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West Maitland, N.S.W.: E. Tipper, February 24, 1896

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THE AUSTRALIAN BEE BULLETIN.

MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

No. 47.

FEBRUARY 24, 1896.

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Cowan's 2-frame Reversible (first class machine) 50/- each.

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Ex "SINTRAM," FROM NEW YORK.

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NOTE.—These hives are of the FINEST AMERICAN MAKE AND WOODS, and are cheaper than similar dovetailed hives made of unsuitable colonial timber.

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(Continued from Back Cover.)

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 " " " 3in, 3s "
 " " " 4in, 3s 6d "
 " " Honey Gates, 1 1/2 in,
 " " 3in,
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 See
 Discount for large orders
 Back Cover.

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The Beekeepers' Supply Co.

FRANKLIN STREET, MELBOURNE, VICTORIA.

Catalogue for this Season Now Ready, with Revised Price List,

CONTAINING THE FOLLOWING RECENT ADDITIONS—

THE LONGITUDINAL HIVE of 20 frames, with contracting boards, is specially a labor saver. It may be readily expanded or contracted to meet the necessity of the season. Two or more queens may be kept in one hive, and the stock amalgamated under one queen at any time, or the reverse proceeding be instituted for queen rearing. This hive will be found most suitable for the production of wax, supplying as it does ample clustering room.

THE REISCHE FOUNDATION PRESS.—This is without doubt one of the best recent additions to aparian appliances. Foundation may be made at very slight cost of labour. Capacity 3 to 4lbs. per hour; No other appliance necessary. Foundation made by this process, which is somewhat thicker than roller-made, is lighter in texture and more readily accepted by bees.

V-EDGE HOFFMANN FRAMES.—Having put in requisite machinery, we may now offer these at slight advance upon ordinary 7/8 Frames.

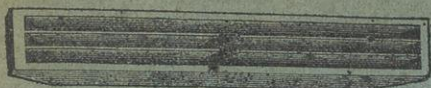
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FRANKLIN-ST., MELBOURNE.

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SIMPLICITY FEEDER

SIMPLICITY FEEDERS at 3d. each; or 2/9 a dozen (postage 1/2).

During spring we brought our colonies through in good condition by the use of the **BOARDMAN FEEDER**. It is an entrance feeder and can be used during night or day without creating the slightest robbing among the bees. We consider it the best feeder in the market. Price (with Mason's pint bottle) 1/6 each.

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If you do not care to make your own candy we can supply it ready for the bees. 1lb. in a patent top tin, 9d (postage 8d); 4lb in a patent top tin, 2/9 (postage, 1/5).

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	One	Three	Five	Ten
Untested Italian Queens ...	5/-	13/-	20/-	39/-
Tested Queens	8/-	22/6	35/-	67/6
Select Tested	12/6	36/-	60/-	

NEW EDITION OF THE A.B.C. OF BEE CULTURE.

We would like to remind you that we have a large stock of the new edition of the "A.B.C. of Bee Culture." Remember they are the same price as before, 5/- each (postage 10d.) We have a few of the old edition we are selling, to clear, at 4/- (postage 6d.)

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We have a large stock of patent top tins at the following prices:

1lb. tins with patent lever top	..	1/3 doz; 12/- gross.
2lb	..	1/9 ..; 17/6 ..
4lb	..	2/6 ..; 27/6 ..
7lb	..	3/- ..; 32/6 ..
9lb	..	4/6 ..; 51/- ..
14lb	..	7/- ..; 75/- ..
28lb square tins with patent lever top,	(square)	8/- ..; 90/- ..
60lb	..	11/-

or those who get their local tinsmith to make their tins, we can supply them with the patent lever tops for 1lb tins at 6d per doz., 5/6 gross; 2lb. tins 7d doz., 6/6 gross; 4lb tins 9d doz., 8/6 gross

CASES FOR SHIPPING HONEY.

1 case, nailed up, 1/3; 10 cases, in the flat, 1/- each; 20 cases, in the flat, 10d each.

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Manufacturers of Beekeepers' Supplies,
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Then Try one of my

GENTLE GOLDEN QUEENS

Carefully bred from Imported Mothers.

TESTED	UNTESTED
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Is money tight, or the honey crop light?
Write, and see if I can help you!

R. Patten, Binni Apiary, Bolwarra,

WEST MAITLAND, N.S.W.

Delays are Dangerous!

And I regret that I have been compelled to delay the orders of so many of my customers during the past month. Orders from all parts of Australasia have poured in at such a rate that it has been utterly impossible to keep pace with them—consequently I am behind. For my best breeding queens there has been a particularly strong demand, and although I have already despatched a good many, I have still so many orders booked that I cannot stipulate to forward any more until 1st December. I am now testing for breeding purposes a number of extra fine queens of this season's raising, and the best of these I will be prepared to despatch after above date. If you are in need of an especially fine breeding queen, that will do you good service for several years, book your order now, and you can send cash on receipt of queen. I will guarantee my breedings to be equal in all respects to any obtainable.

My stock of Tested Italian Queens is also exhausted, and I have so many of this class booked that I cannot supply any more until 15th Nov., after which date I can guarantee prompt delivery of any number.

Untested Italians and Carni-Italians I am shipping daily; still I have so many awaiting delivery that I cannot guarantee dispatch of any further orders until after 10th Nov.

One gratifying feature about this rush of orders is the fact that the bulk of them come from apiarists who have given my strain a thorough trial, which I think speaks for itself.

"I have seen some of your queens, and consider them about the best that can be produced for business have several queens from different breeders, but the best I have is a descendant of your breed.—T.S.F., Richmond River, N.S.W.

"The queens that I got from you last season have pleased me so much that I now enclose cheque for ten more.—R.S.H., Nyngan, N.S.W.

"All the queens I have raised from the breeding queen you sent me have given splendid results, and have proved themselves to be practically non-swarmers. Please send the queens ordered from a non-swarming strain.—S.A.L., Cundletown, N.S.W.

"I received from you two years ago two Carni-Italians, which gave good satisfaction—splendid breeders and good honey-gatherers. Enclosed find P.O.O. for £4, for which please send me value in queens as under."—P.W., Williamstown, South Australia.

For Prices, &c., see my 1895 Catalogue. If you have not a copy send me your address, and I will send you one post free.

H. L. JONES,
Goodna, Queensland

Queensland Agent for the "Australian Bee Bulletin."

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DIRECT FROM AMERICA.

Carniolans, same price.

FINE BREEDERS, either race \$6 each.
Tested Queens, \$1.50 each. Express prepaid on each queen \$1.50, and safe arrival guaranteed. I have made arrangements so that I can send queens by express to Australia for \$1.50 each extra. By mail same price, with no guarantee of safe arrival. If you want a fine queen give me your order. My Money Order Office is Victoria, Texas, U.S.A.

I can now prepay queens by Express to Australia for \$2.50 each (exchanges), or when 6 are ordered at one time, I can prepay at \$1.50.

Mrs. Jennie Atchley,
BEEVILLE, BEE CO., TEXAS, U.S.A.

This Season's Queens!

REARED UNDER MOST FAVOURABLE
CONDITIONS.

EXCEL ALL OTHERS.

Untested	5/-
Tested Pure	15/-
Choice Breeding Queen	30/-

On a number of Queens Special Quotations.

Swarms, Stock Hives & Implements
SUPPLIED & ALL INFORMATION GIVEN.

APPLY TO

W. ABRAM,
ITALIAN BEE FARM,
Beecroft, near Sydney.



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For the Busy Practical Working Farmers of Australasia.

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100 ordinary pages condensed
in 24.

J. M. Wallace, Mount Meryla.—Bees have not gathered much honey up to the present, the drought being greatly against them, but no doubt the late rains will make things hum. The messmate, white box and sapping gum are all in full bloom now. The bloodwood and yellow gum to come.

VICTORIA.

Beekeeping Friends,—I can supply you with QUEEN THAT ARE UNSURPASSED FOR QUALITY, and GUARANTEED SAFE ARRIVAL and satisfaction ANY OF THE COLONIES.

I attribute my success to the fact that I have obtained the past seven or eight years from breeding queens every season from different places and most noted breeders in Italy and America and have just landed a very select breeding queen from Mrs. Atchley, Texas, who gives her a very great character.

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Are not the best Honey Gatherers and Comb Builders. Their sealed combs are of snowy whiteness. They submit more readily than other bees upon the application of a small amount of smoke; they cluster very compactly and quietly, and winter remarkably well; are vigorous defenders of their hives, and gather very little propolis, if procured from the first and best breeders in Australasia.

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Per letter post, safe arrival guaranteed up to 21 days.

JUST ARRIVED FROM EUROPE IN GRAND CONDITION.

CARNIOLANS. CARNIOLANS.

NEW BLOOD for our Celebrated Carni-Italian strain. Change your breed and avoid Paralysis, by purchasing Queens from our Select Stock.

"LOYALSTONE, LYNDBURST, Western Victoria, September, 24, 189

W. T. SEABROOK AND Co., Gordon.

Gentlemen,—Doubtless you would like to hear how I got on with the Carni-Italians. I got from you, the 15th November, last year. Well, she put down both my Italians and for honey gathering. Notwithstanding that she swarmed twice during the season. I got 380 lbs. of honey from her hive, which record, I think would take a lot of wiping out going in for Carni-Italians this season, in preference to Italians, for some of which I paid a figure. Believe me, Yours faithfully,

"CHAS. U. T. BURKE

W. T. SEABROOK & CO.

Orange Blossom Bee Farm, St. Ives, Gordon, N.S.W.

For Honey Labels and every description
PRINTING send your Orders to

BEE BULLETIN OFFICE.

The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—FEB. 24, 1896.

ADULTERATION! Yes, we believe tons of adulterated honey is now being sold in certain towns of New South Wales, and there are people who are making a better living selling such than many an unfortunate beekeeper that works hard and spends time and money in producing the genuine article. We have tried to invade the defiled precincts, in order to benefit our fellow beekeepers and ourselves. With a beautiful sample of light honey, in clear jars, parchment top so as to be able to cut the wholesale price fine, and neat little gold label. The following is a sample of conversation that took place in more than one store:—

"Can you do with some honey?" confidently producing sample jar.

"What's the price?"

That is given, and after a little hesitation, "No, we are well stocked," showing us a row of pickle-bottles the contents of which we are well aware of, spite of what the label says, but it would not be wise to say so straight out. "Besides we buy and can sell this cheaper than yours."

"But would not this good article, so well got up, command a better sale than that you have there?"

"Oh no, that would make no difference to us. Our customers are satisfied with this, and it is not worth while changing, and we can make more profit out of it."

"But are you sure it is honey you have there?"

"Well, we buy it for such, and our customers are satisfied with it."

We feel it our duty to appeal to the N.B.K.A. and the powers that be to have these matters investigated, and if the present law is not able to cope with the matter the sooner the next is passed,

compelling every man adulterating, no matter what it is, to have the article labelled with its proper constituents, the better, both for the hard-working toiling producer and the general public.

A beautiful sample of native beeswax to hand from Messrs Shumack Bros.

Two splendid photos to hand from Mr. J. T. Adams, Moroopna, Victoria. Our gallery is telling up nicely.

In the December number an error occurs. To detect adulteration in honey, it should have read, pure honey will blend with spirits, adulterated honey will not, that is if adulterated with starch or glucose, the latter forming a sediment at bottom.

A most valuable communication by Mr. W. Abram, in another page, on Paralysis, should be well and carefully read by every beekeeper. Indeed, for the forward step in knowledge of this most puzzling malady it has given us, Mr. Abram cannot be thanked too much.

We would remind our subscribers that the volume ends with March. Money has been coming in very slow lately. We suppose the drought, in preventing the trees yielding honey, has also prevented the beekeepers sending the money. We assure our readers however, there has been a great falling off in money coming in. Will those who are in arrears take the hint.

