing water amongst them freely. To obtain these swarms from high positions, a swarming bag on a long pointed stick is serviceable. Mostly swarms alight on bushes, and then a handy way is to place the frame hive near, remove most of the frames, shake the swarms into a dry bucket, and pour them into the hive, put the frames in place, and put on the cover, placing a comb of brood in the middle to retain them.

The prevention of swarming is one of the most burning questions connected with apiculture, and the "devices" to attain that end are so numerous that one has to be pretty smart to have the "latest," and even the simplest seem too complicated for me. I may here say that I myself have no use for any of them. At the risk of being accused of "talking shop" I must say that the most satisfactory way of preventing swarming and so increasing the honey yield is to keep the Ligurian or leather-coloured strain of bees. Out of about seventy direct daughters of imported queens which I had on hand during last summer, some in single and some in double hives, only "*one*" swarmed out and that was a bad hybrid which should have been killed to make room for a better. When it is remembered that my apiary is located in the midst of the

rich alluvial flat of the Hunter, and surrounded by pollen-bearing plants, no more convincing proof can be given of the disinclination of this race to swarm. All who have this race can bear me out.

In my opinion therefore if the labour and expense bestowed upon "non-swarming devices" were devoted to securing and propagating this race far less would be heard about the trouble arising from much swarming.

In conclusion Mr. Editor I must compliment you upon the wisdom of this new departure. It is just the thing, especially for beginners, and even the master of the art will be able to pick up some crumbs from the communications sent in.

Mr. W. Shaw, Mudgee.

This is the special question set forth for Sept. and a very important one it is, although I fear not many swarms will make their appearance this month in this colony owing to the very changeable weather. But to the question. By our improved methods I think swarming can almost be entirely prevented. But if I wanted increase I should much rather prefer it by swarming than by divisions. During last winter quite a number of colonies in Mudgee took to the supers, and there the queens commenced to lay. In strong colonies several frames were full of brood last month and all that had to be done was to find the frame containing the queen and then place the same with the adhering bees in the centre of the brood chamber. Put on the queen-excluding zinc, and you have one method of checking swarming. The same remarks apply to the brood chamber. Place all the frames, with the exception of the one containing the queen, in the super. Fill up the vacant chamber with empty combs, put on the znic, and your work is accomplished. By this means the hives are kept very strong, as it gives the queen such an extensive laying room. I must confess I have never seen a swarm of bees issue from a healthy swarm unless there was a large quantity of *sealed* brood in it. If you have weak colonies (always undesirable in any apiary) you can strengthen same by taking frames from strong colonies and giving it to the weak ones. That is another method. Again three or four frames of brood may be taken from the brood chamber and placed in the super and empty combs put in their place. Then there is the Langdon and Fray-James Improved Non Swarming Devices, which are likely to revolutionize bee-keeping. Non-swarming can best be prevented by the apiarist who pays close attention to his bees.

The Special subject for next issue is "Queen Raising."

STRAY A. BEE BULLETINS.

The following has been received from Mr. S. H. Lambton, in response to a complaint made as to a number of *A. B. B's* not reaching their destination :—

No. C. 93/ 6178. General Post Office,
Sydney, 20th Sept. 1893.

Sir,—With reference to your communication, dated the 1st. instant, I have the honour to intimate that careful search and enquiry have been made for the missing copies of the *Australian Bee Bulletin*, but I regret no trace of any of them can be found in this Department.

I have the honour to be, Sir,
Your obedient servant,
S. H. LAMBTON,
Deputy Postmaster General,

Mr. Edwin Tipper,
Proprietor *Australian Bee Bulletin*,
High St., West Maitland.

IS IT FOUL BROOD.

Public School, O'Connell,
20th Sept, 1893.

The Editor A. B. Bulletin,

Sir,—I bought a lot of bees in boxes, and in transferring some of them the other day I came across some brood that I am afraid may be foul-brood. I am sending you a piece of it in a small box, to see if you or some of the experienced men in your neighbourhood can say for certain whether it is or not. The swarms were very weak and it may be that they cannot create sufficient warmth to hatch the brood, that gives me the hope that it may only be chilled-brood.

In transferring I must say two swarms played me a novel trick. We had been transferring successfully for three days. The first day came out nice and warm in the morning, and we went to work, but before we got one box done a cool breeze sprang up, still we thought it not too cool and completed two hives. When I went after school to see all was right I found the queens in the hives with about a dozen bees each. After examining other hives I found by the number of dead bees in front of two other hives that these two swarms left their bueens and tried to push into stronger

colonies. I blamed the cool breeze for unsettling them.

Yours faithfully,
A. M. ROSE.

P.S.—I will do no more transferring until I get your reply.

[The sample to hand is undoubtedly foul brood, and a fine specimen.—ED.]

FERTILITY OF QUEEN BEES.—FACTS AND FIGURES.

BY MR. ABRAM, BEECROFT.

Perhaps few, if any, of the readers of this journal have ever tried, or thought of trying to find out, to almost exact figures, the number of eggs a queen bee is laying or able to lay within a certain time. The statement that the number is about 2,000 per day is vain and insignificant. A correct answer can only be given by taking the circumstances into consideration, as these alone direct the queen to lay more than a thousaud eggs a day at one time less at another, and none at all at yet another. What, then, is the number of eggs a queen may lay under favourable circumstances within wenty-four hoars? What may cause an tncrease, what a decrease?

Before entering into an explanation on ithese questions it is necessary to prove what number of bees is justly to be considered for a colony most profitable to its owner. Ths numbers are found by weighing and counting them, which weighing is not quite satisfactory and exact, on account of the bees having more or less honey in their body, and the weight of which cannot be exactly ascertained.

I found them in variation from 4,500 to 5,000 to the pound, and this will prove to be pretty near the mark. Taking 5,000 bees to the pound, a swarm of 40,000 bees would weigh eight pounds. I have weighed many swarms and found the most of them weighed from five to seven pounds, and these have usually given the best satisfaction. I have also had swarms of 10 and 10½ pounds, but they did not do double the work of a swarm of five pounds; and I have sometimes united them and made them stronger than the strongest single swarm, and the result proved the same, viz., that the strong swarms are not the more profitable ones, and original number of bees was not kept up. I therefore came to conclusion that a swarm of from five to seven pounds was the most probable, and that the fertility of those queens can be taken as a standard. More expensive trails in that direction have been made by Mr. Hannemann in Brasilia, who constructed immense hives and placed from 50 to 70 swarms, with a couple of queens only, in each hive. But, although his millions of bees in one hive gathered thousands of pounds of honey within a short time, they showed at the end of the season no more bees than ordinary stocks, and their honey-yield did in no way equalize that of same number of swarms in separate hives. These were conclusive proofs that the fertility of the queen can reach a certain extent only; when that extent is reached, it must of necessity go down again; or the queen either dies from exhaustion, or she is found wanting, and consequently done away with by the bees.

Having satisfied myself that swarms of five to seven pounds occur mostly and are most profitable, I come now to the explanation as to how many eggs such queens lay daily during the height of the breeding season under ordinary circumstance. But it is also necessary to know how long the bees live in the busy time. This is easily proved with the aid of the different coloured races of bees; and I find that although some live at least three months in the summer, and of course much longer in the winter, their average age is about six weeks to two months. Taking this for granted, and also that about the same number of bees remain behind in the old hive out of which the swarm issued of from 5lbs. to 7lbs., or 25,000 to 35,000 bees, then there have been from 50,000 to 70,000 bees in that hive before swarming, and the queen has laid 50,000 to 70,000 eggs within, say, 40 days, or 1,250 to 1,750 per day. (TO BE CONTINUED).

Mr. W. J. Hopkins' address is, John W. Hopkins, Sunnyhill Bee Farm, Tickhole, near Cardiff.

Mr R. J. Cribb, Brisbane, writes—I have known the Choko to be a good bee plant for about three years back, but prefer the vegetable marrow (which it greatly resembles) for food.

Mr G. R. Harrison writes from Orange Grove Apiary, Lower Portland, Windsor—I have taken charge of a small apiary of 50 hives. The honey is coming in freely from scrub, Accept my hearty congratulations on the improved appearance of the A.B.B. The cover was needed. I believe that the coming season is going to be a splendid one for honey, and also that things will be a little brighter, so that people will be able to afford honey.

Mr R. J. Cribb, Brisbane, Queensland, writes —I sincerely thank you for the notice you gave of my catalogue. On page 104 I notice Mr Niven's replies to my questions (mentioned in last issue), and wish to thank him for them and ask more beekeepers to follow his example and answer them. To me it is very valuable information.—[We should have stated in our last that Mr Cribb's catalogue was the first to hand. It came to hand some month or so previous to the others.]

A sample of honey forwarded to Mr Major Shallard, secretary of the N.S. Wales Beekeepers' Union, for the H.R.B. Association, has been received and duly acknowledged by him, as follows—"Mr E. Tipper. Dear Sir,—Yours re honey to hand. I will get it analysed, but the firm —— have been out of the bottling business nearly three years, and I think their trade died out. We can of course do nothing in the matter to prevent adulteration, but it will do no harm to add another sample to the already long list of adulterated honeys."