A leading Victorian newspaper says:—The failure of the Victorian bonus system in getting Victorian honey placed successfully on the English market is attributed to the regulations, one of which says "All honey to get the bonus must be of light colour;" another says "the honey must be put up in 56lb cans, nett weight." The same writer a week later says it takes two hours to transfer a hive of bees from a box to a bar frame hive! We fancy we could pick out a few beekeepers, and ladies amongst them, that would do a good strong swarm in less than half that.

In another page will be found reports of the trial shipment of 24 tins of honey sent to England in July last from the Hawkesbury Agricultural College, Richmond. As we read them a feeling of indignation arises at the way "business men" try to depreciate the product of the colonial producer, in order to fatten themselves. The question naturally arises, Are Sir Saul Samuel and his staff acting in the interest of the colonial producer or the London middlemen? Private reports to us of honey sent to other centres of population tell a somewhat different tale. One lesson, however, may be fairly learnt. Let beekeepers work up and cultivate their own (Australian) market. There's plenty of room for big expansion here.

Mr Pankhurst, of Duri, paid us a visit during the month. He has some fifty hives, eight-frames, with supers. As the central frames become filled with brood, he removes the outer ones to the centre. He has not tried ten frame hives, but intends doing so. He does not use bee-escapes or queen-excluders, but in taking the frames off to be extracted manfully uses the shake-off and brush system. He always clips his queens. He is keeping a strict record of his honey returns, which he intends to tot up at the end of June. He has invariably introduced queens successfully by well smoking the hive and then running the queen in at the entrance. Instead of wiring, he places wooden bars across the centre of frames.

A little experience. We have often heard it said bees never do the same thing invariably. We have had some experience to prove same. We had six choice virgin queens in two frame nuclei. We thought, by giving them each an additional frame of brood and bees it would encourage the queens to lay, and help them to speedily work up into strong colonies. We started with one by taking a frame from a hive some ten yards away, well smoking and scenting both nucleus and frame before combining. All apparently went well with No. 1. Nos. 2, 3, and 4 were away in another part of

the premises, and consequently the frames were very much longer exposed to the atmosphere. These went all right. When they were done we returned and looked at No. 1, when, Oh, Gemini, the slaughter was over, the bottom strewn with dead bees, and the queen gave her last gasp in our hands. Oh for some summary punishment for such murdering ruffians! But why did they not do the same in numbers 2, 3, and 4? Naturally we concluded it was the extra exposure to the air had deadened the separate scents and thus assisted the union. No. 6 was now to be done. And she was a splendid queen, not only big but tip and all pure yellow—a real beauty! We'll make doubly sure of her. So we took the additional precaution of putting a wire cage over her, also spreading the frames apart for a little longer than we did in Nos. 2, 3, and 4. This in addition to the same scenting and smoking. It was evening. At daybreak next morning our first errand was to release that beautiful imprisoned queen. Oh horror! the same had taken place as at No. 1! They had even worked their way under the wire cage, and the queen had shared the general fate. We might mention, being only nuclei in ten-frame hives with gable cover, we used in each case follower and mat. Will some good friend tell us why they acted so differently.

QUESTIONS NEXT MONTH.

No. 57.—Explain the little experience on this page.

No. 58.—T. O'G.—What is your opinion re the merits, economical or otherwise, of half-size boxes versus full size, for extracting?

No. 59.—What material or colours are best to wear in working among bees?



QUESTIONS.

52.—How are the larvæ fed ?

53.—A correspondent writes :—My hives are situated about 25 yards away from my neighbours' fence. They complain of their being a nuisance, and say if I do not remove them 50 yards away they will take legal proceedings against me. What should I do ?

54.—T. Bolton, V., I beg to ask the best means to use, when erecting a new honey house to make it ant proof. Should sheets of tin or inverted shallow tin dishes, say portions of kerosene tins on top of every block effect this. How about the chimney if one is used ?

55.—Where would you recommend the next N. S. W. Convention to be held, and why ?

F. A. MAXWELL.

52.—Have not observed.

53.—Consult a good lawyer.

54.—Don't know.

55.—Sydney, because it is central or comparatively so and most convenient for most beekeepers.

JOHN SMITH,

53.—If neighbours can't move they are a nuisance, they would compel you to move them. 25 yards is too near if people are living close to the other side of fence. A very high fence would probably abate the nuisance, but if you can move them 50 yards, why not do so ? Follow the golden rule—wherever possible.

G. R. HUMBLH.

55.—In Sydney : Because it is centrally situated ; less time in the aggregate is lost in travelling ; four-fifths of the last Bathurst Convention travelled via Sydney and will have to do so again if held anywhere else ; cheaper for the Government if free passes are granted ; better facilities ; not so cold—remember Bathurst.

H. J. WRIGHT.

52.—I have not studied same so cannot state.

53.—I would advise the removal of hives as requested, as the bees might attack your neighbour's stock, consequently making them do some damage for which you would be responsible.

54.—A very perplexing question which I am not able to answer at present.

55.—Sydney : as many delegates from country districts could then have a chance of visiting such apiaries as Mr. Abrams and others easily accessible to the city, and also various supply dealers, &c.

JAMES McFARLANE, V.

53. Shift them, and if possible have all entrances so they won't face towards your neighbour.

54. My honey house is built on blocks, 18in. high. Said blocks have flannel tied round them and kept saturated with kerosene. The earth is excavated 10 or 12 in. in underneath room, so as to get easily at blocks in centre. If chimney is wanted, build of iron, and have it also on blocks. A tapering stand is built in front of door, so that honey can be wheeled right into room.

J. J. DICK.

53.—Your neighbours can indict you as a nuisance if your bees sting them. Your only remedy is to remove them.

54.—To get rid of ants poison a little honey with arsenic and spread it where bees cannot get it. I was greatly troubled and poisoned every one, using only paris green.

55.—Sydney, from the fact it is a common centre for all by stream and rail. In any case I only want one journey instead of two as last year. Would advocate no free passes by rail, no half fares by steamer, and last but not least no more abuse about passes if issued.

HUGH RUSSEAL.

48.—I extract into 4 large tanks, each 100 gallons, with lips round bottom for water, and when full can off into kerosene cans with patent tops. This plan I find most convenient for myself for storing the honey crop.

49.—Painted hives for the hives themselves, but for the bees it does not make the difference of a row of pins.

50.—There is no hard and fast rule that I know of for finding the queen, but she will most often be found among the thickest of the bees and on the frame with the newest laid eggs.

51.—I don't quite understand the question. If "Novice" means that the only light to the shed is to come through the small bee ways, I should say those outside with shade boards are most likely to do best by a long way : but I can't say from experience.

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

52.—The prepared food is placed in the bottom of the cell and the larvæ takes it through its mouth, and I believe by absorption through that part of its body immersed therein.

53.—If you have room, remove your bees the 50 yards : it will pay better than going to law. If you have not room then erect a light trellis and plant some quick growing vine. The bees will thus have to rise high and will not trouble your neighbour.

54.—The best way to make an ant proof honey house, is to lay out a foundation of cement on bricks, making a gutter all round. Build your house on this and keep the gutter full of water. Ants cannot get in then.

55.—Sydney. As it is most convenient for the majority of beekeepers. I should like to have seen it held in Maitland as a compliment to our brother beekeepers for the part they took in the forming of the Association

W. NIVEN.

52.—Read some of the text books on beekeeping.

53.—You do not say in what manner your bees are a nuisance. If the entrance to the hive at the present time is towards the fence, by turning to the opposite direction things might be better. Also by planting a thick hedge of quick growing trees the bees would have to fly high and not come in contact with persons or stock on the ground. Interview the person and show him you are willing to do the best you can to prevent your bees giving annoyance. If he is a man of sense he will be willing not to put you to more inconvenience than is necessary. Avoid legal proceedings. For the last 10 years I have had over 100 hives round my dwelling house, some within 8 yards of the door and have found no inconvenience.

54.—This is an important question; one I have had in my mind for a long time and have not been able to solve to my own satisfaction. If the tin will stop the ants, the design is very good, the chimney could be built on the blocks the same as the main building.

55.—Sydney, as it is more convenient to get there from all parts of this colony and from other colonies.

H. COLMER.

50.—Look carefully over the combs for eggs newly laid—search well round the edges, for it is on such combs you will find the queen, unless she gets frightened and then you are likely to find her doing “even time” anywhere inside of the hive.

52.—No time up to date to prove it.

53.—If you have the room to remove your hives 50 yards away explain to your neighbour the trouble and loss it will cause you to remove them at this season of the year and that you will remove them in the coming winter. If he does not agree, or you have not the required space, then seek a lawyer's advice.

54.—In the north of Queensland sheets of tin are placed on the block of the dwelling houses for that purpose, projecting a few inches over the edge of the blocks. The chimney can be built on blocks, using stout slabs for foundation.

55.—West Maitland. Can be reached by rail and almost by steamer, and holding a large number of people engaged in the bee industry, much may be learned by those seeking information.

W. S. PLEFFER.

30.—The plan I have used for years to find black queens is, after looking through the hive and not finding her, to remove the hive a few feet and put an empty one in its place, spreading a cloth in front of it well up to the entrance,

shake the bees on to it a frame at a time, putting them into empty hive and keeping a good look out for her on cloth and frame; failing to find her thus, look among the bees that are left sticking to the sides of removed hive, where she will often be found, and should any bees crawl up your leg, a few vigorous stamps with the foot on the ground will dislodge them.

55.—I think if the next N.S.W. Convention was held in Sydney it would suit most beekeepers, as most of them have a little business to transact there and attending the Convention would afford them an opportunity of doing so. Thitherwards all our railway lines converge, and Sydney being blest with a mild winter those attending the Convention would not be benumbed with cold.

GEORGE PACKHAM.

52. I have not made a study of the subject. It would not pay me to do so, therefore cannot say.

53. Your correspondent does not particularise the nature of the nuisance. If it is that the bees sting his neighbour on the other side of the fence at 25 yards, they would still do so at 50. Would advise the erection of a paling fence, or a blockade of some kind, and keep nothing but pure Italians.

54. Build four pits for corner posts, bricked and cemented to hold water, or a kind of basin may be formed round the posts, with good yellow clay that will hold water. If artificial heat is required, use cooking stove; it is much better than a fireplace, and can be removed when not required for use in honey house.

55. At Sydney, it being the great centre of attraction, and it pays to visit Sydney at least once a year.

G. COLBOURNE.

52.—I do not consider this question of any importance to the practical apiarist.

54.—I know of no better way than building on brick piers and having an abundance of water all around and under it. Tins as suggested would be useless.

55.—In Sydney. Firstly, because it would be more easy to secure reduced railway fares or free tickets; secondly, many country beekeepers would rather go to the seaside than further away into the country.

H. L. Jones, Goodna, Queensland.—Apicultural affairs have brightened up considerably during the past month. Within the past fortnight we have had exceedingly heavy rain, and there is still some prospect of a flood.

UPPER HUNTER P. & A. ASSOCIATION.

The following are the prizes for the above to be held on Wednesday and Thursday, April 15th and 16th, 1896.

APICULTURE.

No restriction to number of exhibits in this section.

373 Collection of the Best Apicultural Products, in trophy form, to include extracted honey, comb honey and beeswax, first prize 2 guineas, second 1 guinea.

(Special prizes, open to all comers, entrance free.)

374 Best Leather Coloured Italian Queen and Progeny, bred by exhibitor, to be shown in one frame observatory hive, first prize, 5s; offered by Mr. F. Budden; second, 2s 6d, offered by Mr. W. Hornery.

375 Best Golden Italian Queen and Progeny, bred by exhibitor, to be shown in one frame observatory hive, first prize 5s, offered by Mr. A. Weidmann; second 2s 6d, offered by Mr. J. McKenzie.

376 Best 12lb Extracted Honey in 1lb jars, first prize 10s 6d, offered by Messrs M. Campbell and Co.; second 2s 6d, offered by Mr. C. C. Paul.

377 Best 12 bottles Extracted Honey, first prize 10s, offered by Mr. R. T. Keys; second 2s 6d, offered by Mr. W. Thomas.

378 Best 12lbs Granulated Extracted Honey in 2lb jars, first prize, 5s, offered by Ven. Archdeacon White; second 2s 6d, offered by Mr. A. A. Roberts.

379 Best 12 1lb Sections, first prize 10s, offered by Mr. R. G. D. Fitzgerald; second 2s 6d offered by Mr. Wm. Thomas.

380 Best Two Large Frames Comb Honey, L size, first prize 5s, offered by Mr. J. C. Luscombe second 2s 6d, offered by Mr. A. A. Roberts.

381 Best Two Frames Comb Honey, other than L size; first prize 5s, offered by Mr. C. C. Paul, second, 2s 6d offered by C. C. Paul.

382 Best Three Small Frames Comb Honey, $\frac{1}{2}$ L size; first prize 5s, offered by Mr. D. G. Grant; second 2s 6d, offered by Mr. A. A. Roberts.

383 Best 12 lbs Beeswax, first prize 7s 6d. offered by Messrs M. Campbell & Co.; second, 2s 6d, offered by Messrs M. Campbell & Co.

384 Best Two Frames of Empty Combs, built on foundation; prize 2s 6d, offered by Mr. H. J. Clarke.

385 Best Wired Frame of comb Foundation; prize 2s 6d; offered by Mr. H. J. Clarke.

386 Best Frame Drone Comb, any standard size. First prize 5s, presented by Mr. A. J. Brown; second 2s 6d, offered by Mr. A. J. Brown.

387 Best Lot of Queen Cells on one frame. First Prize, 5s, offered by Mr. A. J. Brown, second, 2s 6d, offered by Mr. A. J. Brown.

388 Best Novelties worked by bees. First Prize, 5s, offered by Mr. A. J. Brown, second, 2s 6d, offered by Mr. A. J. Brown.

SPECIAL PRIZES.

Open to Members of the Muswellbrook B.K.A. only. Entrance, free.)

389 Best 6lbs. Extracted Honey, in 1lb. Jars. First Prize, 5s, offered by Mr. Hazelwood; second, 2s 6d, offered by B. K. Association.

390 Best Six Bottles Extracted Honey. First prize 5s, offered by Mr. Hazelwood; second 2s 6d, offered by B.K.A.

391 Best Six Sections. First prize, 5s, offered by Mr. T. Ellerton; second, 2s 6d, offered by B.K.A.

392 Best Large Frame Comb Honey, L. size. First prize, 5s, offered by Mr. S. H. Luscombe; second, 2s 6d, offered by B.K.A.

393 Best 2 Small Frames Comb Honey, $\frac{1}{2}$ -L size. First prize, 5s offered by B.K.A.; second 2s 6d, offered by B.K.A.

394 Best 3lb. Beeswax. First prize, 5s, offered by B.K.A.; second 2s 6d. offered by B.K.A.

HUNTER RIVER A. & H. ASSOCIATION.

The following are the prizes for the above to be held on Wednesday, Thursday and Friday, April 22nd, 23rd and 24th, 1896.

495 Comb Honey, most attractive display, not less than 50 lbs., labels allowed, 10s. and certificate; second 5s.

496 Comb Honey, best 12 1lb sections, 10s; second, 5s.

497 Extracted Honey, most attractive display not less than 50 lbs., manner of putting on market to be considered, labels allowed, 15s; second 7s 6d.

498 Extracted Honey, liquid, 6 2 lb screw top glass jars, 10s; second 5s.

499 Extracted Honey, granulated, 6 2lb screw top glass jars, 10s; second, 5s.

500 Beeswax, not less than 10 lbs., soft clear, yellow wax to be given the preference, 10s; second, 5s.

501 Best Leather Coloured Italian Queen and her bees, displayed in a single comb glass nucleus, 10s.

502 Best Yellow Italian Queen and her bees, displayed in a single comb glass nucleus, 10s (offered by Mr. R. Scobie.)

503 Honey Vinegar, in glass, not less than 1 gallon, 10s.

504 Beverages, best and largest number, not less than three, made from honey, 15s.

505 Comb Foundation, best three sheets, different grades, 10s; second 5s.

506 Cookery, best and largest assortment, made with honey as an ingredient, 15s; second 7s 6d.

507 Best Wired Frame of comb foundation, 6s

508 Best Colony of Bees, 10s; second 5s.

509 Best Beehive suitable to the district, 10s, second 5s.

510 Best three empty combs, naturally built, 5s.

511 Best three empty combs, built on foundation, 5s.

512 Best and largest collection of Fruits preserved in honey, 15s; second 7s 6d.

ON BEE PARALYSIS CAUSED BY BACILLI.

W. ABRAM

The loss of bee life during the last four or five years has been abnormal, and bee paralysis was said to be the cause of a great deal of this, but no one knew the cause definitely or a remedy for it, *vide* the various reports in the *A.B.B.* from time to time. Many were the cures tried, but none proved absolutely effective. In 1891 I became fully convinced that this matter required the most careful attention and I devoted a lot of time to it. I also succeeded to induce the Department of Agriculture to undertake scientific investigations. Excellent preparations were made by Mr. R. Helms, and I expected the problem solved before long, but lo! the whole culture and preparations had to be put aside then to allow of some other work to be proceeded with, and beekeepers were left to help themselves. Knowing this I began to consider of some other plan, and this is what I did:

In spring 1892 I collected a number of bees which were at the time suffering from what is generally known as paralysis. I also obtained a few queens, put them in spirits of wine and forwarded them to the editor of the foremost German Bee Journal with the request to, if possible, ascertain what caused the sickness, and ultimate death of these bees. My letter appeared in due course in the bee journal, and in a footnote the editor informed me that he received the bees and forwarded them to Professor Dr. Müllenhoff in Berlin, who despatch-

ed them to Dr. Schiemenz, then stationed at the zoological experimenting station at Naples. Dr. Schiemenz is an authority on bee anatomy. With great interest, I now awaited the result of these investigations, but month after month and year after year passed and no information reached me. How great, therefore, my surprise, when, getting a batch of journals the other day, I find an abstract report on the matter in one of its numbers. Ill health of Dr. Schiemenz occasioned the delay. The following are points taken from his short report:

The death of the bees from Australia is no doubt caused by a bacillus which were found in the chylus-intestines (*Chylus Darm*) and the rectum of the bees (workers) in astonishing quantity. The epithel of the chylus were more or less completely ruined, and the single cellules of same were almost one heap of bacilli. The bacillus has the form of short stout rods, nearly egg-shaped, but under strong magnification they appear clearly as rods. To judge by the material to hand, this bacillus seems neither with *bacillus alvei* nor with *bacillus flavidus alvei* identified. Also with the one described by Lortet it has no identity. To go more fully into this matter would require renewed and fresh material, also larvæ and their food. This should be done locally in combination by a zoologist and a bacteriologist. Thus Dr Schiemenz.

Full details and illustrations are to follow. Well, now, in as much as the investigation clearly proves that the cause of all the trouble is really a bacillus, I think I ought not to keep this valuable information to myself till the whole report is in my hands, because it seems to me as secondary importance what size, shape, etc., etc., the bacillus represents. The proof of the bacillus causing the mischief is a knowledge which will enable the beekeeper to arrange his model of procedure should there appear any signs of the disease. As the bacillus appears and seems to develop in the intestines of the bees and destroy them, a cure can best be effected

with the food. I am of opinion that salicylic acid, lysol, naphthol and other antiseptic medicines will prove useful so long as they dissolve entirely in the food and it is readily taken by the bees. Badly affected stocks may get but little relief from any treatment, less than stock just beginning to show signs of an attack. It is therefore advisable to keep close attention on all stocks, in order to detect any wrong at once.

Although the existence of a bacillus is now an established fact, there is yet work before us, work which cannot be accomplished with material in spirits, work which must be done here. For instance what will most effectively destroy the bacilli without injury to the bees and their brood? Is the disease infectious or contagious, and how? These and other matters must receive very close attention, and I am sorry that the Department of Agriculture does not aid us in this. Nearly six months ago I submitted a motion to the committee for a deputation to wait on the Minister urging the necessity for the investigation of diseases by the department, but for some reason or other this deputation has not yet come off. Sometimes I think that perhaps because prior to my motion deputations from the committee interviewed the Minister on trivial matters our estimation may have fallen low in the eyes of officialdom, and our requests are shelved accordingly. Sometimes I fancy as if some of the committee pay more attention to matters which are better understandable than bee diseases. But of what use is all else so long as diseases prevail—and no cure? I sympathise with the weak and wish to assist them—not the strong. Feb. 15th, 1896.

BEE-KEEPING.

BY ALBERT GALE, in the *N.S.W. Agricultural Gazette*.

THE INMATES AND ECONOMY OF THE HIVE.—THE WORKING BEE.

Working bees at home are the rank and file of the hive; the architects, the builders, the preparers of building

materials, the purveyors, the cooks, the nurses, the inspectors of nuisances, the scavengers, the sentinels and the defenders. All and every bee when at home has to fulfil these and many other duties at some time during her indoor life, from the day she escapes from the chrysalis till she goes out to procure home supplies.

"The working female, says Kerly and Spence, is zealous for the good of the community, a defender of public rights, enjoying an immunity from the stimulus of sexual appetite, and the pains of parturition, laborious, industrious, patient, ingenious, skilful; incessantly engaged in the nurture of the young, in collecting of honey and pollen, in elaborating wax, in constructing cells and the like. Paying most respectful and assiduous attention to objects (queen bees), which, had her ovaries been developed, she would have hated and pursued with the most vindictive fury till she had utterly destroyed them."

Abroad they are the foragers, collecting pollen to supply the juveniles at home with bee bread, honey for winter stores, and propolis to glue up cracks, and cementing foreign intruding substances that are too cumbersome to remove bodily or too tenacious to be removed piecemeal. Abroad they are one of the great fertilisers of the vegetable world, they are our forest makers, our orchardists, our florists. As forest-makers they perpetuate the species of trees and plant upon which they work. As fruit-producers, they are constantly improving their form, their colour, their flavour and their season. As florists, they are ever varying our flowers in shape, in perfume, in colour, in tint, in streak and in freckle. They are constantly reproducing old colours and fashionable combinations thereof, and suffusing them with the most attractive shades to please the searcher for novelties in the floral world.

In the chapter on queen-bees we named the workers as incomplete females; we now propose to follow the latter, watching the changes she under-

goes in her transmission stages from egg to imago, noting how she performs her various home duties, and following her into the field, the orchard, and the garden, and watching her in nature's workshops elaborating new varieties of flowers and fruits.

The fecundation of the mother-bee by the drone is the first element in differentiating the sexual character of the egg germ in the ovary of the queen-bee. Swammerdam, an old entomologist, on noting a strong odour, emanating from drone bees, was under the impression that the said odour permeated the body of the queen-bee, and in this way the egg was fertilised. Francis Huber, experimenting with the theory, confined a number of drones in a perforated box. Placing this box of drones within a hive from which all drones have been excluded, and confining a virgin queen within the same hive. Needless to say, with our present knowledge of the domesticated bee, she became a drone-breeder.

The egg, after fertilisation and the treatment it receives after it is deposited in a worker cell, produces one of the rank and file. While in this cell it is termed a "worker-egg." A misnomer introduced into the beekeeper's vocabulary before the scientific knowledge of the economy of the hive-bee was so well understood as at present.

There are such things as worker-eggs. They are the produce of a fertile-worker, but these eggs always develop drone-bees.

The queen-bee, after she has satisfied herself that the cell she has selected is wholly untenanted and cleaned ready for the reception of an egg, places her abdomen therein, and after it is withdrawn we see fixed at the base of the cell, and parallel to its sides, an elongated pearly-white egg, one end being rather larger than the other.