T. Kitching, Campbelltown, writes—One of my colonies is troubled with the disease known as bee paralysis. I have tried to cure them with Prof. McLean's remedy, which I enclose, but fail. Can you advise me what to do with them? The disease commenced its work in the fall of last season, and has gone on all through the winter. I have counted over thirty dead bees before nine o'clock in the morning. The death rate has been very great, still, notwithstanding this, the colony is very strong, and has drone brood. The queen of this hive I bought at Kangaroo Valley. Would it bring the disease with it? —Professor McLain's Remedy for Bee Paralysis.—1 pint of fine salt dissolved in 3 pints of soft water at a temperature of 90 degrees F. in earthenware basin (or iron, not tin), ¼ ounce of salycilic acid, and 3 teaspoonfuls of baking soda, dissolved in 1 pint soft water. Mix both solutions together and bottle for use. Mild dose.—1 tablespoonful to 1lb. honey. Strong dose.—2 tablespoonfuls to 1lb. honey. It is best fed warm.—[Try the essential oil of cinnamon, recommended by Mr. Bradley. We know of nothing that is certain.—Ed.]

Mr B. Navean, Burnside Apiary, Berry, writes :—Bees are doing well at present, and there is every prospect of a good season. I have not been able to settle myself to write you something for the special subject, but will try and do something for the next one. [Thanks, and best wishes to you.—Ed.]

Mr. H. L. Jones, Mel Bonum Apiary, Redbank Plains, Queensland, writes :—Many thanks for kind notice in last issue of A.B.B. What a grand advertising medium it is ; through it I am receiving responses from nearly every part of Australia, principally for queens, books and seeds. Yesterday I received six queens from America, but oh dear, all dead ; this makes 26 queens that have been sent to me from America, out of which, I have received six alive. I don't despair, though as I have a dozen more coming by next mail, some of which must come alive. I promised to send you, in time for next issue of A.B.B., a few notes on dates that the different eucalypti have bloomed here, during the past seven or eight years, but I regret I can't yet, as with over 50 letters per week to answer, and orders in proportion, I have to burn the midnight oil freely as it is.—[Thanks for your good words. Sincerely trust you will have better success with your next importation.—Ed.]

R. H. Jervis, Moss Vale, writes—I commenced bee keeping about two years ago. I have not been successful, as I unfortunately got foul brood. I have fourteen colonies, twelve strong and two weak ; I intend building the weak ones up as soon as it gets a little warmer. The season is later up here than with you. I will have no drones flying till the last week in September at the earliest. I have two queens from Doolittle to arrive in the middle of next month. When I first got foul brood I wasted months trying chemicals, which made a vast improvement, but not a cure. Then in the autumn I tried the starvation. I should have left them till spring. What few I had I had to treat again when spring came, and I made seven consecutive cures, most of them starved five clear days. Have you ever had any experience with it down your way? [It was very bad on the Hunter some three or four years ago, but was entirely stamped out by the starvation cure.—Ed.]

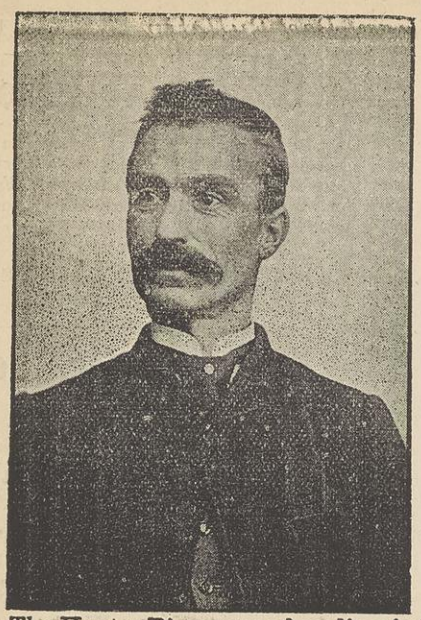
Mr George James' article on "Swarming" came too late for insertion in this issue, but will be in the next.

Mr J. Tucker, Paterson, writes—First swarm of the season came under my notice on September 22, at Mr D. P. Plesner's Felburne Apiary, Glen Oak, near Clarence Town. It was a very fine swarm of black bees. The swarm issued from the hive on the 21st September. Bees here at Paterson have wintered well, and are in strong forward condition. They are now working freely on fruit and spring flowers, willows and ironbark blossoms. Prospects of coming season very good.

TRUE ENOUGH.