In the larger end there is a minute doorway (*micropyle*) by means of which the sexual character of the embryo drone bee contained therein can be differentiated. These eggs remain in the

position in which they were deposited, and then gradually alter it until they are lying parallel to the base of the cell, which occupies about two more days to complete its final position. The heat necessary to hatch these eggs and for their after development should not be less than 70 degrees Fahrenheit.

Draughty hives have much to answer for in preventing early spring swarms. So also has the too common practice of leaving the supers on the brood-chamber without an intervening warm quilt between the two boxes. The more snugly in the brood chamber the bees are kept during the winter months and early spring the sooner will early swarms issue, always providing the old stock has been kept numerous strong since the previous autumn. If "the early bird gets the first worm," it is the early swarm that gets the most honey.

When the inmate of the egg hatches out a little whitish worm is seen lying on the bottom of the cell and parallel to it. As soon as the little inmates are liberated from the egg covering they are supplied with a white semi-transparent fluid by the nursing bees. After receiving this food they grow rapidly and very soon touch the angles on either side of the cell. The little inmates literally float in this milky fluid. Very soon their couch becomes too short to stretch themselves upon. Then they assume a bent or semi-circular position. The degrees of these circular segments increases until both ends meet. When there is no further room to coil they stretch themselves along the sides of the cell and parallel to it.

(To be continued in our next.)

A. J. B., Robertson.—Owing to dry weather this district has not been very good for bees, and I was disappointed in not getting clover honey, but there has been a light yield from a brush tree called "Leather-jacket." The flavour is rather strong; another plant known locally as "Acacia" is commencing to bloom, it also yields strong flavoured honey, but gives the bees a good supply for winter.

CAPPINGS.

(From American and other Bee Journals)

Four bee journals lately died in America.

Bees never spring dwindle if they are wintered well.—*Beekeeper's Quarterly*.

Railroad authorities in France, says *Le Progres Apicole*, were petitioned to sow honey plants on railroad embankments, and gave a favourable response.

It may be better to have all young queens, but I believe that the labour and expense of rearing and introducing them will pretty nearly offset the advantages.—*Beekeeper's Review*.

If very late swarms come off I would give them three or four frames of brood and honey from some populous colony that could spare them or draw from two or three if necessary.—J. W. Rouse.

A confectioner of Neudorf, says *Le Bulletin d'Alsace Lorraine* found it convenient to scald the bees that entered his premises. The beekeepers sued, and the authorities obliged him to screen his premises against the bees, and to keep his empty casks and cans out of their reach.

Gleanings says: Heather honey is so thick that as yet it has never been emptied by the extractor. One of the live questions at the present time in Germany is as to some machine or management by which it may be extracted, and the sturdy beekeepers of that land are hopeful.

[There is trouble of that sort here in some parts of Australia. It ought to be a good fault in the raising of comb honey.]

L'Apiculteur.—Maurice Bellot has very often succeeded in preventing second swarms, when artificial swarming has been practiced, by giving the whole colony a queen-cell which will hatch in two days; when natural swarming is allowed, by giving the old colony a virgin queen just emerged or about to emerge, which is eaged for twenty-four hours.

Cheshire, found 6,300 facets, or single little eyes in the eye of the worker, and 4,920 in that of the queen, while the

drone has no less than 13,090. Remember that means the number of facets in one of the two compound eyes, and that number must be doubled to find the number of impressions made on the optic nerve. Think of the drone looking 26,000 ways at once!—Dr. Miller.

Mr. Henry Otto gives the following cure for foul brood:—Drop from 25 to 30 drops of creoline into one quart of pure soft water, and with this spray the bees at the entrance during the warmest part of the day, every second or third day. Repeat this five or six times. Also spray combs. I use an atomizer with coarse spray for entrance, and the fine spray for combs. The best time to spray is in the fall, right after the honey season is over, as the creoline has a tart taste and may affect the honey if used during the honey season.

Mr. Harbison says:—"It is safe to say that no product of soil or water, whether fish, flesh or fowl, or that of fruits in all the varied forms in which they are marketed, is sold at so low a price relatively to excellence as is that of our high grades of California honey?" Mr. Harbison holds that California water-white honey—the product of the different varieties of sages—has no superior in any country, and should sell for *full 50 per cent.* more than it has for the past few years.

Mr M'Evoy combats the statement that foul-brood can be cured by the drug treatment. He mentions various instances of celebrated beekeepers trying Cheshire's treatment without success, and says:—"Would it be right for a man to live in a city, and when any of his children died of small-pox, to leave them lie in bed, and keep them there; then throw a lot of medicated syrup over them, and at the same time put a lot of phenolated syrup in all the food for the rest of the family to use—then call it a 'cheap and easy cure,' and with a solemn air lecture all the people on what science teaches."

A. Eby, in the *Kansas Bee Journal* says:—A good remedy for robbing is,

after you have contracted the entrance, saturate a cotton rag with tincture of camphor and place it near (not too near) the entrance and hold it in place with a tack or by laying on it a small stone or piece of board. No robber bee will go within the smell of the camphor, while the bees of the colony will pass it quickly with a peculiar buzz never given by bees at any other time. If the robbers persist in trying to rob the colony the rag must be saturated as least once a day, as the camphor speedily evaporates.

G. M. Doolittle, says:—After experimenting in the direction of superseding queens for years, I now decidedly prefer to leave it to the bees to decide when their queens are worn out, unless by outside observations I believe they are holding on to some unprolific young queen. As a general thing, the bees will make fewer mistakes in directing this delicate matter than the wisest apiarist is likely to make. I have had queens that were five years old do good duty till the commencement of their sixth year, when the bees would supersede them that autumn, the same as they often do in the autumn with queens commencing on their second, third, and fourth year.

Leipziger Bienenzeitung.—It seems likely that the tariff on honey in Germany will be raised, if it has not been already, from a little over 2 to 4½ cents a pound. This has encountered much opposition, hitherto without avail, from the manufacturers of gingerbread, who have been using foreign honey quite extensively for the purpose. Though the movement is in the interest of beekeepers mainly, and has met with their support, it is said to have been first started by the firm of Langenlütje Brothers in order to get a monopoly for their own product, viz. "artificial honey" manufactured from sugar-leavings, which they claim can not be distinguished from the foreign honey.—*Review*.

A question in the *American Bee Journal*, How close to each other may hives safely be placed? elicits 22 answers. Some advocate from 4 to 6 feet apart,

others say it matters not how close they are if the fronts of the hives are coloured differently. G. W. Demaree, says:—You may place your hives as close as you can conveniently work among them. I have a friend beekeeper in a town, who worked his hives one above the other for want of room. The notion often advanced that hives located too close together endangers the young queens in their wedding flight, is all *theory*. The only danger that can arise on that account is the very rare occurrence of two young queens going out at the same time from adjoining hives. The excited movement of the workers at the entrance of the hive in the interval of the absence of their young queen is a sure guide to her on her return.

Charles Dadant says:—If I were to start again, I would make the Quinby frame a little shallower, so as to be able to use 12 inch boards for hive making. A half inch of difference would secure this. We would also make the length of the top-bar the same as that of the Langstroth hive, which would secure uniformity in the surplus cases with those already in use, so far as length is concerned. A hive of this size and style is now largely in use in Switzerland, France, Spain, Italy, and a little in Germany under the name of "Modified Dadant" hive, because I introduced this style there, through the *Revue Internationale d'Apiculture*. Each comb, in a hive of this size, has a surface of 193 square inches, and leaving two combs for the supplies, pollen and honey, we have 81,800 cells, which, divided by 21—the number of days which it takes for bees to hatch—gives the queen 3,900 cells per day.

The Quinby frame is 18½ in. ex 11½ in.

"*Special Notes by Business Manager*" in *Gleanings* says:—We have in successful operation a new machine for sheeting beeswax, invented by E. B. Weed, formerly of Detroit, late of Ludlow, Ky. By means of the machine a decided advance is made in the manufacture of comb foundation. A much superior

article is secured at quite a reduction in cost of making. A patent has been applied for by the inventor, on the machine and its product. The wax is supplied to the machine in liquid form, and it comes from it in a continuous sheet of any desired thickness, and trimmed to width desired. It can be still further perfected so as to pass the sheets through the embossing rollers of a foundation mill, and be trimmed to length as it comes out. Already before the machine is quite out of the experimental stage, one man sheeting and another rolling, produced four hundred pounds of medium brood foundation in a day. Foundation made by this process is more transparent, and less brittle when cold.

G. M. Doolittle, says:—To give extracted honey a fine flavour it must be thoroughly ripened. While some have evaporators, both sun and other, which they run extracted honey through or over that has been extracted in its thin or green state, till it is of nice quality and consistency, as well as having an excellent flavour, yet in my opinion, no honey has quite as nice flavour as does that which has been left on the hive till the end of the season, the bees having been allowed to ripen it till it is so thick that it will almost stand alone after being taken from the comb. Of course it is more work to extract such honey; but by keeping it in a room whose temperature is nearly or quite 100 degrees, for four or five hours, it can be extracted very nicely. When extracted honey should be stored in tin or earthen vessels and kept in a dry warm atmosphere that is free from odours. Loosely cover and let it stand in this warm dry storeroom till all the air globules have disappeared, the scum that arises being skimmed off, when the honey can be put into glass or tin vessels ready for sale or family use, and it will retain its fine flavour for years if kept in a proper place.

SWEET CLOVER—Peter J. Schartz says:—For a continuous honey-flow I would prefer sweet clover to all other honey-plants. The honey cannot be ex-

celled by any other, no matter from what source it is taken. Sweet clover comes into bloom about the first part of June here, and blooms till killed by frost. It grows on any soil, among stone-piles, along road-sides and other waste places. If beekeepers would sow it their bees would not have to be fed. Just think of taking 100 to 150 pounds of sweet clover honey per colony in dry seasons, and if not too wet, securing still more! It is self-seeding, and only needs sowing once, when it is good for all time. For feed it is not very good, unless cut very early, and then it would not be of any benefit to the beekeeper. If all beekeepers would contract for a piece of land, say four or five acres, and sow it with sweet clover close to the apiary, it would be a good investment. To secure fall honey from it, cut half of it down about the middle of August, and one week later cut the rest of it down, and that will give you pasture till killed by frost. By cutting it down, the second crop will bloom for the balance of the season.

J. Grimsby, in the *Southland Queen*—I want to tell you how I managed to rear queens for my own use, on a small scale, and I reared good ones to. I selected me a good cell-building colony and made it queenless. At the same time I put into my breeder's hive a frame of empty comb, leaving it there till the eggs which my breeder deposited in it had hatched. By that time my cell builders were ready to go right to work in earnest. I then took it from the breeder's hive and cut the comb all along the centre (or just below rather) where the larvae are very young, and placed it in my building cell hive. You see the bees went right to repairing the torn or cut comb, and, they being queenless, also constructed a fine lot of cells all along the lower edge of this comb. About eight days after I made this colony queenless I went through and destroyed all cells except those on the comb from my breeder. There will sometimes be a few little stubby cells built on your breeder's comb after the larvae is too old. These of course must

be pinched off. Save no cells even from your breeder unless they are of good length and started right, I think this the best plan for those wanting just a few cells for their own use, and if the jarvæ is put into your cell building colony at the right time, I am confident you will raise as good queens as anybody, especially if you have a good breeder.

Mr. Charles Dadant says, in *American Bee Journal*:—It is only since I came to the United States that I have been able to appreciate the large hives. Although having experienced a great liking for bees ever since I was a child, as the hives which they used then were the old style of straw skeps, none of these were large enough to give me the least suspicion that there might be some profit in aggrandizing them, except with supers for harvesting the crop. My attention was called to this subject about 32 years ago, after my arrival in America. One of my countrymen, whom I visited on my landing in Illinois, had seven box hives in the corner of his yard. One of those hives was a hugh box, made with boards, 18 inches in diameter, and two feet high. The hive was so old that the sapwood had rotted out, and one could see the combs on one side from top to bottom. This hive had contained bees, they told me, for over 20 years, had swarmed but little, and was still inhabited by the decendant of the first swarm that had been hived in it. Its population had always wintered successfully, in spite of the crack I have mentioned, which, in the later years, had exposed the bees to the cold, and yet smaller colonies have been hived and had died by its side for a number of years. This convinced me—as it would have convinced most of my readers—that bees in this climate winter better in large hives than in small ones.