On September 6th I made a strong colony queenless by taking away the queen. Two days after gave a hatching queen cell. In five days more examined and found queen had been torn out and sealed cells, which I destroyed. Two days after I went to give another hatching cell, first examining for any overlooked cells, when I found a nice looking queen cell on the end of comb, next end bar, and in it a newly-laid egg. This is not new, I am well aware, but still there are plenty of beekeepers of to-day who would not credit what has been written in some old bee books about bees stealing eggs from the hives of other bees, but surely this must be proof. The two queens reported a little while ago are still laying peacefully together as one.

Gordon. GEO. JAMES.



"The proof of the pudding is in the eating of it."—So says Sandy.

"Handsome is that handsome does."—Says John Bull.

OTHERS SAY:

The four hives of bees arrived and were forthwith transferred to their stands. They seem quite at home, in fact, were hard at work carrying in pollen during the morning, though not opened till 8 a.m. I am very much pleased with them.—C. PEAK, Gosford.

The swarms I got from you last spring did not attempt to swarm, although I crowded them with brood to induce them to do so. They are the most forward of any I have this spring.—ALF BROWN, Leaford Apiary, Scone.

I received the hive of bees in first-class condition, there not being one comb out of place, though the hive tumbled over several times while bringing them in a spring cart over very rough roads, and you know they had to come seventy miles by coach.—SAMUEL FARLEY, Rocky Crossing, Barrington.

The hive of bees are extremely gentle and the best of workers. I consider the one hive worth four of blacks. I kept them in a single storey, and did not extract from them, as I wanted them to swarm. They did not do so, however. This, I am aware, would be a strong point in their favour if I had sufficient colonies.—L. ROCKLIFF, Beecroft.

The progeny of the queens I procured from you last season are very gentle, and are good defenders of their hives. Moths are a scarcity where they are. Not so with the blacks I had.—WM. PACEY, Marrar, Junee.

I received the two last queens safe, and introduced them safely. Their young bees look very well, and are very quiet. All the bee-keepers in our district have had a look at them, and speak very well of them.—WILLIAM THOMPSON, Joadja, Mittagong.

The Proof of the Pudding is in the Eating of it.

———)o(———

Hence the large rush for our Comb Foundation, Bee Brushes, and Smokers.

The quality of our Comb Foundation, has sold for us such quantities, that we could not supply it fast enough. Our mills have been running night and day to meet the demand, and then we got behind. Why have we had such a rush ? Because our medium brood, (6 sq. ft. per lb.) is better than any other colonial made heavy brood (5 sq. ft. per lb.) We put the wax where it is most required, viz., in the side-walls, and not in the base of the cell.

Our "Cogshall" Bee Brushes have been tried, and are advertising themselves. When one goes to a district, it is not the only one, for it proves such a success, that orders come in rapidly from about that place. The cheapest form of advertising, is to supply a good article. Our goods go, North, South, East (to the coast), and West, and give universal satisfaction. We have just had to lay in another large stock of brushes, price 10d. each, by post to any part of the colony, 1s each.

SMOKERS :—We have not had one complaint about our smokers. The following is a sample of the testimonials we receive. "I could not handle my bees without being fearfully stung, they were so vicious. Now I have one of your smokers, I can subdue the most vicious colony. I have used the Clark and the Bingham."

Has your honey flow commenced? if not, be ready to take the honey as soon as you can, and give the bees plenty of room to store more. Since the warm weather commenced, our tinsmith has began to feel himself a bit busy. Extractors and honey tins are beginning to be in demand for the honey crop, which bids fair generally. For very small apiaries the honey slinger is found large enough, price 12/6 ; for larger apiaries, the two-framed novice honey extractor, price 42/6 ; and for large apiaries, the Cowan reversible is best, price £3 10s 0d. Remember all the above are colonial made, under the superintendence of a practical bee-keeper.

We have been fairly rushed with orders for bees and queens. All orders are booked and filled seriatim. Doolittle sent us one queen by last mail, from America, valued by him at fifty dollars, but we regret to say, she arrived *dead*. Other valuable queens are following from Doolittle, and Alley, We may get some alive, and will then be able to supply queens from the American strain. Our imported queens from Italy are first class, daughters are proving to be very fine. We are breeding queens by the latest scientific methods, and by careful attention to minor details are producing very superior queens.

We have received our rubber stamp outfit, and are prepared to execute orders for rubber stamps. Send for prices.

All communications receive prompt attention, by

ROBT. L. PENDER,

MANUFACTURER OF BEEKEEPERS' SUPPLIES,

WEST MAITLAND.

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