HONEY FLOW.

The following article, from the *Dowagiac Times*, though relating to American forests and honey flow, will doubtless be read with interest by many Australian beekeepers:—

We have pondered and pondered over the cause why we have not had a decent yield from basswood during the past eight or nine years. We would gladly have paid the subscription price of the *Quarterly* for 100 years, amounting to 25 dollars, to any person who would have given us a solution of the subject as satisfactory to us as the one we are about to present to you. The new light came to us in this way: We found a tramp Englishman in this town, who came here out of money, out of work, and out of any ability to get work. There was no one to take him in but us, and being so constituted that we couldn't see him left out, we took him into the printing office, apiary, and home. The first thing we learned about him was that he was an expert chemist and pharmacist of 22 years' experience. Also a finely educated man—an expert mathematician—and above all the rest, a sensitive and perfectly honest man. One day we asked him if he could account for the fact that a drought would destroy the honey yielding qualities of plants that grew in the mud, where at any time the top soil was dripping with water, and how it was that a shower would start them to yielding at once. His reply was substantially as follows: "If we knew the chemistry by which plants derived nutrition from water, we would readily discover the fact that they may exhaust water of the elements necessary to honey secretion and still the water remains, if so situated as not to be absorbed by the atmosphere." We saw through it at once, so far as applied to buckwheat, boneset, golden rod and asters, and there our theorizing stopped for that time.

We had heard all about the destruction of our forests and the basswood trees going into broom handles and honey sections, but we didn't believe any such theory tenable. We knew that our bees went to the same woods they visited 25 years ago; that no more basswood has been cut out of these woods than has grown into blooming in the meantime. We also know, that for five years past we have not had more honey per colony per year than we received from one colony, gathered in a single day, from this same forest 20 years ago. A few days ago we met a young farmer beekeeper who kept a few colonies, which constituted nearly all the bees kept in that locality, and who was surrounded by basswood in profusion. We asked him about his basswood yield this season, and he said that while the trees bloomed in profusion, and the weather during their bloom seemed propitious, the same as with us, the yield was almost a failure. We asked him what he thought was the cause, and



his reply was "lack of water." He said that for five or six years, the rain and snowfall had been insufficient to wet down to the roots of forest trees, all of which we knew was true in this part of the country. Then we thought of what the English chemist had told us, and also of what Sam Wilson, of Crosby, Tenn., had written for the journals, and previously to us in a private letter. We now believe Mr. Wilson has discovered the correct solution to the yielding of basswood honey, but he must remember that forest trees may suffer from droughts of previous seasons: We think if careful statistics are taken, it will be found that fresh moisture, in sufficient quantity to reach the root of forest trees, is the cause of honey secretion in their blossoms, and that where there has been honey failures, fresh water has been lacking.

HOW TO MAKE A START IN BEES.

LOYALSTONE. (*Continued.*)

They (the blacks) are not as good honey gatherers as the Italians, their tongue being a shade shorter, they are not able to reach the nectar in the blossoms, which the Italians suck out with ease. They are more inclined to swarm than Italians, and send out swarms in all seasons, such swarms are all sizes from a pintful up to 3lb swarm. They are more vicious than Italians, and do not defend their homes so well against the moth. They are terrors for breeding useless drones, and in every way an undesirable bee to keep, when you can get a better race of bees, viz. the Italians. The black bees in my opinion resist disease better than the Italian, for while my blacks remained in the best of health last winter, the Italians were attacked with paralysis, though the blacks had the worst ~~hive~~ of the two to winter in, and at the present time, the blacks are in good health. I had two hives of Italians a month or two ago attacked with Foul Brood (since cured), but I think the climate has a lot to do with it, and I think when Italians become acclimatised to the locality you will choose for your apiary you will find they will be as hardy as the blacks, and with proper care and attention will thrive well, and resist any disease. It is easier for you to find an Italian queen than a black one. For, while the Italians remain quiet on the combs, the blacks are rushing all over the place as soon as the hive is opened. It is no trouble to shake blacks from a comb or frame, but Italians will hang on like leeches. An Italian queen is quickly found by

her size and beautiful color, while a black, well, in a large hive you have sometimes to put a queen excluder on entrance, and shake all the bees out in front of the hive before you find her. The Italians breed no useless drones, and in a bad season will hardly breed any, going in for all workers, and when they do swarm, they send out good large ones that are of some value. Though the Blacks breed faster in the early spring, the Italians catch them up and pass them later on. The best way to make a cheap start is to fall some nests in the bush. Get these swarms and put them in your hives, and before the winter buy as many untested Italian queens as hives and introduce them. I say buy untested queens, as they are the cheapest, and if you buy from a reliable breeder, you should have at least three out of every five purely mated, and you may have the luck to have them all purely mated. You take your pick out of the lot you buy to keep for queen rearing the next season. Always choosing the largest, most prolific and best honey gathering colony. We will say you have procured a few swarms to make a start with. You put them in your hives, place hive on stand and face them (the entrance) towards the north, so that the sun will shine on their entrance all the year round. Your next move is to get implements used in the art of bee culture. You do not want to get all at once, but buy as you want them.

3. Implements used in the art of bee culture—Smokers are a necessity whilst working among your hives, of which there are various kinds, it is useless for me to describe them. For a brush, use a Cogsal. Frames, use the Root-Hoffmann. A bee veil you can make cheaper yourself, using a piece of black netting for the front, the rest mosquito net. For hats use a good light straw such as is used for summer wear. For foundation you may use the Plaster of Paris moulds, &c. Comb buckets you can make yourself if you are at all handy with the soldering tools, and if you are not handy with them, practice till you are so, for it is a thing you will have to learn. Gloves you do not want as they are a nuisance, and if you can't stand a sting on the hands, you had better give up the idea of beekeeping straight away. A set of soldering tools you also want, likewise a small chest of tools. If you can afford it buy a Barnes circular saw for making your hives and frames, &c., it is one of the handiest things out for beekeepers, saves a lot of labour and pays for itself in a season, making hives for yourself and neighbours to buy. With one of these I have turned out 50 long idea hives and frames to fill them in a fortnight with the help of an assistant. You want to get a few feet of queen excluder zinc to make entrance guards, drone-traps, etc. A reel of No. 30 wire to wire your frames with, a spur wire embedder for imbedd-

ing wire into foundation. You do not want a foundation roller, make a saw cut with circular saw in the middle of top bar of frame $\frac{1}{4}$ inch deep and wide enough to let the foundation fit in pretty firm, and when you run the spur wire embedder over foundation, you have your foundation as firm as any roller would make it. A frame block for holding your frames while nailing to keep square you can make yourself. Have a look at one and take pattern by it. You do not want to go in for feeder. The best feeder is an empty comb, hold it slanting and pour honey or syrup over it, and see how nicely it will hold it. When you have done one side turn the other side and fill up the same way and place back in the hive to be fed. For extractors go in for the Cowan two frame reversible, which will give you thorough satisfaction, and will be quite sufficient for 150 hives in any honey season. Get one with tank under baskets. Wax extractor you will also require; ditto a Bingham uncapping knife; metal rabbets to put in hives to run frames on; flat headed nails for frames and hives; spiral cell protectors (West's); an uncapping can. Enamel sheets you do not require as long as you give the scant $\frac{3}{8}$ inch space between tops of frames and cover, and another thing it is not healthy for the bees, as they get damp and mouldy in the winter time if not looked to often and changed. This lot of implements named will keep you going for some time. Don't go in for every new thing that comes out, until you have the opinion of a practical beekeeper on it. You do not want the lot of these straight away at the start. The following will do for a start:—smoker, brush, tools, soldering tools, veils, hat, circular saw, zinc, (queen excluder), foundation mould, frame black, wire No. 30, wire embedder, a yard of wire cloth. The rest of the string can wait until you have honey to extract. It is needless for me to give directions how to make your hives and frames as you will find the dimensions of them in many catalogues or as I said before, buy a few frames and the hive you intend to adopt, and have them as a pattern to make the others by. Before I go any farther, I must let you know what you have to contend with in the shape of diseases, etc., in bees.

SCRAPS.

"MAY AND LENA."

We are sorry to see the Supply Co., has died prematurely; what are the beekeepers of N.S.W. thinking of?

We should like to live near S. A. L. if he feeds his bees outside, as ours would not starve. Would it be robbery?

We find "Loyalstone's tree lucerne" a good forage plant appreciated by livestock. Thus experience differs.

A word about painted hives: We do not think it makes much difference to the bees, but it is better for the preservation of the hive itself.

We keep bees (for they have not kept us—no trouble extracting again this year—and purpose giving our brother beekeepers the benefit of our experience.

We would be glad if J. B., Attunga, would send us some of those apple trees, as the apple trees around here although they flowered profusely, contained no nectar whatever this year.

One day the heat of the sun was so intense that you could not hold a comb up for a few minutes in the open, and if wax grubs happened to be in them they came out as quickly as possible.

Ants.—We have every variety here, from the large soldier ant to the smallest black (pinant), and though our hives are on the ground they give no trouble provided the swarms are strong—this is the secret. As soon as a swarm becomes weak the "Red Ants" overrun it. We have often seen nests of black ants on top of the mat between cover.

Paint them white; in the late hot weather, and the temperature here was over 112 degrees in the true registered shade, we only had one swarm melted down. We noticed that where the hive was full of bees no damage was done; in weak colonies only old combs melted. The cause is the number of bees keeping up a circulation of cool air.

Old queens' wings being found ragged is no doubt caused by the bees illtreating them, as they always do when a queens' power begins to fail, or else improperly mated. T. W. Masterton would make a mistake in deposing all queens with ragged wings, as sometimes virgin queens on their return after mating are so illtreated, but afterwards turn out good mothers.

The Methodist, we note, gives the A. B. B. a lengthy notice, and ends with some good advice to parents. We hope many of them will follow it. There are few occupations which tend to develop all that is good in boys and men, and which

numbers among its followers so many good and true men, and as you noted last issue so many preachers of the Gospel.

Never had the trouble with paste you complain of, although in our former business we labelled thousands of old and new tins. We made it simply of flour, water, and a pinch of salt to keep it good. Put the flour in a basin with pinch of salt and then mix with cold water to consistency of cream, beating well up to mix all lumps, then pour on boiling water, stirring all the time till thick enough.

We see by the "*W. & R. Gazette*" some sample tins of honey were sent to London and distributed among a number of experts by the Hawkesbury Agricultural College. It would be interesting and instructive to beekeepers if the *A.B.B.* could give us a copy of their report. Surely the Minister for Agriculture would supply it if asked. We hear the opinions expressed were most contradictory, one firm taking back their first opinion.

C. U. T. B., Lyndhurst—The apple tree is just coming out nicely after the rains we have had, none too soon as the bees were just starting on their marauding expeditions, viz robbing. Foul Brood very bad 8 miles from here, box hives rotten with it. I am afraid it will spread all through among the bush bees. I have persuaded a lot to burn bees, boxes and all. I had two cases of foul brood about two months ago, but have cured same by the McEvoy system.

J.M.W., Moss Vale:—The Time of Blossoming, and Value as Honey Producers of our Different Trees.—First, I will mention the leather jacket which Mr. O'Grady speaks about. The real leather jacket is a soft wood, and is used a great deal about these parts for flooring boards and inside work. Some of our local bee keepers tried it for hive making but with poor results, simply because it warps too much when exposed to the

sun. I should think it would make very good frames. I think it is the same as Mr. O'Grady refers to, it bearing a black berry which the wild pigeons are very fond of, and is a very fair honey yielder, and blooms from the latter part October till into December. The Myrtle is another very good honey producer which blooms the same as the last mentioned. We also have the Sassafrass, this being a noted honey yielder, produces honey almost equal to the Orange blossoms and blooms from the middle of September till about November. Then comes the Brush Ash, which produces very fair honey and comes into bloom in October; also the Wine Berry, which blooms about the same time and is also a fair honey yielder. We also have the Silky or River Oak which I think must be a great honey yielder as I have often seen them fairly humming with bees but cannot say anything about the quality of the honey, there being none within bee range of my apiary, they bloom in October. I quite agree with Mr. O'Grady in saying that the apple tree is hard to beat, being a tip top honey yielder. I must admit we have other trees which produce lighter honey, but for quantity and flavour it can hold its own, it being in full bloom here now. Well, Mr. Editor, if I am not trespassing too much on your valuable journal I will continue in your next issue as we have lots of other bee trees which your readers might like to hear about.

[No trespass, but good welcome reading.]

"Loyalstone" writes:—In reply to Mr O'Grady re honey-yielding flora, he makes the remark about my putting apple tree low on the list of honey-producing trees—I made a mistake in putting stringy-bark before it. As for the rest they produce a finer-flavored honey than the apple-tree (*Angophora Subvelutina*), which is the same as he mentions. Not that apple tree is no good. On the contrary, it blooms for a great length of time, standing next to the yellow-box in that respect, from which the bees gather

an abundance of pollen, and a dark and rather strong-flavored honey. Some seasons the honey from the apple tree is better than others, it is just according to the kind of weather we have. In dry seasons the honey is dark and strongly-flavored. In wet seasons it is an amber color and has a fair flavor. In reply to same correspondent re long idea hive taking more timber than two ten-frame hives. I ask him to calculate it up again, and he will find it the other way about. If he cannot make any difference to his first calculation I will point out his mistake in some future number of the *A.B.B.* No colonial timber is to be compared with American redwood for ease in cutting up frames and hives, and durability. I buy timber 24 inches wide, and pay no more than I do for 12 inches wide. I never use enamel mats, as I see no use for them when you have the scant 3-8 in. between tops of frames and cover. And the bees are a lot healthier without the mats. I find no difference in the flavour of honey taken from brood comb to that taken from the clean-looking combs. Tea tastes just as well out of a pint pot as it does out of a china cup. With regard to raising sections, I place them in the ordinary wide frames for holding same, and place between alternate combs in the honey chamber, and find the bees fill them out nice and even. It is only the last two years I have used the "Long Idea" in preference to eight and ten frame hives, which I used for many years. If you get Redwood properly seasoned there is no danger of its cracking or shrinking. In reply to W. C., Ellis Vale, re tree lucerne, if he tries his stock with the young shoots from the ones he has cut down he will find they will enjoy a feed of it. The willowy branches were, I suppose, rather wiry from dry weather. In South Australia it is largely used for feeding up stock. It being strange to his part accounts for bees not being attracted to it. When I first planted spider plant it flowered well in the spring and though I

could see the honey glittering in the blossoms, not a bee went near it. I invited visitors to taste the nectar in the flowers, and they assured me that it was nothing more or less than pure honey. I knew there was plenty of honey bloom in the bush at the time, and I suppose the bees did not trouble their heads about looking elsewhere for nectar beyond their usual happy hunting grounds. I placed some honey-comb among the spider-plants, and when the bees found this out, I took it away, and while they were hovering around looking for it they perched on to the spider plants, and then hummed away on the blossom of it all through the summer till the flowers died away. I distinctly heard one bee remark to his comrade while passing on his road home "what silly fools we were not to look for that spider plant before and save such long journeys as we have been having round the bush. Let "Ellis Vale" wait till the tree lucerne blooms again and just entice his bees to the blossoms for once.

T. W., Victoria.—Do you know—personally, he advertised in your *A.B.B.* I sent him a Post Office order for 6/- about twelve months ago to purchase one of his Italian queens, no answer. I wrote him again to remind him of the fact, still no reply. I never had either of my letters returned, so I presume he received them. Has he served others in the same manner? If so, in justice to honest beekeepers who advertise in your journal, I think he undoubtedly deserves posting. A bad season in and around this district, box hive men are crying out in all directions.

We are sorry to say we do know the party you speak of, and this is by no means the first letter about him.

The following were the apicultural awards at the Berry Agricultural Show, held on February 6 & 7:—5lbs, beeswax Thos. Gall recommended. 4 jars (glass) clarified honey, Thos. Gall recommended. Honey in frame or comb, Thomas Gall recommended.

AUSTRALIAN HONEY IN LONDON.

Department of Mines and Agriculture,
Sydney, 20th February, 1896.

Sir,—In accordance with your request of the 13th inst., I have the honor to forward herewith copies of the reports to hand respecting the trial shipment of 24 tins of honey produced at the Hawkesbury Agricultural College, Richmond, to England in July last.

I have the honour to be, sir,
Your obedient servant,
HARRIE WOOD,
Under Secretary,
Per Walter S. Campbell.

E. Tipper, Esq.,
Australian Bee Bulletin,
West Maitland.

COPY OF REPORTS OF

Mr. C. A. W. Lett, Curator of the New South Wales Section of the Imperial Institute, to Sir Saul Samuel, K.C.M.G., C.B., Agent-General for New South Wales, on consignment of honey produced at the Hawkesbury Agricultural College, Richmond, and shipped to England by the Department of Mines and Agriculture, Sydney, on the 1st July, 1895.

27th November, 1895.

Sir,—With reference to the small shipment of 24 tins of honey sent to you by the Hon. the Minister for Mines and Agriculture, Sydney, for the purpose of testing the London market as to its quality, value and suitability, I have the honor to inform you that as the quantity is too small for sale (which is the only real practical test), I have, as sanctioned by you, treated the honey as samples, and have distributed it amongst several of the leading buyers in London, with a request that I might be favoured with a report as to its merits and value, and I regret to say that opinion is unfavourable, as you will see by the following extracts from letters I have received:—

The Produce Manager of the Junior Army and Navy Stores writes: "I am in receipt of your letter and accompanying tin of honey, which I have examined and find the flavour is unsuitable for this market."

From the Secretary of the Civil Service Co-operative Society: "In reply to the enquiry contained in your letter, and the sample tin of honey sent by you at the request of the Agent-General for New South Wales, I have to state that our buyer has examined it and is of opinion that it would be quite useless for the Grocery trade. The honey should be sent liquid and clear in glass bottles, corked, with screw tops. Good flavoured honey would be worth about 6/- per dozen 1lb. bottles. Bulk equal to sample would realise about 16/- to 18/- per cwt. on the market and should be packed in 56lb. tins. But the honey is of low quality and has almost the

appearance of being adulterated with some fatty matter. A good bright golden colour with a genuine honey flavour should be aimed at. Honey of this description would realise 30/- to 35/- per cwt.

The Buyer for the Army and Navy Stores writes: "In answer to your letter asking my opinion of the sample of honey to hand. My opinion is that neither in appearance, odour or flavour can it be recommended as a table honey. Although as you say it was made away from the eucalyptus districts it has distinctly that objectionable taste. I can only suggest it being packed in casks and placed on the market for manufacturing purposes, and it would not realise I fear more than 15/- to 17/- per cwt."

Messrs. Devitt and Hett, brokers, say: "The colour and quality do not commend themselves to this market. We can detect a slight flavour of eucalyptus which at once condemns it, and further there is an objectionable odour apparently after the tin has been opened a day. Value not above, at the outside, 17/- per cwt."

Messrs Wark, large honey merchants, inform me verbally that the honey will not suit a family trade. It would be worth in bulk to manufacturers about 16/- to 17/- per cwt.

Crosse and Blackwell consider it a poor honey, and they would not look at it even if they purchased Australian honey, which they never do, unless it is especially choice.

I must say that the foregoing opinions do not coincide with those of three or four private individuals to whom I sent tins. No one of them found any fault with it, and one person in particular asked me if it could be had at the stores. A good deal of honey is eaten in my own house and no fault was found with this sample, though I myself detected the disagreeable smell spoken of by Messrs Devitt and Hett, as did also the Manager of the Catering Department here.

In the face of the opinions which have been expressed I certainly would not recommend the sending of any of the same kind to London. My experience is that the trade has been so pestered with samples of Australian honey, good bad and indifferent, that buyers will hardly take the trouble to open a sample, and a distinct prejudice has been created by shipments of very inferior stuff which has to be sold at almost any price to blacking manufacturers and other trades where honey is used. It must be something very good to command anything over 20/- to 22/- per cwt., and no reliance can be placed on the fancy quotations which are cabled over to the papers, as the information is supplied by interested persons. No such prices as those I have seen quoted in the Sydney papers have ever been obtained as far as I can trace.

I have the honour to be,

Sir,
Your obedient servant,
(Signed) C. A. W. LETT.
Curator.

28th November, 1895.

Sir,—Since writing to you yesterday on the subject of the 24 tins of honey sent to you by Agricultural Department, Sydney, I have received the following further report from Messrs Devitt and Hett, who having re examined the sample sent them, now modify their views and think more favourably of it.

"27th Nov. 1895. Dear Sir, We have since seeing you shown the small sample of honey to several of our buyers and their opinion confirms our own. At first we thought very badly of the quality, the scent being most objectionable, but it is not now so noticeable, and we think it must have been due to the tin having been just opened, and the tin giving off the unpleasant odour. The colouring and consistency are fairly good as is also the flavour and such quality would sell at 21/- to 22/- per cwt."

"During the past four months we ourselves have sold 1,300 cases Australian, commencing at 14/- to 16/- for dark thin to palish set quality, rising to 20/- to 22/-, the present values. The market is at the present moment practically bare, and we have buyers at the last price for good qualities."

"Australian honey should be packed in cases containing 2 x say 56lbs tins. We have never seen this description in barrels, but such packages would be in favour with buyers, provided they were strong. On no account should Australian honey be packed in small tins, the quality being quite unsuitable for grocery purposes, besides the British public have a dislike to tins, being accustomed to and much preferred bottles, the packing, of course, to be done here."

"Nearly all Australian honey (certainly Melbourne, Sydney and Adelaide) has the peculiar flavour known as Eucalyptus flavour, and upon that account it can never compete with the better flavoured descriptions, but at present prices it can be used largely for manufacturing purposes. The paler and brighter the colour the better, but it is immaterial whether thin or set so long as it is pure. Recently shippers have been sending frail tins which are disastrous not only as regards loss in weight, but necessitating making it merchantable this side, which is very expensive."

If Australian honey is pretty free from Eucalyptus flavour it still lacks true 'honey flavour.'"

Yours, &c.,

DEVITT & HETT,

P.S.—We are selling fair to good Australian beeswax at £7 to £7 5s, per cwt.

I would draw special attention to the above report, not alone because Messrs. Devitt and Hett are in the front rank of produce brokers, but for the practical hints they give as to packing, &c., which will be valuable.

With reference to beeswax it is the general

opinion that beekeepers in the colonies would do well to pay more attention to this than to shipments of honey, as to which personal prejudice is a very great factor in dealing with buyers, and you will seldom find any two agree either as to quality or value.

I have the honor to be, sir,

Your obedient servant,

(Signed) C. A. W. LETT,
Curator.

EXPORTING HONEY.

The following is from Messrs Harrison Bros., Victoria.—

I send you account of our consignment of honey, which we shipped to London per S. S. Damascus in June last, for publication or for any use you can make for the benefit of your readers. The honey was of a very even line and a splendid sample, and I am sorry I cannot send you a sample with any safety. (The honey season here has been wretched so far, but we have hopes of a good yield during this and next month).

DETAILED ACCOUNT OF CONSIGNMENT

"CHARGES.—Gov. Charges, 10s; Ocean freight £1 9s 10d; Repairing tins and cases, 15s 2d; Commission and Brokerage, 17s 4d; Sampling (London), 7s 4d; Trade discount, (2½) 4s 5d; Exchange and stamps, 10s 4d; Tins and cases, £2 17s 6d; Freight in Victoria, £2 3s 0d. Total £9 14s 11d."

"PROCEEDS.—By 18 Cases honey (18 cwt) £8 17s 1d."

Dear Sir,—The above is a full and correct statement of our consignment which was dispatched through our agents, which shows a loss of 17s 10d on the whole, besides the honey thrown in, which we estimate at an actual loss of £26. You must admit this is very discouraging as well as great disappointment. Had the honey been shipped as it was at first arranged, it would have realized a much higher figure, but owing to the Government excuse (the breaking down of the "Ninevah") it was delayed for about three months in Melbourne. The tins were patent lever. We are, very truly yours,

HARRISON BROS (PER E.H.)

E. Tipper, Esq.,

West Maitland, N.S.W.

F. W. P., Elsmore.—Apple tree was never known to bloom so well here as it did this season. Yellow box is coming out in bud for the second time this season. It may not be the same trees that bloomed before in the spring.

NOTES.

COBOI.

A beekeeper's proverb.—Union is strength.

If you buy or get cheap queens they may turu out dear ones in the end.

Don't worry about the size of your hive: give plenty of room and more attention to the size of your bees, and you won't regret it.

That Eucalyptus flavour is simply delicious. Let those who like deny it.

BEES AND FLOWERS.

R. H. LONG.

The poets all tell us that flowers when they die
Ascend in the night to form stars in the sky,
But nobody troubles or seemingly cares
How the poor little bees in eternity fares;
And its hard on them too, for minus their aid
Our blossoms would perish, our roses would fade,
And buds that are peeping from cradles so green
We would never have welcomed, never have seen.
For ere this wee germ of a floweret had life
The bees had united a husband and wife;
Wedding march humming the while as it trarried,
With pollen made ring the couple were married.
Now I'll tell you, ye Poets, the reason why
Your flower-stars twinkle up there in the sky.
Bee spirits, when freed, take wing up above,
Cleaving thro' space to the flowers they still love.
O'er the beautiful stars with petals of light
The bees ever hover in constant delight,
And countless the twinkles, and bees up afar—
Each twinkle a bee dipping into a star.

C. A. C. W., Teesdale, Victoria.—A very poor season here, better at the Boy's apiary at Dean's Marsh.

Mr. Geo W. Williams gives an instance of two young queens, one a black and the other a yellow, laying together in one hive for several months.

J. A. L., Pahiatua, N.Z.,—Season here is the worst for bees I have seen for ten years, almost continual winds, rain or cold, good bees can only hold their own, no surplus to spare.

K.R.D., Cudgel Creek.—My bees are just making enough honey to keep them alive. It has been a beautiful season here. I only got a little over a hundred pounds of honey from fifteen colonies, and no increase whatsoever.

E. J. M., Marrar Siding,—Not much doing here, no honey since October last nor any prospects of any in the near future.

R. H. J., Moss Vale.—It has been raining more or less for a full week. Bees are doing fair in out apiary. Box, yellow gum and bloodwood in bloom. I see that T. W., Masterton, Wellington, N. Z., in last issue mentions queens with ragged wings not as good as they should be and thinks it is old age. Seeing the queen has so little use for her wings, that is not the cause, it is the fault of the bees having balled her, and bitten them and at the same time damaged the queen and made her useless.

F.A.M., Albury.—I am just able to keep powder dry, as you put it, but cannot afford to extract. Can you form any estimate of the probable falling off in quantity of honey production in the colony of N.S.W. this season so far, compared with last? No one seems to have any honey to sell about here now, and one beekeeper, owning some 60 colonies, has been feeding some time. My opinion is there will not be more than one-tenth of last year's crop this season about here, but so far not many complain of bees dying.

(We cannot answer your question.)

C.H. junr., Grafton.—I have very little news to report. This season has been a very bad one with most beekeepers up this way, in fact very few have been able to extract any honey at all, yet I am glad to say my bees have been doing fairly well right through the season, and I have a nice steady flow at the present time with every prospect of lasting for some time. By-the-by! I have noticed writers stating that they find the Hybrid bee the best. Well I find there is nearly as much difference between the hybrid and the black bee. I have about three hybrid colonies to one pure colony; and this year every pure colony I have has beaten my best hybrid.

J. S., Mt. Cotton, Brisbane, Q.,—Page 276 *Bulletin* refer to samples Californian, Chilian and Jamaica honey sent to *Brisbane Courier*. I gather from a

pamphlet published by Dept. Agriculture, U.S.A.—that most of the honey shipped from California to England is *very largely adulterated* with glucose. (I will give you some startling extracts from it when I have time to do so.) Meanwhile could you Mr. Editor urge those who have charge of the samples to get the Californian sample analysed—tested by polarisation. You might, I think, venture to bet your best tile against a tenpenny nail that it contains over 50 per cent glucose. It is adulterated Californian honey that kills the trade in England—so in the interest of Australian beekeepers it would be wise to try to get that sample analysed.

C. H., Richmond, Nelson, N. Z.—The honey season in this part of N.Z. is so far anything but a good one. Last year I imported a few Italian queens from some Australian beekeepers and they have done so far very well. I also was in a position to show an imported Italian queen and her offspring in a one frame glass case at the A & P show, which was held here, (Richmond) on Nov. 28th last year, and were greatly admired. I am trying to create an enthusiasm for Italian bees, but so far have not succeeded, but should I do so, I hope it will mean a few subscribers to the A.B.B.

A. McL., William Town.—As you seldom have any bee news from this locality, it may interest you to know how we are progressing. There are a considerable number around here who take an interest in bee culture, most of whom have gone in for bar frame hives and other modern improvements. There are some who still retain the ancient gin case, but their number continues to get smaller. Of course the bar frame men mostly have gone in also for the Italian breed, while the others depend on the industrial habits of the black bee to supply them with the precious fluid. The result being, this season, on account of the scanty honey flow which we are experiencing, that while the Italian bees have a hard fight to keep in existence, the blacks are starving wholesale. We are hoping,

however, that things will take a turn for the better before long. Wish you every success with your valuable paper.

J. S. D., Port Macquarie—Splendid season here; a most abundant flow of beautiful honey last month; bees in splendid condition—no early swarms, but a few and very large during January.

Amateur, Queenscliff, V.—Would you kindly answer me the following through the A.B.B.?—I bought two hives of bees in gin cases. About six weeks ago, I transferred one hive to a standard hive, according to the instructions in A.B.B. giving starters of lin. foundation comb. The bees appear to be very busy gathering honey, but not seeing them bringing any pollen home, I opened the hive, and on lifting the frames I found them hanging in clusters on each frame the full length, but not the slightest signs of comb (except the foundation starters). It is a very strong swarm. If any of your readers could tell me the reason and what to do I should be much obliged. There is any amount of blossoms in the neighbourhood.

Your bees were doing what you wished them to do, and had you waited a little longer you could have seen the nice new comb alright, which no doubt you have already done.

W. S. P., Wyndella, Armidale.—Bees have been doing well here since Christmas, although the hives are not as populous as I should like to see them. The bees do not give the queens a chance to lay, for as soon as a young bee emerges from its cell a number of field bees are hovering round waiting for a chance to dump their burdens into it. The bush is now loaded with apple tree, box, pepperment blossoms, and sporting amid the bloom are leatherheads, and other insect-worm birds, and many a bee finds its way into their gizzards. We have been getting seasonable rains since the middle of October last, but what with the previous dry winter, high winds in spring, and unseasonable cold (we had a heavy fall of snow on Nov. 4th, a fringe of icicles 8 inches deep was hanging from the eaves) the poor bees have had

a hard struggle for existence, and much spring dwindling was the result.

J. C. F., Gympie.—We have had a fair honey flow here this season, much better than last, it being the poorest for this last eight years. I notice by your little paper (which I think is a well got up journal and should be taken by every beekeeper), that bees are storing honey from the apple-tree. They blossomed very heavy here this season, but I did not see a single bee working on them for I took particular notice, this being the third time they have blossomed during this eight years, but have never yielded any honey. The grey gum and stringy bark bloomed very heavy but yielded no honey this season. The honey season is done here now, my bees have got no honey since the middle of January nor will they get any until next August or September. My bees averaged 105 lbs per colony for the 100 colonies.

J. J., Herbert, Otago, N.Z.—Just a few lines to let you know how we are doing. Our season has improved since we last wrote to you; we have had a good supply of rain, and there is now a good bloom of white clover, and although it came pretty late in the season, I think the bees will gather enough to keep them through the winter. I tried to keep my bees from swarming, as it was so late in the season, but was not successful. As it is a lot of trouble for a new chum to find and cut out the queen cells, I tried giving them plenty of room on top, but it was no good. Is that always the case? To what strength do you reduce absolute phenol to put it in the hive for a prevention for foul brood and how is it put in. Would it do to make a hole in the bottom board and cover it with wire cloths and put the carbolic in it.

[When bees once get the swarming fever they will have it out do what you will. 1 in 500 is recommended as the proper strength to reduce the phenol. Sprinkle it on top of frames and at entrance.

A. J. G., Roseleigh.—The exceptionally dry weather experienced in this locality lately has greatly militated the storing of surplus honey. My colonies are all ex-

ceptionally strong, but have shown no desire to swarm. A few which were apparently overcrowded I divided and set them going by giving them a laying queen, usually procured from a well known breeder. When running for honey I think it far cheaper to buy a laying queen than rear one. I have increased my apiary from 12 to 20 colonies, and extracted to date a little over 12 cwt. honey, which I have disposed of at the low price of 2½d. It amuses me to read of beekeepers objecting to C.S.s. keeping bees for profit. It smacks very much of the professional labour candidate "one man, one billet." Surely a C.S. has as much right augmenting his income by keeping his bees as a farmer, manufacturer, storekeeper or any other employee? The Foul Brood Bill as drafted will no doubt be very suitable, but I fail to see how inspectors are to be paid unless we are taxed. Owners of stock (and some of them make less than beekeepers) pay for their inspectors and why should not we? A tax of 1s. per hive could be paid and never missed.

G. W. V. H., Rawdon Island.—It was with great pleasure that I read some of your A.B.B.'s, and I decided that to keep up with the times I would have to subscribe to it. I have a small apiary containing 13 hives (I had only one in the spring and I extracted from six on the 20th December, 1895, and now they are all full, and I will extract again tomorrow, so you see there is a good flow of honey here at present. There was a very strange thing happened in my apiary to-day. At 7.30 a swarm issued from one of my hives, and at 8.30. another came from same hive, both being small swarms, but judge my surprise when at 4 p.m. a large swarm issued from same hive, making three swarms from one hive in one day. Did you ever know swarms to come out so early in the morning and so late in the evening, or did you ever hear tell of three swarms coming from one box in one day? You must excuse such a familiar letter, but since reading A.B.B. I look upon you as a friend (as indeed you are to all bee-

keepers) and I trust I will be able to write to you again.

You should have looked out before and destroyed queen cells or swarmed artificially.

A. A. Roberts, Muswellbrook, Jan. 21.
—We have had a very bad season so far for honey, and what we have got is very dark (from apple tree—these trees were never known to bloom so heavy as they did this year, being as white as snow and a pleasure to set eyes on.) I am forwarding you two photos of frames of queen cells that I raised this season. No. 1 was raised entirely on the Doolittle method, and you see the bees worked 23 out of 24. No. 2 was raised in the natural cups by fastening them on with melted wax, and grafting the larvæ into them. You will see 15 out of 18 were accepted. You will see on No. 1 that the bees have almost covered some of the cells, but the points of every one is left clear for the queen to hatch. I got a queen from every one of them. I raised another frame, better than either of them, but I could not afford to have it taken. I put 20 cups on a frame similar to No. 2, and grafted the larvæ, and the bees took 19 of them without a drop of royal jelly, and in this case they built comb right over most of the cells, and covered them completely up. When I went to remove them I had to cut the comb away from them. The great secret is to get the bees in the right condition to accept and rear good cells.

(Photos arrived all right, and form a very interesting addition to our collection.)

J. S. L., Grassdale.—A.B.B. just to hand and read with interest. Re Ants I find the best way to destroy large ants is to take pickaxe and mattock and shovel. Grub the nests down to 18 inches. Pour boiling water on larvæ and clusters of ants. Thoroughly do it, they will not trouble for a long while and when winter is in do them over again effectually. The ground is like cement here that a crowbar and Bis. of Carbolic would do no good as there are so many entrances and alley ways. I was pestered with them, and after trying

poisoned honey on sticks, tar, large fires, &c., I found thoroughly overhauling the nests the most efficient. I have all my hives on round posts one foot high above ground, a flooring board nailed securely, then the hive on top, which is quite firm and not liable to be blown over, the post freshly tarred if any ants or emmets bother the bees. The hives being above ground are much cooler than resting on bricks or on the ground in the height of summer heat 112°. Also, I cut two pieces of timber about 3x2in. and 24 inches long, put one piece on the bottom of flour sack, put in some straw, enough to make a mat 2 inches thick, then nail the mouth up to the other piece of 3 x 2. This makes it sufficiently heavy not to be blown off. Bees are having a very hard time, no flowers at all and box only in small bud, looks as if it would wither up. Have been feeding for a while. I use a circular wood feeder about 7 inches diameter and 2 inches high, grooved in the lathe, they act well. My hives are all gable roof with ventilation, eight and ten frame Langstroth with $\frac{1}{2}$ supers. All black swarms I have had have been free from disease and moth, but also short of stores and very little brood, some not 3 inches square of brood. I have eight hives at present and am italianizing them by inserting 2 or 3 queen cells in each hive as I find some of the cells won't hatch. If beekeeping was always like this there is not much fun in it.

J.B.S., Pialba, Q.—You want a "good thing" for sticking labels on tin? Have you ever heard of "Stickphast" down your way? it is sold under that name in this colony at a good price. I accidentally got hold of the recipe, I have much pleasure in forwarding it on that it may do "the greatest good to the greatest number." By the way, there is a quotation for some of your readers to digest.

"He who has a truth and keeps it,"

"Keeps not what to him belongs,"

"Keeps part of his brother's birthright,"

"And his fellow creature wrongs."

I don't know who wrote it, but whoever he may have been his head was set on pretty level. *Stickphast*:—Mix 2ozs flour

into a thick paste, put one teaspoonful alum into half pint of water and boil. Immediately it comes to the boil put in the flour paste, stir, and let boil for *two or three seconds only*. Add ten drops oil of cloves. I have seen this paste to stick labels on either glass or tin and stick well far above anything I have tried before. It will keep as long as you like. My bees have done well during the last six months, but have come to a sudden stop this month—it is very wet. I am with you in your fad for long idea hive. I have two, each 20 frames, and either of them have done better than any two two-story ten frame hives. The great advantage I have found them is, that they have gone through the whole season *strong*, without throwing off one swarm, but abundance of honey. I have had the ten frame hives strong too, but they seem to take no notice of extracting and giving them room. They say swarm and swarm, they will or loaf. After the long idea, the eight frame seems to suit this locality best. I have also found half bodies for supers give the best results both for comb and the extractor. There was a query in your columns lately about a tree called the "messmate." We have a tree of that name, something akin to stringy bark, only a harder and more brittle bark. The year before last it flowered profusely in November, and if I'm not mistaken gives some of the best honey we have, but last year for some reason or other I didn't see a single tree in blossom.

J. F. D., Bellinger River.—It has always been a wonder to me that upon these northern rivers bee farming has not been gone into more extensively, there not being what you might call a bee farm for 20 miles from here in any direction—certainly there are a few hives to be seen about the dwellings of some—and rarely will you come across a bar-framed hive. The locality seems to be a good honey-producing one, though of late years not so good as before. The wet seasons seemed to have destroyed many of the bees in the forest, and also in the skeps. I have read of foul brood,

but have never seen it. The moths do the damage here, getting into the box and occupying one corner. With the old-fashioned skep it is impossible to get them away. I have two hives of black bees, which I only got lately, and do not expect to get any surplus honey this season. Being only a new beginner, and only young, I read with interest your paper, and though I have only received a few copies, yet I have been enlightened on the subject by it. I would like very much to have a look through a good apiary, but cannot just now, so I will have to be content with reading matters till opportunity offers. I have noticed that my bees occasionally throw out bees from the hive, not dead, but living, and able to fly. When they are thrown out they buzz round, and are not able to fly straight, and if they are put back on the alighting board they are thrown out again. Mostly they seem to be young bees. I would like to know what is the matter with them and how to treat them. Sometimes as many as 15 or 16 in one morning are thrown out. Could you tell me how paralysis affects bees, and how to detect it in the hive, also how is maize (the tassel) for honey, and the bloodwood flower.

(Yours may be a case of paralysis. Although this disease has been well studied both here, in Europe, and in America, no certain cure is known. Sulphur seems to cure at certain stages. Well dust the entrance and top of frames with it. Read what Mr. Abram says elsewhere. Maize is a good pollen-producing plant, not, perhaps, quite so good for honey. The bloodwood is also a good honey tree.)

G. S. H., Cootamundra, 10th Feb.—The season here has been much against the success of the beekeepers. A thorough drought has been raging for the last 4 or 5 months right from Albury to Goulburn. Up to the end of Nov. the honey flow was very good, since then the bees have simply been holding their own, and in some cases not that. Honey in the supers is being carried down into the brood chamber, and I notice the brood area being greatly concentrated and a complete slaughter of the drones has been going on. In parts

of the bush Yellow Box is in bloom but has a very dry appearance and very little nectar. I am afraid, unless we have good rains at once, we will go into winter with only old bees, and the spring count (as the Americans call it) will be small. Experiences here have been similar to some of your correspondents in last issue. Many queens disappearing and queen rearing backwards in some instances the offspring of golden queens were very dark, and those from leather coloured nearly black. I am sorry to say that foul brood has made its appearance in several apiaries around and the various remedies are at work, but good as some may be even the best cure tries the patience of the anxious beekeeper. I read with interest the notes compiled on Ants. This has been one of the worst seasons for these enemies,—it is the small black ants that seem to give the worst trouble. If the colony be a strong one and the hive a perfect fitting one is well, but otherwise, let this little pest once find its way on to the frames and he can pretty well defy the bees. I had an instance of where they lodged themselves in the cells about an inch below the top bar, feasting on the honey, and the game little Italians were doing their best to dislodge them, and making repeated attacks on the ants, who as often repelled them, the bees snarling at the ants like a dog at a badger. The bees cut away the cells to unseat them. All this must do much to upset the industry of the colony. I had another experience in introducing a queen. The little black ants found out the candy in the cage, and took possession to such an extent that upon going to see if my valuable queen was released, I found her dead. With this small ant you cannot shift him by uprooting his nest, as they have hundreds of small nests. A friend of mine who has suffered considerably by ants, says he has diminished them by using Rough on Rats, mixed up with a little honey, and a few dead bees rolled into the mixture, and placed under the hives, in a box with small holes, after the manner sug-

gested by Prof. Cook. I should like Mr Editor to see the A.B.B. improved by an occasional illustration, that is if funds will run it !!

(We have to heartily thank Mr. H., for six new beekeepers names. There were eight but we had two of them previously. Will others kindly follow his example and thus help to keep up and improve the A.B.B.

J. T. A., Mooroopna.—Oh yes! I have woke up. I got a little wit in last shower. Yes we had a shower. I felt a bit faint seeing my fine hopes fall to the ground. To make it plain, the fine show of buds on Red gum all dropped off just before blossoming, so that castle is in ruins. Tableau! Bees cross as sticks and beekeeper more so, no honey no trade. Enclosed herewith find photo of apiary or part of it and one where he caught me on the hop by poking his (give it a name) over the picket and taking an instantaneous photograph (pity a bee didn't catch him instantaneously and see how he would look) having my back to the sun too and look—well, you will see. Some one asks how to stick labels on. This is what I use and it never fails on tin or glass, and sets like leather. It is just flour and water paste with honey added, for a small lot 3 tablespoons of flour, 3 teaspoons or a little more honey. Dissolve honey by pouring a little hot water, then mix up for use with cold, 1 teaspoonful of salt. When this sets it takes rubbing off. I use it for fruit cases, tins, bottles, jars, or anything I want to stick. Don't be afraid to use a little honey, it will be all the tougher, but it takes longer to set if too sweet, but spare the water no more than will make it spread smoothly or the thickness of paint. In hunting for bee trees to stamp out foul brood round me in forest I found Root's feeder in box better than all the down, wool, &c. Give a bee a load out of your feeder, he will come for more. Sure, if you miss her the first time you won't the third, she will go straight away. Time her with a watch and walk straight on the line started. You won't miss many. I have struck five lines from one point and found them all in little over an hour. Allow about five minutes for

the first mile and four every other mile, then look up and around you and they are there within a few yards. A pair of good glasses (field) are a good help in the game to sweep around, when you reached your judged distance. Some of your correspondents consider wild bees do not get foul brood. I have none in the apiary since I cleaned out round me, though I had five years at it before I did so and was reduced to one hive. The apiary you see now, 100, is from that hive and one healthy one I got in the raid, the only one of twelve the first raid and six the second. Of course I burnt all nests after taking, although summer time, having to carry water in some instances half a mile to quench when sufficiently burnt.

Schumack Bros., Binnaway.—I expect you will be thinking we have all succumbed to the heat in this district, but such is not the case at present. I am sorry to inform you that we have only had a middling season here for bees, mainly due, I believe, to the dry weather. We extracted slightly over a ton from 30 hives, and from fifteen more we got nothing at all. We were expecting a good flow after Christmas from the apple trees which a few weeks back were one mass of blossoms, a very pretty sight to look at. The limbs were actually breaking off the trees with the weight of the bloom. But all our hopes of receiving a good flow of honey from them were as nothing as the dry weather and hot winds soon put an end to our hopes in that direction. The apple tree honey is far from being a good sample, it is very dark in colour and tastes very much like boiled honey. We are expecting another flow from the white box and five corners before the winter sets in. Our bees are in good order at present and by the time the next honey flow starts they should be very strong, as we have had some splendid falls of rain here lately—three inches or more fell during the past week. Grass and herbage of all kinds are growing splendidly since the rain. Bees are bringing in pollen in fair quantities. Serious beekeepers assert that a large

quantity of pollen is unnecessary. My opinion is exactly the reverse, as I consider it is wanted in large quantities in the early spring, for brood rearing. In fact, I like to see plenty coming in all through the season. I noticed in the December issue of your paper a letter from Mrs. Conn. In speaking of her honey she says she has never had an oz. go candied during the winter. It appears to me that Mrs. Conn. does not understand how we have so much candied. The only explanation I can give is that there is none of the small leaf box timber at Timor, like we have here, as all the honey gathered from these trees all candies and is of an excellent quality, very clean in colour and has a splendid flavour. We had over a ton of this honey, all of which went candied. I am very glad to see that Mrs. Conn. intends to keep the price of honey up. The price here at present is fourpence, but we are seriously thinking of raising the price this winter as I think good honey is honestly worth fivepence. I think we will have to form a beekeepers association, as I hear of two or three beekeepers in Coonabarabran selling at twopence per lb. This price will never pay, so we must see what we can do to prevent it. Am forwarding you a sample of Native Bee Wax which you will perceive is of a splendid quality. It is a pity those little bees do not make honey in large quantities, as I believe their wax will be very valuable. We store our honey in best block tin tanks and draw it as we want it for market. In my opinion hives should be painted as they stand the weather much better.

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" " " 2 " 4 "

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Continued on Page 2.

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